

**MASSACHUSETTS CONTINGENCY PLAN
IMMEDIATE RESPONSE ACTION STATUS REPORT
and
LANDFILL MONITORING REPORT**

3rd QUARTER 2014

**TOWN OF EASTHAM LANDFILL
255 OLD ORCHARD ROAD
EASTHAM, MASSACHUSETTS**

DEP RTN 4-24301

September 30, 2014

Prepared for:

Town of Eastham
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Eastham, MA 02642-2544

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ES&M Project No. 2013-027

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1.0 INTRODUCTION

This Immediate Response Action (IRA) Status report has been prepared in accordance with the Massachusetts Contingency Plan (MCP) by Environmental Strategies & Management, Inc. (ES&M) on behalf of the Town of Eastham. The report addresses activities conducted under Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 4-24301. This report also includes a summary of activities completed under the Town of Eastham's Landfill Monitoring Plan (LMP), approved by MassDEP on August 14, 2012.

1.1 Background

Previous status reports published by ES&M have provided a complete background discussion of the Eastham Landfill and the occurrence of 1,4 dioxane in drinking water wells around the landfill. The most recent report that includes this information is the 1st Quarter 2014 IRA Status Report (ES&M, March 31, 2014). Since the background information does not change, this and future reports will focus on activities completed during the report period.

1.2 Purpose

This IRA Status and Landfill Monitoring Report has been prepared to document activities undertaken at and around the Eastham Landfill from June 1 through August 31, 2014.

2.0 IMMEDIATE RESPONSE ACTION ACTIVITIES

The primary focus of the IRA program has been to identify private drinking water wells that have been impacted by 1,4-dioxane emanating from the landfill, and to provide alternative safe drinking water to affected residents. The IRA program has also included evaluation of appropriate and feasible mitigating measures to remove 1,4-dioxane from drinking water. In 2014, the IRA has also included activities to better understand the nature and origin of other sources of 1,4 dioxane in the drinking water aquifer. The IRA status reports submitted in 2013 provided details of the initial IRA activities. An IRA Plan Modification was submitted on March 6, 2014, to describe implementation of alternate laboratory methods, outline a revised private well sampling protocol, clarify the ongoing monitoring schedule, and summarize future IRA activities.

The first three Phases of the private well sampling program under the IRA were completed in February, May and July 2013. These sampling events included collection of water samples from private wells hydraulically down gradient and cross-gradient of the landfill. A fourth sampling event (Phase 4) was initiated in December 2013 to include private wells that had not previously been tested, and a fifth event (Phase 5) was initiated in March 2014 to further expand the study area to the north, south and east of the landfill. Since completion of the Phase 5 sampling event, private well water samples

have been collected as outlined in the IRA Plan Modification, which described the following sampling categories:

1. Quarterly sampling of wells where concentrations of 1,4-dioxane were detected above the reporting limit of 0.2 µg/L but below the GW-1 Standard of 0.3 µg/L;
2. Confirmatory sampling of wells within the study area that are adjacent to a private well with a concentration of 1,4 dioxane above 0.3 µg/L, and whose previous test results revealed an estimated concentration below 0.3 µg/L;
3. Annual sampling of wells exhibiting concentrations of 1,4 dioxane above 0.3 µg/L; and
4. Collection of water samples from the water system at the Eastham Elementary School on a quarterly basis.

In addition to the above criteria, ES&M has collected numerous water samples from private wells outside of the study area (referred to as “background” study). While not part of the MassDEP-approved IRA Plan, the data from this background study has provided valuable information on the occurrence of 1,4 dioxane in groundwater that is not affected by the Eastham landfill.

2.1 Private Well Sampling - Status Update

During this report period, the private well sampling program outlined in the IRA Plan Modification continued, with sampling activities conducted in all four of the above-described IRA Plan categories. In addition, Category 2 was slightly modified to include confirmatory sampling of wells that are adjacent to a private well with concentrations of 1,4 dioxane above 0.3 µg/L, and whose previous test results were below detection limits. If confirmatory sampling results show that concentrations of 1,4 dioxane are not changing significantly, the sampling frequency for these properties will be annually.

2.1.1 Summary of Sampling Activities

Sampling events were conducted during six days in June, three days in July, and nine days in August. Samples were collected from 43 properties within the study area and 23 properties outside of the study area. During each sampling event, a field visit form was completed to document the date and time when the sample was collected, the sample location (e.g. kitchen tap, outside spigot), and the configuration of the water system. Field sampling forms summarizing this information are included in Appendix A. All samples were preserved in the field and submitted to Alpha Analytical Laboratories in Mansfield, Massachusetts, for 1,4 dioxane analysis by EPA Method 8270 SIM.

2.1.2 Sampling Results

All laboratory results were reviewed to determine if 1,4 dioxane was detected above the drinking water standard/bottled water action limit of 0.3 µg/L. The Town of Eastham continues to provide bottled water to residences whose water tests have indicated a

concentration of 1,4-dioxane above 0.3 µg/L. During this report period, one property was added to the list of properties eligible for bottled water. The complete list of properties eligible for bottled water through this report period is presented in Table 1. Table 2 summarizes 1,4 dioxane analytical results from drinking water samples collected during this report period as well as all previous phases of the private well sampling program.

The vast majority of samples collected during this report period were from homes already tested, although samples were also collected from four homes not previously tested. Two of the re-tested property's results had concentrations of 1,4 dioxane slightly greater than previous results; five had concentrations slightly less than previous results, and 31 properties had results that were consistent with previous results.

The Site Map included as Figure 1 shows the properties within the study area; each parcel is color coded with one of four colors to represent the sampling results:

- Gray = 1,4-dioxane was not detected. Well water test results in this category were below the reporting limit for 1,4-dioxane (approximately 0.15 µg/L). Since an estimated concentration ("J" value) was not reported, it is inferred that 1,4-dioxane is not present above the detection limit (approximately 0.04 µg/L).
- Yellow = 1,4-dioxane detected, but at a concentration below the GW-1 standard of 0.3 µg/L. Laboratory results that are below 0.3 µg/L but above the laboratory reporting limit are quantified results, while results below the laboratory reporting limit and above the method detection limit of 0.04 µg/L are qualified as estimated values (reported with a "J" qualifier).
- Red = 1,4-dioxane detected at or above 0.3 µg/L. All residents in this category have been offered bottled water and have been advised to not use their well water for consumptive purposes.
- White = well water not tested, most likely because homeowners have not been available during scheduled sampling events.
- White with NR = The owners of these properties were contacted by certified mail; however, no response was received or access was not granted.
- White/hatched = no well has been installed on these properties.

Appendix B contains the laboratory reports for samples collected during this report period. As required by 310 CMR 40.1403(10) of the MCP, property owners were notified of the laboratory results for samples collected from their properties. Copies of the homeowner sample result notification letters and BWSC form 123 are included in Appendix C¹.

¹ Although not included in Appendix C, each homeowner received copies of the results from samples collected from their well in addition to the BWSC transmittal form 123, a lab report diagram and a 1,4 dioxane information sheet.

2.2 *Activated Carbon Adsorption Test - Status Update*

As described in previous IRA status reports, an activated carbon system consisting of two carbon vessels and a flow meter was installed at 255 Alston Avenue. Testing of this system has included the periodic collection of influent (untreated), mid-point (between the two carbon vessels) and effluent (after both carbon vessels) samples. During the initial phase of the test, samples were collected on a weekly basis so that contaminant “breakthrough” in the first carbon vessel would be detected well before breakthrough in the second vessel. This procedure allowed us to determine that for this residence, the primary adsorber could treat approximately 10,000 to 11,000 gallons of water (about 90 days) before 1,4 dioxane was detected in the mid-point sample above 0.3 ug/L. The sampling data collected since November 2013 has shown consistent results; therefore, the ongoing monitoring of this system dictates the collection of water samples every 45 days, and the replacement of the primary adsorber approximately every 90 days.

During this report period, samples were collected on June 19 and August 3, 2014. For each sample collection event, the volume of water that was treated was recorded. Water samples were shipped under chain-of-custody to Alpha Analytical for laboratory analysis of 1,4-dioxane by EPA Method 8270 SIM. Laboratory reports containing the results from these samples are included in Appendix B.

These test results continue to indicate that a treatment system utilizing virgin, coconut-based activated carbon may be effective at removing 1,4-dioxane from drinking water.

On August 3, 2014, the secondary carbon vessel (which has received little, if any influx of 1,4-dioxane) was moved to the primary position of the system, and a new vessel with virgin, coconut-based activated carbon was installed in the secondary position.

2.3 *MCP Notifications for IRA Status Report Submittal*

As required by the MCP, notice of the electronic submittal of this IRA status report to MassDEP is provided to the Town of Eastham Board of Health and Chief Municipal Officer. A copy of the notification letter pertaining to this report is included in Appendix D.

3.0 LANDFILL MONITORING PROGRAM ACTIVITIES

The Landfill Monitoring Plan (LMP) was revised in August 2012 to expand the monitoring requirements while discontinuing analysis for some parameters at other locations. A summary of the LMP sampling requirements and schedule are shown on Table 3. The LMP requirements for this report period included quarterly sampling of select landfill monitoring wells and private drinking water wells.

3.1 Landfill Monitoring Well Sampling

As prescribed by the LMP, quarterly groundwater samples were collected from landfill monitoring wells MW-3I and MW-3D on September 3, 2014. The locations of these wells within the limits of the landfill are shown on Figure 1. Samples were collected by BCDHE personnel and submitted to the Barnstable County Health Laboratory for analysis of VOCs², metals and indicator parameters. The laboratory test results are summarized on Table 4, which includes applicable regulatory standards and/or guidelines. Field logs are included in Appendix A, and the complete laboratory report from Barnstable County is included in Appendix B.

3.2 Private Well Sampling

The LMP includes quarterly sampling of private well water from three homes around the landfill (100 Meetinghouse Road, 180 Old Orchard Road, and 285 Alston Avenue, shown of Figure 1). Due to scheduling restrictions, samples were not collected from these properties until September 18, 2014. These sampling results will be discussed in the next quarterly status report. Historic results from these private drinking water wells are reported on Table 4.

4.0 ADDITIONAL RESEARCH AND PROJECT UPDATES

4.1 Background Study

To better understand the occurrence of 1,4 dioxane in groundwater (and consequently in private drinking water wells) at locations not influenced by the landfill, a background study was initiated. Over the past year, water samples have been collected from 43 properties outside of the identified landfill study area. The landfill study area extends outward from the landfill to the east, southeast and south to locations where 1,4 dioxane is consistently not detected in drinking water. The background study area is outside of the landfill study area, and extends north to North Sunken Meadow Road, south to Dyer Prince Road, and east into the Cape Cod National Seashore. The locations of properties in the background study are shown on Figure 2, and a list of these properties and the laboratory analytical results are shown on Table 5.

Six properties out of the 43 tested (~14%) indicated detectable levels of 1,4 dioxane in their drinking water, and all but one had results well below the drinking water standard of 0.3 µg/L. The 1,4 dioxane detected in drinking water samples from these homes is likely related to discharges from septic systems located near the drinking water wells. Of particular note are the results from the Cedar Lane area, which is very near a salt water inlet. In this area, the fresh water aquifer is relatively thin (compared to areas further inland and away from the salt water). Consequently, there is a much higher likelihood in this area that well water is drawn from the same aquifer zone that septic systems discharge into. As discussed in Section 4.2 below, septic water can contain

² Samples were not analyzed for 1,4 dioxane, reportedly due to laboratory error.

significant concentrations of 1,4 dioxane from common consumer products. The occurrence of 1,4 dioxane in the drinking water sample from the 30 Cedar Lane residence (at a concentration of 0.29 µg/L) is most certainly related to septic discharges in this neighborhood.

4.2 Knowles Street Septic Water Study

The laboratory test results of a drinking water sample collected in March 2014 from the 65 Knowles Avenue property indicated a dramatic increase in the 1,4 dioxane concentration compared to the prior year's sample results. Since concentration increases of this magnitude are not typical, ES&M initiated a focused study of well water and septic water at this property and several adjoining properties (see Figure 3).

To initiate the study, the Eastham Board of Health provided plans showing the locations of private wells and septic systems for each property. ES&M conducted field reconnaissance work to verify the locations of these features and to access the septic systems, if possible. Specifically, ES&M was interested in obtaining a "greywater" sample from the septic systems, which is the water that flows out of the solids holding tank. For most septic systems, this water is accessed at the distribution box prior to its discharge to the leach field. Within the target study area, only three distribution boxes were accessible (50 Knowles Street, 65 Knowles Street and 75 Knowles Street).

Between June 16 and 19, 2014, ES&M collected greywater and drinking water samples from the three properties with accessible septic systems. Samples were submitted to Alpha Analytical for laboratory analysis of 1,4-dioxane. The greywater sampling results, which are presented in Table 6 with the associated drinking water sample results, clearly show that 1,4-dioxane is present in greywater at significantly higher concentrations than in the well water entering the homes. The higher concentrations in greywater indicate that consumer products containing 1,4-dioxane are being used in area homes, and are being discharged to the septic systems (and hence the shallow drinking water aquifer). ES&M concludes that the elevated 1,4-dioxane concentrations detected in the drinking water sample collected in March 2014 from the 65 Knowles property are the result of septic leachate, and are not related to the Eastham landfill.

4.3 Consumer Products Information

Our previous status reports have discussed the fact that many common consumer products contain 1,4 dioxane. As demonstrated by the Knowles Street study, residents who use such products are discharging 1,4 dioxane to the shallow drinking water aquifer via their septic systems. Once it is in the drinking water aquifer, 1,4 dioxane may be drawn into other shallow drinking water wells and redistributed further in the environment. In an effort to reduce and minimize these sources, ES&M has reviewed a number of literature sources to help residents identify products in their home that may contain significant concentrations of 1,4 dioxane.

The 1,4 dioxane found in most consumer products is not intentionally added; rather, it is a byproduct of the manufacture of certain ingredients. Hence, product labeling

information will not specifically identify 1,4 dioxane as being present (or absent). Consumers are generally advised to associate 1,4 dioxane with any of the following ingredients:

- Compounds containing “-eth” such as cateareth, myreth, oleth and laureth (in particular sodium laureth sulfate);
- “PEG” (polyethylene, polyethylene glycol or polyoxyethylene);
- Ingredients containing “oxynol” or “oleth.”

These ingredients, and the possible presence of 1,4 dioxane, are most commonly found in dishwashing soap, hand soap, shampoos and conditioners (including products specifically labeled for use on babies and children), body washes, hand and face lotions, sunscreens and deodorants. The internet displays many resources offering more information on this subject, including lists of products that contain (or don't contain) significant levels of 1,4 dioxane. One such source is www.organicconsumers.org, which has reportedly performed laboratory testing of a wide variety of products. ES&M has not independently verified any information published by this group.

5.0 FUTURE SCHEDULE OF IRA AND LMP ACTIVITIES

During the next reporting period from September through November 2014, the following IRA and LMP activities are planned:

5.1 Immediate Response Action

- Collection of drinking water samples from residences within the study area that have not yet been tested;
- Collection of drinking water samples under the criteria outlined in the IRA Plan Modification;
- Gathering of well construction information for select wells in the study area;
- Review of laboratory results to determine if any additional residences meet the bottled water action limit of 0.3 ug/L;
- Preparation of sampling results notification packages for all residents whose drinking water is tested during the upcoming report period; and
- Continued collection of influent, mid-point and effluent samples from the activated carbon system at 255 Alston Avenue.

5.2 Landfill Monitoring Plan

- Review the objectives of the LMP and propose revisions to the sampling plan to be consistent with the current IRA Plan. For example, several residential properties whose drinking water wells are sampled routinely are already being provided bottled water. Therefore, continued sampling may provide limited beneficial information;

- Collect quarterly groundwater samples from wells MW-3I and MW-3D in November/December 2014 for analysis of indicator parameters, metals and VOCs including 1,4-dioxane. Collect groundwater samples from well MW-21S, if possible, for analysis of VOCs and 1,4-dioxane.
- Collect annual samples from landfill monitoring wells MW-2S, -4S, -5S, -8, and the DPW well (landfill dust suppression well).

6.0 PUBLIC OUTREACH

Our communication plan continues to include the following elements to keep the public informed of all aspects of this project:

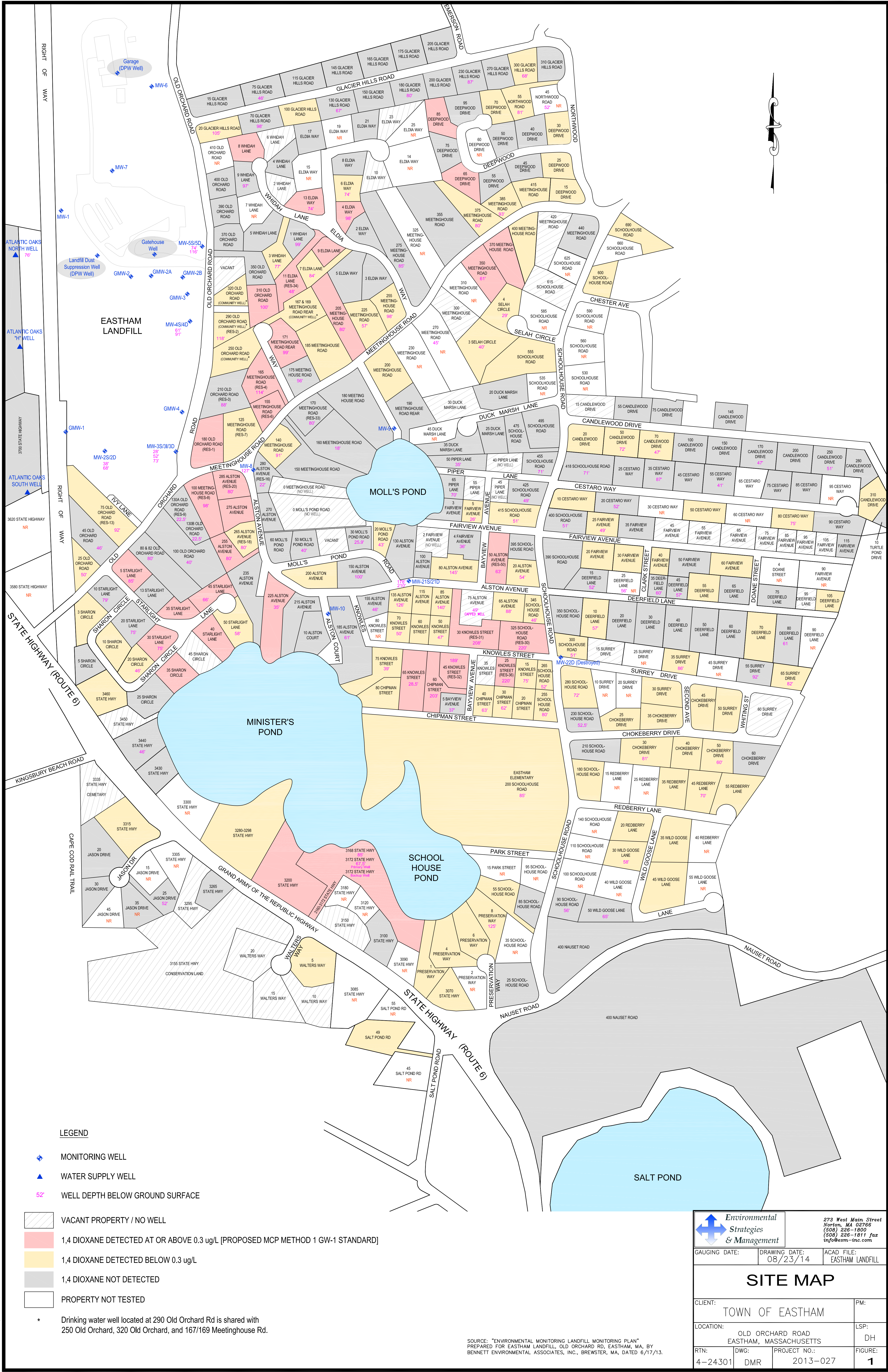
Availability of Reports

All reports required by MassDEP are available on their website (<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>). The Town of Eastham's also posts these reports on their website (http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/LandfillFolder/). Hard copies of reports are available at Town Hall and at the Eastham Public Library.

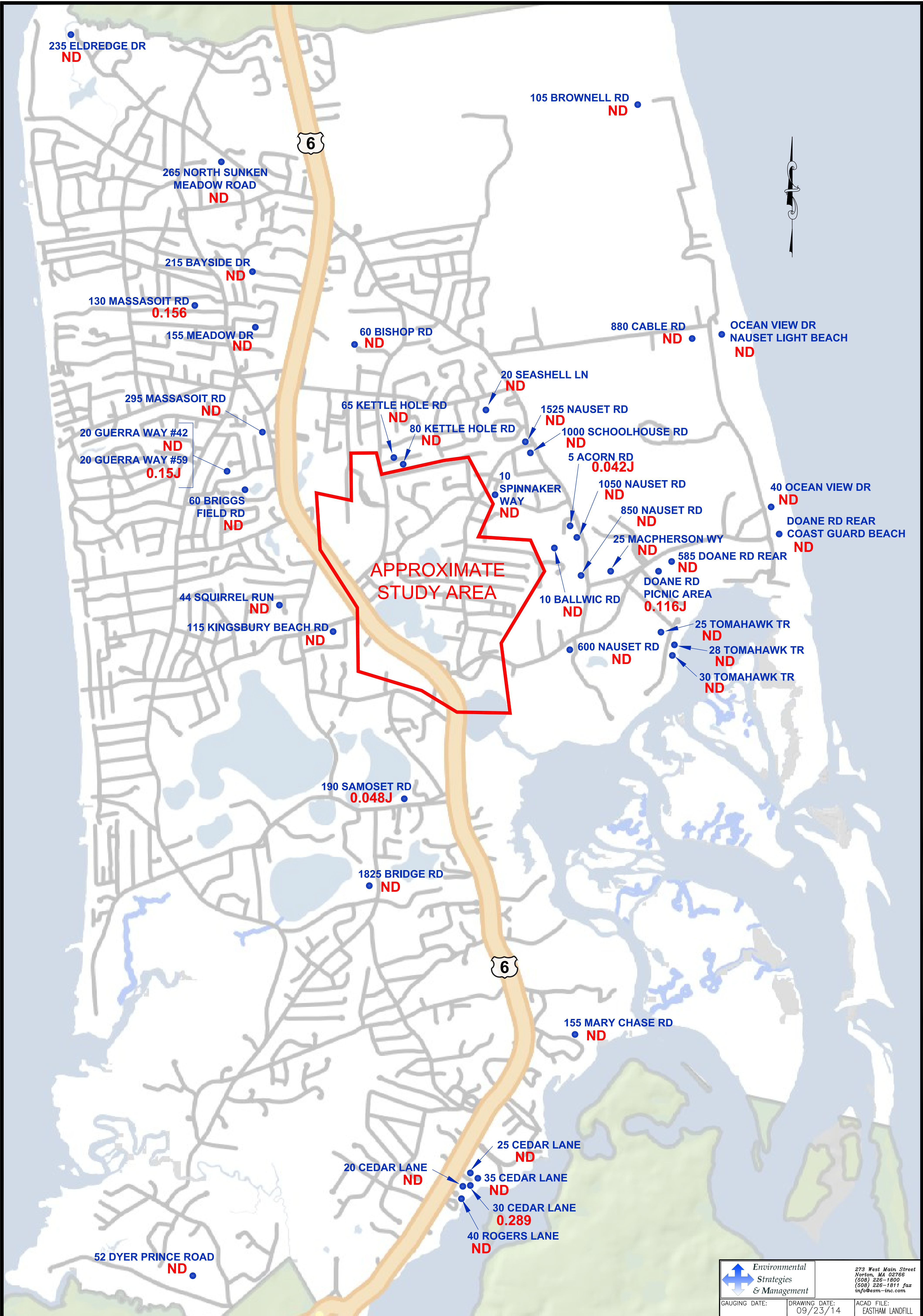
Direct Communications

Questions on the ongoing work related to this matter may be directed to:

- Jane Crowley, Health Agent, Eastham Board of Health
508-240-5900, x229
jcrowley@eastham-ma.gov
- Doug Heely, Licensed Site Professional, Environmental Strategies & Mgmt.
508-226-1800
dheely@esm-inc.com



C:\Documents and Settings\Drills\My Documents\ESM\Eastham Landfill\Map\Background Study Area Map.dwg, Top: SAMPLING BEYOND STUDY AREA, Plotted: Sep. 25, 2014



LEGEND

ADDRESS
0.289

WELL LOCATION
1,4 DIOXANE RESULT IN ug/L
ND = NOT DETECTED

J - RESULT IS LESS THAN THE LABORATORY
REPORTING LIMIT BUT GREATER THAN OR EQUAL TO
THE METHOD DETECTION LIMIT AND THE
CONCENTRATION IS AN APPROXIMATE VALUE

0 1200' 2400'
SCALE APPROXIMATE FEET

BASE MAP SOURCE: EASTHAM MASSACHUSETTS PUBLIC MAPS ONLINE



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GAUGING DATE:

DRAWING DATE:
09/23/14

ACAD FILE:
EASTHAM LANDFILL

BACKGROUND STUDY AREA MAP

CLIENT:
TOWN OF EASTHAM

PM:

LOCATION:
OLD ORCHARD ROAD
EASTHAM, MASSACHUSETTS

LSP:
DH

RTN:
4-24301

DWG:
DMR

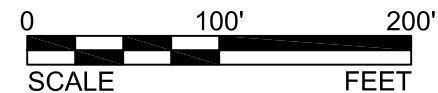
PROJECT NO.:
2013-027

FIGURE:
2

S

61'

WELL DEPTH BELOW GROUND SURFACE



*Environmental
Strategies
& Management*

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GAUGING DATE:

DRAWING DATE: 9/23/14

ACAD FILE:
EASTHAM LANDFILL

KNOWLES STREET STUDY AREA MAP

CLIENT: TOWN OF EASTHAM

PM:

LOCATION: OLD ORCHARD ROAD
EASTHAM, MASSACHUSETTS

LSP:	
DH	

RTN:	DWG:	PROJECT NO.:	FIGURE:
4-24301	DMR	2013-027	3

TABLE 1
AFFECTED PROPERTIES ELIGIBLE FOR BOTTLED WATER
EASTHAM LANDFILL PRIVATE WELL SAMPLING PROGRAM
EASTHAM, MA

50 ALSTON AVENUE
225 ALSTON AVENUE
255 ALSTON AVENUE
275 ALSTON AVENUE
285 ALSTON AVENUE
60 CHIPMAN STREET
65 DEEPWOOD DRIVE
85 DEEPWOOD DRIVE
4 ELDIA WAY
9 ELDIA WAY
11 ELDIA WAY
13 ELDIA WAY
25 KNOWLES STREET
30 KNOWLES STREET (A & B)
45 KNOWLES STREET
65 KNOWLES STREET
100 MEETINGHOUSE ROAD (A & B)
155 MEETINGHOUSE ROAD
165 MEETINGHOUSE ROAD
171 MEETINGHOUSE ROAD REAR (A, B & C)
205 MEETINGHOUSE ROAD
350 MEETINGHOUSE ROAD
370 MEETINGHOUSE ROAD
180 OLD ORCHARD ROAD
310 OLD ORCHARD ROAD
325 SCHOOLHOUSE ROAD
35 SHARON CIRCLE
5 STARLIGHT LANE
* 30 STARLIGHT LANE
35 STARLIGHT LANE
40 STARLIGHT LANE
45 STARLIGHT LANE
3168 STATE HWY
3172 STATE HWY PRIMARY & BACKUP WELL
3200 STATE HWY
8 WHIDAH LANE

* Added during 3rd Quarter 2014.

TABLE 2
SUMMARY OF
PRIVATE WELL SAMPLING PROGRAM
ANALYTICAL RESULTS

Study Area Residential Properties

Eastham, MA

(All results in ug/l)

Property	Date	Duplicate	1,4 Dioxane
Results			
20 ALSTON AVENUE	2/22/2013		0.18J
50 ALSTON AVENUE	4/14/2014		0.218
	4/14/2014	Duplicate	0.210
	9/18/2013		0.37
	7/25/2013		0.18J
	6/27/2013		0.18J
	5/29/2013		0.20
	5/1/2013		0.18J
	3/14/2013		0.20
	3/4/2013		0.23
	3/4/2013		0.23
	2/14/2013		5.1
	2/14/2013	Duplicate	5.0
65 ALSTON AVENUE	3/24/2014		0.0813J
	2/19/2013		0.099J
80 ALSTON AVENUE	3/28/2014		<0.150
	8/27/2013		0.057J
	2/11/2013		< 0.20
85 ALSTON AVENUE	5/5/2014		0.236
	5/5/2014	Duplicate	0.210
	2/12/2013		0.20
100 ALSTON AVENUE	2/11/2013		< 0.20
115 ALSTON AVENUE	7/22/2013		0.12J
130 ALSTON AVENUE	2/19/2013		< 0.20
135 ALSTON AVENUE	2/11/2013		0.11J
150 ALSTON AVENUE	2/15/2013		< 0.20
155 ALSTON AVENUE	2/11/2013		< 0.20
185 ALSTON AVENUE	2/14/2013		< 0.20
200 ALSTON AVENUE	5/9/2014		<0.144
	12/2/2013		0.15J
	5/1/2013		0.21
215 ALSTON AVENUE	7/31/2014		<0.144
	2/12/2013		< 0.20
225 ALSTON AVENUE	5/6/2014		0.350
	5/6/2014	Duplicate	0.365
	4/29/2013		1.2
235 ALSTON AVENUE	8/5/2014		<0.142
	7/31/2013		< 0.20

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
L - LCS or LCSD exceeded the control limits. Results may be biased high.
* Proposed GW-1 Standard

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Report: Table 2 Study Area Drinking Water
Datebase: Eastham Database



Property	Date	Duplicate	1,4 Dioxane
255 ALSTON AVENUE	Inf 8/3/2014		2.03
	Inf 6/19/2014		2.12
	8/27/2013		1.8
	5/6/2013		1.8
	5/6/2013	Duplicate	1.5
	2/14/2013		1.9
	2/14/2013	Duplicate	1.8
265 ALSTON AVENUE	3/28/2014		<0.139
	12/18/2013		< 0.20
	3/14/2013		0.055J
270 ALSTON AVENUE	8/4/2014		<0.142
	2/11/2013		< 0.20
275 ALSTON AVENUE	7/17/2014		1.28
	7/17/2014	Duplicate	1.35
	5/16/2013		1.3
	5/16/2013	Duplicate	0.99
280 ALSTON AVENUE	12/18/2013		< 0.20
	2/22/2013		< 0.20
285 ALSTON AVENUE	3/14/2014		0.636
	11/20/2013		0.51
	5/8/2013		0.35
	2/22/2013		0.37
	2/22/2013	Duplicate	0.33
10 ALSTON COURT	2/14/2013		< 0.20
ATLANTIC OAKS 'H' WELL	7/25/2013		< 0.20
ATLANTIC OAKS NORTH WELL	7/25/2013		< 0.20
ATLANTIC OAKS-SOUTH WELL	7/23/2013		< 0.20
5 BAYVIEW AVENUE	8/1/2014		<0.147
	2/25/2013		< 0.20
20 CANDLEWOOD DRIVE	5/29/2013		0.056J
50 CANDLEWOOD DRIVE	5/3/2013		0.092J
55 CANDLEWOOD DRIVE	7/25/2013		< 0.20
70 CANDLEWOOD DRIVE	5/3/2013		0.073J
75 CANDLEWOOD DRIVE	7/17/2014		<0.147
100 CANDLEWOOD DRIVE	5/3/2013		< 0.20
145 CANDLEWOOD DRIVE	5/2/2013		< 0.20
150 CANDLEWOOD DRIVE	5/2/2013		< 0.20
170 CANDLEWOOD DRIVE	7/25/2013		< 0.20
200 CANDLEWOOD DRIVE	5/8/2013		< 0.20
250 CANDLEWOOD DRIVE	5/7/2013		< 0.20
280 CANDLEWOOD DRIVE	5/6/2013		< 0.20
310 CANDLEWOOD DRIVE	4/30/2013		0.060J
395 CANDLEWOOD DRIVE	5/8/2013		< 0.20
10 CESTARO WAY	4/30/2013		0.11J
20 CESTARO WAY	5/2/2013		< 0.20
25 CESTARO WAY	12/3/2013		< 0.20
35 CESTARO WAY	4/30/2013		< 0.20
45 CESTARO WAY	5/2/2013		< 0.20
50 CESTARO WAY	5/6/2013		0.077J
55 CESTARO WAY	5/2/2013		< 0.20
75 CESTARO WAY	5/6/2013		< 0.20

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
L - LCS or LCSD exceeded the control limits. Results may be biased high.
* Proposed GW-1 Standard

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Report: Table 2 Study Area Drinking Water
Datebase: Eastham Database



Property	Date	Duplicate	1,4 Dioxane
80 CESTARO WAY	2/21/2013		0.061J
85 CESTARO WAY	12/3/2013		< 0.20
90 CESTARO WAY	5/2/2013		< 0.20
20 CHIPMAN STREET	7/25/2013		0.041J
30 CHIPMAN STREET	3/27/2014		0.0969J
	2/11/2013		0.14J
40 CHIPMAN STREET	6/26/2014		<0.139
	7/31/2013		0.046J
60 CHIPMAN STREET	5/8/2014		0.382
	5/8/2014	Duplicate	0.341
	12/6/2013		0.27
	12/6/2013	Duplicate	0.30
	4/30/2013		0.29
80 CHIPMAN STREET	2/15/2013		0.047J
25 CHOKEBERRY DRIVE	12/2/2013		0.15J
30 CHOKEBERRY DRIVE	5/7/2013		0.17J
35 CHOKEBERRY DRIVE	5/3/2013		0.050J
40 CHOKEBERRY DRIVE	5/2/2013		0.069J
45 CHOKEBERRY DRIVE	5/16/2013		0.11J
	5/9/2013		NS
50 CHOKEBERRY DRIVE	5/10/2013		0.058J
60 CHOKEBERRY DRIVE	4/11/2014		<0.142
15 DEEPWOOD DRIVE	9/17/2013		0.051J
25 DEEPWOOD DRIVE	7/30/2013		0.073J
30 DEEPWOOD DRIVE	7/31/2013		0.040J
40 DEEPWOOD DRIVE	7/24/2013		< 0.20
45 DEEPWOOD DRIVE	7/24/2013		< 0.20
50 DEEPWOOD DRIVE	12/3/2013		< 0.20
55 DEEPWOOD DRIVE	8/25/2014		<0.139
	7/25/2013		< 0.20
65 DEEPWOOD DRIVE	3/28/2014		0.297
	3/28/2014	Duplicate	0.336
	7/30/2013		0.29
	7/30/2013	Duplicate	0.24
70 DEEPWOOD DRIVE	7/30/2013		0.073J
75 DEEPWOOD DRIVE	8/1/2014		<0.144
	7/30/2013		< 0.20
85 DEEPWOOD DRIVE	9/17/2013		0.63
95 DEEPWOOD DRIVE	12/3/2013		< 0.20
10 DEERFIELD LANE	5/1/2013		0.052J
15 DEERFIELD LANE	4/30/2013		< 0.20
20 DEERFIELD LANE	5/8/2013		< 0.20
30 DEERFIELD LANE	7/22/2013		< 0.20
35 DEERFIELD LANE	2/25/2013		< 0.20
40 DEERFIELD LANE	5/1/2013		< 0.20
45 DEERFIELD LANE	5/2/2013		< 0.20
50 DEERFIELD LANE	5/3/2013		< 0.20
55 DEERFIELD LANE	4/29/2013		0.062J
60 DEERFIELD LANE	5/6/2013		< 0.20
65 DEERFIELD LANE	5/6/2013		< 0.20
70 DEERFIELD LANE	5/8/2013		0.048J
75 DEERFIELD LANE	7/25/2013		< 0.20

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Property	Date	Duplicate	1,4 Dioxane
80 DEERFIELD LANE	5/1/2013		< 0.20
105 DEERFIELD LANE	5/8/2013		0.067J
DPW GARAGE	2/7/2014		< 0.20
GATEHOUSE AT TRANSFER STATION	2/11/2014		< 0.20
DPW NON-POTABLE WELL	2/25/2013		< 0.20
20 DUCKMARSH LANE	4/30/2013		< 0.20
25 DUCKMARSH LANE	5/2/2013		< 0.20
35 DUCK MARSH LANE	12/6/2013		< 0.20
2 ELDIA WAY	8/4/2014		<0.142
	8/2/2013		< 0.20
3 ELDIA WAY	5/3/2013		< 0.20
4 ELDIA WAY	8/4/2014		<0.144
	5/7/2014		0.451
	5/7/2014	Duplicate	0.449
	5/8/2013		0.089J
5 ELDIA WAY	4/30/2013		< 0.20
6 ELDIA WAY	5/9/2014		<0.144
	12/5/2013		0.15J
7 ELDIA WAY	3/24/2014		<0.150
	5/10/2013		NS
	5/10/2013		0.045J
8 ELDIA WAY	12/5/2013		< 0.20
9 ELDIA WAY	5/6/2014		0.309
	5/6/2014	Duplicate	0.284
	12/5/2013		0.31
	12/5/2013	Duplicate	0.27
	5/2/2013		0.25
11 ELDIA WAY	5/7/2014		3.58
	5/7/2014	Duplicate	3.61
	9/17/2013		3.7
	7/25/2013		3.0
	6/27/2013		4.3
	6/27/2013	Duplicate	3.4
	5/29/2013		4.3
	5/29/2013	Duplicate	3.9B
	4/29/2013		4.2
	4/29/2013	Duplicate	3.3
	3/14/2013		2.9
	3/14/2013	Duplicate	3.1
13 ELDIA WAY	5/9/2014		0.660
	5/9/2014	Duplicate	0.659
	7/24/2013		0.33
17 ELDIA WAY	5/6/2013		< 0.20
21 ELDIA WAY	12/5/2013		< 0.20
3 FAIRVIEW AVENUE	5/10/2013		< 0.20
4 FAIRVIEW AVENUE	4/29/2013		< 0.20
5 FAIRVIEW AVENUE	5/8/2014		<0.144
	2/14/2013		0.047J
20 FAIRVIEW AVENUE	5/7/2013		0.093J
25 FAIRVIEW AVENUE	5/7/2013		0.041J
30 FAIRVIEW AVENUE	12/3/2013		0.063J
35 FAIRVIEW AVENUE	5/2/2013		< 0.20

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Property	Date	Duplicate	1,4 Dioxane
40 FAIRVIEW AVENUE	5/16/2013		0.065J
	5/9/2013		NS
50 FAIRVIEW AVENUE	5/2/2013		< 0.20
60 FAIRVIEW AVENUE	5/1/2013		0.041J
115 FAIRVIEW AVENUE	7/22/2013		< 0.20
15 GLACIER HILLS ROAD	3/13/2014		<0.139
20 GLACIER HILLS ROAD	5/6/2014		<0.144
	2/22/2013		0.071J
70 GLACIER HILLS ROAD	8/4/2014		<0.142
	7/22/2013		< 0.20
75 GLACIER HILLS ROAD	6/17/2014		<0.142
100 GLACIER HILLS ROAD	5/8/2013		0.058J
115 GLACIER HILLS ROAD	4/14/2014		<0.144
130 GLACIER HILLS ROAD	7/23/2013		< 0.20
145 GLACIER HILLS ROAD	4/14/2014		<0.144
150 GLACIER HILLS ROAD	7/24/2013		< 0.20
165 GLACIER HILLS ROAD	3/13/2014		<0.139
175 GLACIER HILLS ROAD	3/14/2014		<0.139
180 GLACIER HILLS ROAD	8/25/2014		<0.142
	8/2/2013		< 0.20
200 GLACIER HILLS ROAD	8/5/2014		<0.144
	7/31/2013		< 0.20
205 GLACIER HILLS ROAD	3/14/2014		<0.139
230 GLACIER HILLS ROAD	7/25/2013		< 0.20
270 GLACIER HILLS ROAD	3/11/2014		<0.150
300 GLACIER HILLS ROAD	7/31/2013		0.077J
310 GLACIER HILLS ROAD	7/25/2013		< 0.20
20 JASON DRIVE	3/12/2014		<0.150
25 JASON DRIVE	4/14/2014		<0.147
30 JASON DRIVE	3/10/2014		<0.147
15 KNOWLES STREET	4/26/2013		0.078J
25 KNOWLES STREET	5/8/2014		3.72
	5/8/2014	Duplicate	3.58
	9/18/2013		4.3
	8/27/2013		3.2
	7/25/2013		2.8
	6/27/2013		2.8
	6/27/2013	Duplicate	3.0
	5/29/2013		2.7
	5/29/2013	Duplicate	2.8B
	4/26/2013		2.8
	4/26/2013	Duplicate	2.6
	2/21/2013		3.1
	2/21/2013	Duplicate	2.9

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Property	Date	Duplicate	1,4 Dioxane
30 KNOWLES STREET	5/6/2014		4.79
	5/6/2014	Duplicate	4.92
	9/17/2013		5.4
	8/28/2013		5.6
	7/30/2013		5.1
	7/30/2013	Duplicate	5.1
	6/27/2013		5.0
	6/27/2013	Duplicate	5.1
	5/29/2013		4.9
	5/29/2013	Duplicate	5.9B
	4/29/2013		6.0
	4/29/2013	Duplicate	5.2
	2/19/2013		6.9
	2/19/2013	Duplicate	6.4
45 KNOWLES STREET	5/6/2014		2.22
	5/6/2014	Duplicate	2.38
	8/28/2013		2.0
	5/1/2013		2.3
	5/1/2013	Duplicate	2.4
50 KNOWLES STREET	6/19/2014		0.0910J
	4/14/2014		<0.144
	2/19/2013		0.26
	2/19/2013	Duplicate	0.23
60 KNOWLES STREET	12/4/2013		0.049J
	2/21/2013		0.063J
65 KNOWLES STREET	6/16/2014		0.209
	6/16/2014	Duplicate	0.217
	3/27/2014		5.03
	3/27/2014	Duplicate	5.42
	7/23/2013		0.11J
70 KNOWLES STREET	6/16/2014		<0.147
	2/20/2013		0.057J
75 KNOWLES STREET	5/8/2014		<0.144
	4/30/2013		0.075J
171 MEETINGHOUSE ROAD REAR	5/1/2013		0.58
190 MEETINGHOUSE ROAD REAR	5/9/2014		<0.142
100 MEETINGHOUSE ROAD	5/6/2014		1.90
	3/14/2014		1.73
	11/20/2013		1.3
	8/27/2013		1.9
	5/8/2013		1.8
	5/8/2013	Duplicate	1.7
	2/14/2013		1.6
	2/14/2013	Duplicate	1.5
125 MEETINGHOUSE ROAD	5/8/2013		0.15J
140 MEETINGHOUSE ROAD	3/24/2014		<0.150
	5/10/2013		0.11J
150 MEETINGHOUSE ROAD	2/22/2013		< 0.20
155 MEETINGHOUSE ROAD	7/31/2013		0.46
	7/31/2013	Duplicate	0.35
160 MEETINGHOUSE ROAD	2/12/2013		< 0.20

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Property	Date	Duplicate	1,4 Dioxane
165 MEETINGHOUSE ROAD	5/9/2014		0.746
	5/9/2014	Duplicate	0.748
	2/15/2013		0.75
	2/15/2013	Duplicate	0.67
170 MEETINGHOUSE ROAD	2/15/2013		< 0.20
175 MEETINGHOUSE ROAD	5/2/2013		< 0.20
180 MEETINGHOUSE ROAD	5/1/2013		< 0.20
185 MEETINGHOUSE ROAD	3/27/2014		<0.139
	4/30/2013		0.081J
200 MEETINGHOUSE ROAD	7/23/2014		<0.147
	5/3/2013		0.093J
205 MEETINGHOUSE ROAD	5/5/2014		0.310
	5/5/2014	Duplicate	0.319
	12/3/2013		0.30
	12/3/2013	Duplicate	0.26
225 MEETINGHOUSE ROAD	5/9/2014		0.196
	5/9/2014	Duplicate	0.178
	5/10/2013		0.13J
255 MEETINGHOUSE ROAD	4/26/2013		0.065J
275 MEETINGHOUSE ROAD	8/1/2014		<0.144
	7/23/2013		< 0.20
350 MEETINGHOUSE ROAD	5/5/2014		1.23
	5/5/2014	Duplicate	1.24
	7/25/2013		1.3
	7/25/2013	Duplicate	1.2
355 MEETINGHOUSE ROAD	12/5/2013		< 0.20
370 MEETINGHOUSE ROAD	5/8/2014		0.339
	5/8/2014	Duplicate	0.316
	4/30/2013		0.19J
375 MEETINGHOUSE ROAD	3/24/2014		0.175
	3/24/2014	Duplicate	0.156
	8/2/2013		0.19J
385 MEETINGHOUSE ROAD	8/1/2014		<0.142
	7/24/2013		0.040J
400 MEETINGHOUSE ROAD	7/24/2013		0.12J
415 MEETINGHOUSE ROAD	12/3/2013		0.14J
440 MEETINGHOUSE ROAD	7/31/2013		< 0.20
20 MOLLS POND ROAD	2/19/2013		0.050J
30 MOLLS POND ROAD	2/15/2013		< 0.20
50 MOLLS POND ROAD	2/11/2013		< 0.20
60 MOLLS POND ROAD	2/11/2013		< 0.20
400 NAUSET ROAD-SALT PND VIS CTR	8/12/2014		<0.144
	12/2/2013		< 0.20
55 NORTHWOOD ROAD	8/2/2013		0.15J
25 OLD ORCHARD ROAD	5/6/2013		0.064J
45 OLD ORCHARD ROAD	2/22/2013		< 0.20
75 OLD ORCHARD ROAD	2/21/2013		0.17J
80 OLD ORCHARD ROAD	7/31/2014		<0.144
	2/12/2013		< 0.20
100 OLD ORCHARD ROAD	7/31/2014		<0.144
	2/12/2013		< 0.20

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Property	Date	Duplicate	1,4 Dioxane
130A OLD ORCHARD ROAD	12/18/2013		< 0.20
	2/25/2013		< 0.20
130B OLD ORCHARD ROAD	12/18/2013		< 0.20
	2/25/2013		< 0.20
180 OLD ORCHARD ROAD	5/6/2014		0.527
	3/14/2014		0.0953J
	11/20/2013		0.17J
	8/28/2013		0.46
	6/27/2013		0.45
	5/8/2013		0.52
	2/22/2013		0.045J
210 OLD ORCHARD ROAD	12/18/2013		< 0.20
	2/15/2013		< 0.20
290 OLD ORCHARD ROAD	7/23/2014		<0.144
	5/16/2013		0.068J
	5/9/2013		NS
310 OLD ORCHARD ROAD	2/15/2013		< 0.20
	5/6/2014		0.431
	5/6/2014	Duplicate	0.433
350 OLD ORCHARD ROAD	4/29/2013		0.41
	8/1/2014		<0.142
	5/3/2013		< 0.20
370 OLD ORCHARD ROAD	5/2/2013		< 0.20
390 OLD ORCHARD ROAD	5/7/2013		< 0.20
400 OLD ORCHARD ROAD	5/7/2013		< 0.20
50 PIPER LANE	2/20/2013		< 0.20
65 PIPER LANE	7/31/2013		< 0.20
1 PRESERVATION WAY	8/25/2014		0.174
	8/25/2014	Duplicate	0.199
	12/2/2013		0.19J
4 PRESERVATION WAY	7/17/2014		0.192
	7/17/2014	Duplicate	0.217
	3/25/2014		0.208
	3/25/2014	Duplicate	0.196
	12/3/2013		0.18J
6 PRESERVATION WAY	4/30/2013		0.21
	12/2/2013		0.11J
8 PRESERVATION WAY	12/2/2013		0.13J
20 REDBERRY LANE	7/23/2013		0.046J
35 REDBERRY LANE	12/2/2013		0.070J
45 REDBERRY LANE	3/28/2014		0.105J
55 REDBERRY LANE	7/22/2013		0.047J
49 SALT POND ROAD	3/11/2014		0.177
	3/11/2014	Duplicate	0.166
25 SCHOOLHOUSE ROAD	3/10/2014		<0.150
55 SCHOOLHOUSE ROAD	12/4/2013		0.044J
85 SCHOOLHOUSE ROAD	12/5/2013		< 0.20
90 SCHOOLHOUSE ROAD	6/23/2014		<0.139
1000 SCHOOLHOUSE ROAD	7/23/2014		<0.144
180 SCHOOLHOUSE ROAD	7/23/2013		0.093J

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Property		Date	Duplicate	1,4 Dioxane
200 SCHOOLHOUSE ROAD		8/4/2014		0.0822J
	PRE (filter)	5/6/2014		0.105J
	PRE (filter)	2/14/2014		0.083 J
	POST (filter)	2/14/2014		0.094 J
	PRE (filter)	2/14/2014	Duplicate	0.076 J
	PRE (filter)	2/11/2014		0.081 J
	POST (filter)	2/11/2014		0.096 J
	PRE (filter)	2/11/2014	Duplicate	0.086 J
		2/12/2013		< 0.20
210 SCHOOLHOUSE ROAD		5/6/2013		< 0.20
230 SCHOOLHOUSE ROAD		5/8/2013		< 0.20
255 SCHOOLHOUSE ROAD		7/22/2013		0.055J
265 SCHOOLHOUSE ROAD		7/23/2014		0.0945J
		2/21/2013		0.053J
280 SCHOOLHOUSE ROAD		2/22/2013		0.071J
300 SCHOOLHOUSE ROAD		5/7/2014		0.168
		5/7/2014	Duplicate	0.177
		2/19/2013		0.14J

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Property		Date	Duplicate	1,4 Dioxane
325 SCHOOLHOUSE ROAD	Untreated	9/19/2013		10
	Mid System	9/19/2013		0.095J
	Effluent	9/19/2013		0.68
	Untreated	8/27/2013		7.7
	Mid System	8/27/2013		< 0.20
	Effluent	8/27/2013		< 0.20
	Untreated	7/31/2013		9.4
	Mid System	7/31/2013		< 0.20
	Effluent	7/31/2013		< 0.20
	Untreated	7/31/2013	Duplicate	8.8
	Untreated	6/27/2013		8.2
	Mid System	6/27/2013		0.041J
	Effluent	6/27/2013		< 0.20
	Untreated	6/27/2013	Duplicate	8.8
	Untreated	5/29/2013		7.8
	Mid System	5/29/2013		< 0.20
	Effluent	5/29/2013		< 0.20
	Untreated	5/29/2013	Duplicate	9.8B
	Untreated	4/29/2013		9.8
	Mid System	4/29/2013		< 0.20
	Effluent	4/29/2013		< 0.20
	Untreated	4/29/2013	Duplicate	8.3
	Mid System	3/21/2013		< 0.20
	Effluent	3/21/2013		< 0.20
	Mid System	3/14/2013		< 0.20
	Effluent	3/14/2013		< 0.20
	Mid System	3/8/2013		< 0.20
	Effluent	3/8/2013		< 0.20
	Mid System	2/25/2013		< 0.20
	Effluent	2/25/2013		< 0.20
	Untreated	2/22/2013		10
	Untreated	2/22/2013	Duplicate	9.7
345 SCHOOLHOUSE ROAD		5/7/2014		<0.153
		2/12/2013		0.12J
350 SCHOOLHOUSE ROAD		8/2/2013		< 0.20
390 SCHOOLHOUSE ROAD		5/7/2013		< 0.20
395 SCHOOLHOUSE ROAD		9/19/2013		< 0.20
400 SCHOOLHOUSE ROAD		5/16/2013		< 0.20
		5/9/2013		NS
415 SCHOOLHOUSE ROAD		8/5/2014		0.0895J
		2/25/2013		< 0.20
418 SCHOOLHOUSE ROAD		5/2/2013		< 0.20
425 SCHOOLHOUSE ROAD		2/25/2013		< 0.20
455 SCHOOLHOUSE ROAD		5/6/2013		< 0.20
475 SCHOOLHOUSE ROAD		12/6/2013		< 0.20
495 SCHOOLHOUSE ROAD		12/6/2013		< 0.20
555 SCHOOLHOUSE ROAD		5/29/2013		0.048J
		5/9/2013		NS

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Property	Date	Duplicate	1,4 Dioxane
600 SCHOOLHOUSE ROAD	6/26/2014		0.226
	6/26/2014	Duplicate	0.206
690 SCHOOLHOUSE ROAD	3/11/2014		0.105J
3 SELAH CIRCLE	4/30/2013		0.072J
4 SELAH CIRCLE	5/6/2014		<0.143
	9/18/2013		0.065J
3 SHARON CIRCLE	7/31/2013		0.064J
5 SHARON CIRCLE	5/3/2013		< 0.20
10 SHARON CIRCLE	5/16/2013		0.088J
	5/9/2013		NS
20 SHARON CIRCLE	3/24/2014		0.104J
	4/30/2013		0.10J
25 SHARON CIRCLE	9/19/2013		< 0.20
35 SHARON CIRCLE	6/19/2014		0.143
	6/19/2014	Duplicate	0.154
	5/1/2013		0.34
5 STARLIGHT LANE	5/5/2014		0.394
	5/5/2014	Duplicate	0.362
	2/21/2013		0.37
	2/21/2013	Duplicate	0.37
10 STARLIGHT LANE	8/4/2014		<0.144
	5/10/2013		< 0.20
13 STARLIGHT LANE	8/1/2014		<0.142
	5/10/2013		< 0.20
20 STARLIGHT LANE	5/7/2013		< 0.20
30 STARLIGHT LANE	6/26/2014		0.279
	6/26/2014	Duplicate	0.302
	3/25/2014		0.278
	3/25/2014	Duplicate	0.249
	12/4/2013		0.22
	12/4/2013	Duplicate	0.17J
	5/3/2013		0.21
35 STARLIGHT LANE	12/4/2013		0.37
	12/4/2013	Duplicate	0.30
	2/15/2013		0.26
40 STARLIGHT LANE	6/26/2014		0.874
	6/26/2014	Duplicate	0.936
	7/23/2013		0.83
45 STARLIGHT LANE	2/12/2013		1.1
	2/12/2013	Duplicate	0.93
50 STARLIGHT LANE	3/27/2014		<0.139
	7/31/2013		0.13J
3070 STATE HWY	12/6/2013		0.18J
3100 A STATE HWY	3/13/2014		<0.139
3168 STATE HWY	5/5/2014		0.334
	5/5/2014	Duplicate	0.350
	12/6/2013		0.33
	12/6/2013	Duplicate	0.27
3172 STATE HWY BACKUP WELL	3/25/2014		0.335
	3/25/2014	Duplicate	0.338

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
L - LCS or LCSD exceeded the control limits. Results may be biased high.
* Proposed GW-1 Standard

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Datebase: Eastham Database



Property	Date	Duplicate	1,4 Dioxane
3172 STATE HWY PRIMARY WELL	3/25/2014		0.326
	3/25/2014	Duplicate	0.306
	12/6/2013		0.20
	12/6/2013	Duplicate	0.21
3200 STATE HWY	5/8/2014		0.424
	5/8/2014	Duplicate	0.418
	12/6/2013		0.31
	12/6/2013	Duplicate	0.32
3265 STATE HWY	3/10/2014		<0.147
3280 STATE HWY	4/14/2014		0.248
	4/14/2014	Duplicate	0.198
3315 STATE HWY	3/12/2014		0.232
	3/12/2014	Duplicate	0.194
3430 STATE HWY	12/2/2013		< 0.20
3440 STATE HWY	4/11/2014		<0.142
3460 STATE HWY	12/6/2013		0.14J
	4/30/2013		0.10J
30 SURREY DRIVE	9/17/2013		0.14J
35 SURREY DRIVE	7/31/2013		0.070J
50 SURREY DRIVE	4/30/2013		0.058J
55 SURREY DRIVE	5/1/2013		< 0.20
65 SURREY DRIVE	7/22/2013		0.047J
10 TURTLE POND ROAD	5/10/2013		< 0.20
5 WALTERS WAY	4/11/2014		0.147
	4/11/2014	Duplicate	<0.144
1 WHIDAH LANE	7/31/2014		<0.144
	4/29/2013		< 0.20
3 WHIDAH LANE	5/5/2014		<0.144
	5/16/2013		0.071J
	5/9/2013		NS
4 WHIDAH LANE	7/24/2013		< 0.20
5 WHIDAH LANE	7/30/2013		< 0.20
8 WHIDAH LANE	9/19/2013		0.57
9 WHIDAH LANE	7/31/2014		<0.144
	5/7/2013		< 0.20
30 WILD GOOSE LANE	6/23/2014		0.109J
35 WILD GOOSE LANE	12/6/2013		0.081J
45 WILD GOOSE LANE	12/3/2013		0.058J
50 WILD GOOSE LANE	12/4/2013		< 0.20

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
L - LCS or LCSD exceeded the control limits. Results may be biased high.
* Proposed GW-1 Standard

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Report: Table 2 Study Area Drinking Water
Datebase: Eastham Database



TABLE 3
SUMMARY OF
LANDFILL MONITORING PLAN REQUIREMENTS
EASTHAM, MA

Monitoring Type	Bottled Water List	RES #	Frequency	Schedule	VOCs & 1,4- Dioxane	Inorganics	Arsenic Only	Indicators	Methane, VOCs, O2 & H2S
Monitoring Wells									
MW-3I/3D			Quarterly	Feb/May/Aug/Nov	x	x		x	
MW-21S			Semi-Annually	May/Nov	x				
MW-2S, 4S & 5S			Annually	December	x	x		x	
MW-8, DPW Well			Annually	December	x				
Residential Wells									
285 Alston	Yes	RES-20	Quarterly	Feb/May/Aug/Nov	x		x		
100 Meetinghouse	Yes	RES-8	Quarterly	Feb/May/Aug/Nov	x		x		
180 Old Orchard	Yes	RES-1	Quarterly	Feb/May/Aug/Nov	x		x		
325 Schoolhouse	Yes	RES-30	Semi-Annually	May/Nov	x				
50 Alston	Yes	RES-35	Annually	February	x				
265 Alston		RES-18	Annually	February	x				
280 Alston		RES-16	Annually	February	x	x			
11 Eldia	Yes	RES-34	Annually	February	x				
25 Knowles	Yes	RES-36	Annually	February	x				
30 Knowles	Yes	RES-31	Annually	February	x				
45 Knowles	Yes	RES-32	Annually	February	x				
125 Meetinghouse		RES-7	Annually	February	x	x			
155 Meetinghouse	Yes	RES-6	Annually	February	x	x			
165 Meetinghouse	Yes	RES-4	Annually	February	x	x			
170 Meetinghouse		RES-33	Annually	February	x				
75 Old Orchard		RES-13	Annually	February	x	x			
130 Old Orchard		RES-9	Annually	February	x	x			
210 Old Orchard		RES-3	Annually	February	x	x			
290 Old Orchard		RES-2	Annually	February	x	x			
Landfill Gas Wells									
GMW-1, 2, 2A, 2B, 3 & 4			Semi-Annually	May/Nov					x

TABLE 4.1 SECTION 1 SUMMARY OF LANDFILL MONITORNG PLAN GROUNDWATER ANALYTICAL RESULTS Volatile Organic Compounds Eastham Landfill Monitoring Wells and Private Drinking Wells Eastham, MA (All results in ug/l)																		
Property	LMP Sample Frequency	Date	1,4-Dioxane	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichlorobenzene		
Standards																		
ORSG			0.3	NA	NA	NA	NA	70	NA	NA	NA	NA	NA	NA	NA	NA		
MMCL			NA	NA	200	NA	5	NA	7	NA	NA	NA	70	NA	0.2	600		
GW1			0.3*	5	200	2	5	70	7	NA	NA	NA	70	NA	NA	600		
Results																		
DPW Garage Well	Annual	2/7/2014	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
Gatehouse Well	Annual	2/11/2014	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
Landfill Non-potable Well	Annual	2/25/2013	<0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
		12/7/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
MW 21D		2/25/2013	< 50	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0		
MW 21S	Semi-Annual	5/16/2013	< 50	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0		
		12/7/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
MW 2D		2/14/2013	0.14 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
		12/6/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
MW 2S	Annual	12/18/2013	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		2/14/2013	0.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
		12/6/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		7/10/2012	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
MW 3D	Quarterly	9/3/2014	< 500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		
		5/19/2014	13	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0		
		2/27/2014	12	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0		
		11/25/2013	16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		9/5/2013	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		5/8/2013	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		2/14/2013	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		12/6/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		10/9/2012	18	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		7/10/2012	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		3/20/2012	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		MW 3I	Quarterly	9/3/2014	< 500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
				5/19/2014	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0
				2/27/2014	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0
				11/25/2013	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
9/5/2013	<500			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
5/8/2013	<2.5			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
2/14/2013	< 0.2			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
2/14/2013	<500			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
12/6/2012	<2.5			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
10/9/2012	<2.5			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
7/10/2012	<500			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
3/20/2012	<500			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
MW 3S				2/14/2013	< 0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
				12/6/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 4D				2/14/2013	< 0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
MW 4S	Annual	12/18/2013	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		2/14/2013	1.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
		12/6/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
		7/10/2012	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		



Property	LMP Sample Frequency	Date	1,4-Dioxane	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichlorobenzene
MW 5D		2/14/2013	< 0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/5/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 5S	Annual	12/18/2013	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		2/14/2013	1.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/5/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		7/10/2012	<500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 8	Annual	12/18/2013	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		3/14/2013	0.33	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/7/2012	<2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
50 ALSTON AVENUE	Annual	9/18/2013	0.37	< 0.50	< 0.50	< 0.50	< 0.50	0.17J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/25/2013	0.18J	< 0.50	< 0.50	< 0.50	< 0.50	0.30J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	0.18J	< 0.50	< 0.50	< 0.50	< 0.50	0.24J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	0.20	< 0.50	< 0.50	< 0.50	< 0.50	0.25J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/1/2013	0.18J	< 0.50	< 0.50	< 0.50	< 0.50	0.28J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/14/2013	0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/4/2013	0.23	< 0.50	< 0.50	< 0.50	< 0.50	0.25J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/4/2013	0.23	< 0.50	< 0.50	< 0.50	< 0.50	0.27J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/14/2013	5.1	< 0.50	< 0.50	< 0.50	< 0.50	0.24J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/14/2013	5.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/7/2012	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
265 ALSTON AVENUE	Annual	12/18/2013	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/14/2013	0.055J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/21/2012	NS	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
275 ALSTON AVENUE		5/16/2013	1.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/16/2013	0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		12/6/2012	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
280 ALSTON AVENUE	Annual	12/18/2013	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/21/2012	NS	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
285 ALSTON AVENUE	Quarterly	3/14/2014	0.636	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		11/20/2013	0.51	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/8/2013	0.35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	0.37	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	0.33	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		12/6/2012	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
11 ELDIA WAY	Annual	9/17/2013	3.7	< 0.50	< 0.50	< 0.50	< 0.50	0.17J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/25/2013	3.0	< 0.50	< 0.50	< 0.50	< 0.50	0.19J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	4.3	< 0.50	< 0.50	< 0.50	< 0.50	0.22J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	3.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/29/2013	4.3	< 0.50	< 0.50	< 0.50	< 0.50	0.20J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	3.9B	< 0.50	< 0.50	< 0.50	< 0.50	0.20J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	4.2	< 0.50	< 0.50	< 0.50	< 0.50	0.20J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	3.3	< 0.50	< 0.50	< 0.50	< 0.50	0.19J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/14/2013	2.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	3.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
25 KNOWLES STREET	Annual	9/18/2013	4.3	< 0.50	< 0.50	< 0.50	< 0.50	0.22J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/27/2013	3.2	< 0.50	< 0.50	< 0.50	< 0.50	0.24J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/25/2013	2.8	< 0.50	< 0.50	< 0.50	< 0.50	0.25J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	2.8	< 0.50	< 0.50	< 0.50	< 0.50	0.21J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/29/2013	2.7	< 0.50	< 0.50	< 0.50	< 0.50	0.20J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	2.8B	< 0.50	< 0.50	< 0.50	< 0.50	0.21J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/26/2013	2.8	< 0.50	< 0.50	< 0.50	< 0.50	0.22J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/26/2013	2.6	< 0.50	< 0.50	< 0.50	< 0.50	0.21J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/21/2013	3.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/21/2013	2.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
30 KNOWLES STREET	Annual	9/17/2013	5.4	< 0.50	< 0.50	< 0.50	< 0.50	0.27J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/28/2013	5.6	< 0.50	< 0.50	< 0.50	< 0.50	0.32J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/30/2013	5.1	< 0.50	< 0.50	< 0.50	< 0.50	0.32J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/30/2013	5.1	< 0.50	< 0.50	< 0.50	< 0.50	0.32J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	5.0	< 0.50	< 0.50	< 0.50	< 0.50	0.35J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	5.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample

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Report: GW VOC Section 1
Database: Eastham Landfill Monitoring



Property	LMP Sample Frequency	Date		1,4-Dioxane	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichlorobenzene
325 SCHOOLHOUSE ROAD	Semi-Annual	9/19/2013	Untreated	10	< 0.50	< 0.50	< 0.50	< 0.50	0.41J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		9/19/2013	Mid System	0.095J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		9/19/2013	Effluent	0.68	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/27/2013	Untreated	7.7	< 0.50	< 0.50	< 0.50	< 0.50	0.37J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/27/2013	Mid System	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/27/2013	Effluent	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/31/2013	Untreated	9.4	< 0.50	< 0.50	< 0.50	< 0.50	0.35J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/31/2013	Untreated	Duplicate	8.8	< 0.50	< 0.50	< 0.50	< 0.50	0.38J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/31/2013	Mid System		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/31/2013	Effluent		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	Untreated	Duplicate	8.2	< 0.50	< 0.50	< 0.50	< 0.50	0.41J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	Untreated		8.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2013	Mid System		0.041J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	Effluent	Duplicate	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Untreated		7.8	< 0.50	< 0.50	< 0.50	< 0.50	0.44J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Untreated		9.8B	< 0.50	< 0.50	< 0.50	< 0.50	0.41J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Mid System	Duplicate	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Effluent		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Untreated		9.8	< 0.50	< 0.50	< 0.50	< 0.50	0.36J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Untreated	Duplicate	8.3	< 0.50	< 0.50	< 0.50	< 0.50	0.37J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Mid System		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Effluent		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/21/2013	Mid System	Duplicate	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/21/2013	Effluent		< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	Mid System		< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	Effluent	Duplicate	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/8/2013	Mid System		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/8/2013	Effluent		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/25/2013	Mid System	Duplicate	< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/25/2013	Effluent		< 0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	Untreated		10	< 0.50	< 0.50	< 0.50	< 0.50	0.49J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	Untreated	Duplicate	9.7	< 0.50	< 0.50	< 0.50	< 0.50	0.49J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		12/7/2012	Untreated		<2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50



TABLE 4.1
SECTION 2
SUMMARY OF LANDFILL MONITORING PLAN
GROUNDWATER ANALYTICAL RESULTS
Volatile Organic Compounds
Eastham Landfill Monitoring Wells and Private Drinking Wells
Eastham, MA
(All results in ug/l)

Property	LMP Sample Frequency	Date	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromochloromethane
Standards																		
ORSG			NA	NA	NA	NA	NA	NA	NA	4000	NA	NA	NA	350	6300	NA	NA	NA
MMCL			5	5	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	5	NA	NA
GW1			5	5	NA	40	NA	5	NA	4000	NA	NA	NA	350	6300	5	NA	NA
Results																		
DPW Garage Well	Annual	2/7/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.63 J	< 0.50	< 0.50	< 0.50
Gatehouse Well	Annual	2/11/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.58	< 0.50	< 0.50	< 0.50
Landfill Non-potable Well	Annual	2/25/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NS	< 0.5	< 0.5	< 0.5	NS	NS	< 0.5	< 0.5	< 0.5
MW 21D		2/25/2013	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1J *	< 1.0	< 1.0	< 1.0	< 10	14J	< 1.0	< 1.0	< 1.0
MW 21S	Semi-Annual	5/16/2013	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 10	< 50	< 1.0	< 1.0	< 1.0
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NS	< 0.5	< 0.5	< 0.5	NS	NS	< 0.5	< 0.5	< 0.5
MW 2D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
MW 2S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
MW 3D	Quarterly	9/3/2014	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
		5/19/2014	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	0.79	< 1.0	< 1.0
		2/27/2014	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 10	1.2	< 1.0	< 1.0
		11/25/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	0.96	< 0.5	< 0.5
		9/5/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	1.0	< 0.5	< 0.5
		5/8/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	0.91	< 0.5	< 0.5
		2/14/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	1.0	< 0.5	< 0.5
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		10/9/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	1.2	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		3/20/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
MW 3I	Quarterly	9/3/2014	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
		5/19/2014	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0
		2/27/2014	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 10	< 1.0	< 1.0	< 1.0
		11/25/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5
		9/5/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		5/8/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/14/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		10/9/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		3/20/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
MW 3S		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
MW 4D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5	< 0.5	< 0.5	< 0.5
MW 4S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	< 0.5	<5.0	<5.0	< 0.5	< 0.5	< 0.5

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



Property	LMP Sample Frequency	Date																	
			1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	Dichlorotoluene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chlorotoluene	Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromochloromethane
MW 5D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/5/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5	
MW 5S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5	
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/5/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5	
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5	
MW 8	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0	< 0.5	< 0.5	< 0.5	
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NS	NS	< 0.5	< 0.5	< 0.5	
50 ALSTON AVENUE	Annual	9/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.83J	< 0.50	< 0.50	< 0.50	
		7/25/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	2.1J	< 0.50	< 0.50	< 0.50	
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		5/1/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		3/4/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	16	< 0.50	< 0.50	< 0.50	< 2.5	7.5	< 0.50	< 0.50	< 0.50	
		3/4/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	16	< 0.50	< 0.50	< 0.50	< 2.5	8.4	< 0.50	< 0.50	< 0.50	
		2/14/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.40J	< 0.50	< 0.50	
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Duplicate	12/7/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
265 ALSTON AVENUE	Annual	12/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.75J	< 0.50	< 0.50	< 0.50	
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
		6/21/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NS	< 0.50	< 0.50	< 0.50	NS	NS	< 0.50	< 0.50	< 0.50	
275 ALSTON AVENUE		5/16/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.1J	< 0.50	< 0.50	< 0.50	
		5/16/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.56J	< 0.50	< 0.50	< 0.50	
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
280 ALSTON AVENUE	Annual	12/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		2/22/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
		6/21/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NS	< 0.50	< 0.50	< 0.50	NS	NS	< 0.50	< 0.50	< 0.50	
285 ALSTON AVENUE	Quarterly	3/14/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NS	< 0.50	< 0.50	< 0.50	NS	NS	< 0.50	< 0.50	< 0.50	
		11/20/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		5/8/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		2/22/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
	Duplicate	2/22/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
11 ELDIA WAY	Annual	9/17/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.73J	< 0.50	< 0.50	< 0.50	
		7/25/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.3J	0.16J	< 0.50	< 0.50	
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.18J	< 0.50	< 0.50	
	Duplicate	6/27/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.63J	0.20J	< 0.50	< 0.50	
	Duplicate	5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.56J	0.19J	< 0.50	< 0.50	
		4/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.20J	< 0.50	< 0.50	
	Duplicate	4/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.18J	< 0.50	< 0.50	
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Duplicate	3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
25 KNOWLES STREET	Annual	9/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.67J	< 0.50	< 0.50	< 0.50	
		8/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.2J	< 0.50	< 0.50	< 0.50	
		7/25/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.76J	< 0.50	< 0.50	< 0.50	
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.57J	< 0.50	< 0.50	< 0.50	
	Duplicate	6/27/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
	Duplicate	4/26/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50	
		4/26/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.65J	< 0.50	< 0.50	< 0.50	
	Duplicate	2/21/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		2/21/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
30 KNOWLES STREET	Annual	9/17/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	2.2J	0.26J	< 0.50	< 0.50	
		8/28/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.28J	< 0.50	< 0.50	
		7/30/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.4J	0.29J	< 0.50	< 0.50	
	Duplicate	7/30/2013	< 0.50	< 0.50	< 0.50	<													

Notes:	NS - Not Sampled J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. B - Analyte detected in Blank and Sample * Proposed GW1 Standard



Notes:	NS - Not Sampled J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. B - Analyte detected in Blank and Sample * Proposed GW1 Standard
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Report:	GW VOC Section 2
Datbase:	Eastham Landfill Monitoring



Property	LMP Sample Frequency	Date		1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromochloromethane
290 OLD ORCHARD ROAD	Annual	5/16/2013		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/9/2013		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		2/15/2013		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		6/21/2012		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NS	< 0.50	< 0.50	< 0.50	NS	NS	< 0.50	< 0.50	< 0.50
325 SCHOOLHOUSE ROAD	Semi-Annual	9/19/2013	Untreated	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.57	< 0.50	< 0.50
		9/19/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		9/19/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.5J	< 0.50	< 0.50	< 0.50
		8/27/2013	Untreated	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.4J	0.63	< 0.50	< 0.50
		8/27/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.57J	< 0.50	< 0.50	< 0.50
		8/27/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		7/31/2013	Untreated	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.3J	0.59	< 0.50	< 0.50
		7/31/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.0J	0.60	< 0.50	< 0.50
		7/31/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		7/31/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		6/27/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.2J	0.54	< 0.50	< 0.50
		6/27/2013	Untreated	Duplicate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		6/27/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		5/29/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.68J	0.65	< 0.50	< 0.50
		5/29/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.58	< 0.50	< 0.50
		5/29/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	1.6J	< 0.50	< 0.50	< 0.50
		5/29/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		4/29/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.54	< 0.50	< 0.50
		4/29/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.57	< 0.50	< 0.50
		4/29/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.67J	< 0.50	< 0.50	< 0.50
		4/29/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		3/21/2013	Mid System		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/21/2013	Effluent		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	Mid System		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	Effluent		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/8/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		3/8/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	0.61J	< 0.50	< 0.50	< 0.50
		2/25/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		2/25/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	< 0.50	< 0.50	< 0.50
		2/22/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.63	< 0.50	< 0.50
		2/22/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 2.5	< 2.5	0.66	< 0.50	< 0.50
		12/7/2012	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



TABLE 4.1
SECTION 3
SUMMARY OF LANDFILL MONITORNG PLAN
GROUNDWATER ANALYTICAL RESULTS
Volatile Organic Compounds
Eastham Landfill Monitoring Wells and Private Drinking Wells
Eastham, MA
(All results in ug/l)

Property	LMP Sample Frequency	Date	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromomethane	Dichlorobromomethane	Dichlorodifluoromethane	Ethylbenzene	
Standards																	
ORSG			NA	10	NA	NA	NA	NA	70	NA	NA	NA	NA	NA	1400	NA	
MMCL			NA	NA	5	100	NA	NA	NA	NA	70	NA	NA	NA	NA	700	
GW1			4	10	5	100	2	NA	70	NA	70	NA	NA	3	NA	700	
Results																	
DPW Garage Well	Annual	2/7/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Gatehouse Well	Annual	2/11/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Landfill Non-potable Well	Annual	2/25/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 21D	Semi-Annual	2/25/2013	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	< 2.0	< 1.0	< 2.0	< 1.0	< 0.40	< 1.0	< 0.50	< 1.0	< 1.0	
MW 21S		5/16/2013	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	< 2.0	< 1.0	< 2.0	< 1.0	< 0.40	< 1.0	< 0.50	< 1.0	< 1.0	
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 2D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 2S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 3D	Quarterly	9/3/2014	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
		5/19/2014	< 1.0	< 1.0	< 1.0	1.3	< 5.0	< 1.0	< 1.0	< 1.0	1.1	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	
		2/27/2014	< 1.0	< 1.0	< 1.0	1.6	< 5.0	< 1.0	< 1.0	< 1.0	2.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	
		11/25/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.3	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		9/5/2013	< 0.5	< 0.5	< 0.5	1.6	< 0.5	< 0.5	< 0.5	< 0.5	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		5/8/2013	< 0.5	< 0.5	< 0.5	1.4	< 0.5	< 0.5	< 0.5	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	0.60	< 0.5
		2/14/2013	< 0.5	< 0.5	< 0.5	1.6	< 0.5	< 0.5	< 0.5	< 0.5	1.5	< 0.5	< 0.5	< 0.5	< 0.5	0.51	< 0.5
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		10/9/2012	< 0.5	< 0.5	< 0.5	1.9	< 0.5	0.58	< 0.5	< 0.5	1.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		3/20/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 3I	Quarterly	9/3/2014	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
		5/19/2014	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	
		2/27/2014	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	
		11/25/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		9/5/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		5/8/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		2/14/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.84	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		10/9/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		3/20/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 3S		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 4D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 4S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 5D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		12/5/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
MW 5S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.51	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



Property	LMP Sample Frequency	Date	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromomethane	Dichlorobromomethane	Dichlorodifluoromethane	Ethylbenzene
MW 5S	Annual	12/5/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.51	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 8	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
50 ALSTON AVENUE	Annual	9/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/25/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/1/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/4/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.33J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/4/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.37J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/14/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.24J	0.17J	< 0.50	0.74	< 0.50	< 0.50	< 0.50	< 0.50
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/7/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
265 ALSTON AVENUE	Annual	12/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.18J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/21/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
275 ALSTON AVENUE		5/16/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.72	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/16/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.75	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
280 ALSTON AVENUE	Annual	12/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/21/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
285 ALSTON AVENUE	Quarterly	3/14/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.65	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		11/20/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.51	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/8/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.47J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.55	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.59	0.29J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
11 ELDIA WAY	Annual	9/17/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.22J	< 0.50	< 0.50	0.60	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/25/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.84	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.27J	< 0.50	< 0.50	0.86	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.32J	< 0.50	< 0.50	0.79	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.36J	< 0.50	< 0.50	0.85	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.78	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.30J	< 0.50	< 0.50	0.89	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
25 KNOWLES STREET	Annual	9/18/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.12J	0.39J	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.14J	0.43J	< 0.50	2.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/25/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.43J	0.078J	2.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.15J	0.36J	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.15J	0.38J	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.19J	0.37J	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/26/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.34J	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/26/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.39J	< 0.50	< 0.50	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/21/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/21/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
30 KNOWLES STREET	Annual	9/17/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.28J	0.16J	< 0.50	1.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		8/28/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.28J	0.19J	< 0.50	1.4	< 0.50	< 0.50	< 0.50	0.22J	< 0.50
		7/30/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.27J	0.18J	0.25J	1.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		7/30/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26J	0.18J	< 0.50	1.5	< 0.50	< 0.50	< 0.50	0.23J	< 0.50
		6/27/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.32J	0.20J	0.16J	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.44J	0.21J	< 0.50	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.43J	0.20J	< 0.50	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.20J	0.080J	1.8	< 0.50	< 0.50	< 0.50	0.25J	< 0.50
		4/29/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.34J	0.18J	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/19/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.40J	0.21J	0.17J	1.9	< 0.50	< 0.50	< 0.50	0.33J *	< 0.50
		2/19/2013	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.35J	0.21J	< 0.50	1.9	< 0.50	< 0.50	< 0.50	0.30J *	< 0.50

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



Property	LMP Sample Frequency	Date			Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromomethane	Dichlorobromomethane	Dichlorodifluoromethane	Ethylbenzene
325 SCHOOLHOUSE ROAD	Semi-Annual	7/31/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.52	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	Untreated	Duplicate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		6/27/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.51	< 0.50	< 0.50	2.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.64	< 0.50	< 0.50	2.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		5/29/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.50	< 0.50	< 0.50	2.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.51	< 0.50	< 0.50	1.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		4/29/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/21/2013	Mid System		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/21/2013	Effluent		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	Mid System		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2013	Effluent		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/8/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		3/8/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/25/2013	Mid System		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.23J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/25/2013	Effluent		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	Untreated	Duplicate	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.59	< 0.50	< 0.50	2.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		2/22/2013	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.63	< 0.50	< 0.50	2.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
		12/7/2012	Untreated		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



TABLE 4.1
SECTION 4
SUMMARY OF LANDFILL MONITORNG PLAN
GROUNDWATER ANALYTICAL RESULTS
Volatile Organic Compounds
Eastham Landfill Monitoring Wells and Private Drinking Wells
Eastham, MA
(All results in ug/l)

Property	LMP Sample Frequency	Date	Hexachlorobutadiene	Isopropylbenzene	Methyl tert-butyl ether	Methylene Chloride	Naphthalene	n-Butylbenzene	N-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Total Xylenes
Standards																				
ORSG			NA	NA	70	NA	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MMCL			NA	NA	NA	5	NA	NA	NA	NA	100	NA	5	1000	100	NA	5	NA	2	10000
GW1			0.6	NA	70	5	140	NA	NA	NA	100	NA	5	1000	100	NA	5	NA	2	10000
Results																				
DPW Garage Well	Annual	2/7/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0
Gatehouse Well	Annual	2/11/2014	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0
Landfill Non-potable Well	Annual	2/25/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 21D		2/25/2013	< 0.40	< 1.0	0.20J	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.40	< 1.0	< 1.0	< 0.50	< 2.0
MW 21S	Semi-Annual	5/16/2013	< 0.40	< 1.0	0.16J	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.40	< 1.0	< 1.0	< 1.0	< 2.0
		12/7/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 2D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 2S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 3D	Quarterly	9/3/2014	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
		5/19/2014	< 0.50	< 1.0	0.95	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0
		2/27/2014	< 0.50	< 1.0	1.2	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0
		11/25/2013	< 0.5	< 0.5	< 0.5	0.92	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		9/5/2013	< 0.5	< 0.5	0.95	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		5/8/2013	< 0.5	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		2/14/2013	< 0.5	< 0.5	1.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		10/9/2012	< 0.5	< 0.5	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.58	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		3/20/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 3I	Quarterly	9/3/2014	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
		5/19/2014	< 0.50	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0
		2/27/2014	< 0.50	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0
		11/25/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		9/5/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		5/8/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/14/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		10/9/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		7/10/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		3/20/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 3S		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 4D		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW 4S	Annual	12/18/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		2/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



Property	LMP Sample Frequency	Date		Hexachlorobutadiene	Isopropylbenzene	Methyl tert-butyl ether	Methylene Chloride	Naphthalene	Butylbenzene	N-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Total Xylenes			
290 OLD ORCHARD ROAD	Annual	5/16/2013		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
		5/9/2013		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0			
		2/15/2013		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0			
		6/21/2012		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
325 SCHOOLHOUSE ROAD	Semi-Annual	9/19/2013	Untreated	< 0.50	< 0.50	1.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.23J	< 1.0		
		9/19/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0		
		9/19/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0		
		8/27/2013	Untreated	< 0.50	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.21J	< 1.0	
		8/27/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0		
		8/27/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0		
		7/31/2013	Untreated	< 0.50	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.22J	< 1.0	
		7/31/2013	Untreated	Duplicate	< 0.50	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.22J	< 1.0
		7/31/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		7/31/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		6/27/2013	Untreated	< 0.50	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26J	< 1.0	
		6/27/2013	Untreated	Duplicate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		6/27/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		6/27/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		5/29/2013	Untreated	< 0.50	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		5/29/2013	Untreated	Duplicate	< 0.50	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.27J	< 1.0	
		5/29/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		5/29/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		4/29/2013	Untreated	< 0.50	< 0.50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.23J	< 1.0	
		4/29/2013	Untreated	Duplicate	< 0.50	< 0.50	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		4/29/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		4/29/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		3/21/2013	Mid System	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		3/21/2013	Effluent	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		3/14/2013	Mid System	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		3/14/2013	Effluent	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		3/8/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		3/8/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		2/25/2013	Mid System	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		2/25/2013	Effluent	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	
		2/22/2013	Untreated	< 0.50		0.053J	1.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.30J	< 1.0	
		2/22/2013	Untreated	Duplicate	< 0.50	< 0.50	1.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.27J	< 1.0	
		12/7/2012	Untreated	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample
* Proposed GW1 Standard



TABLE 4.2
SUMMARY OF LANDFILL MONITORING PLAN
GROUNDWATER ANALYTICAL RESULTS
Metals
Eastham Landfill
Eastham, MA
(All results in ug/l)

Property	Sample Frequency	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc
Standards														
GW-1			10	2000	5	100	NA	NA	15	NA	2.0	50	100	5000
MMCL			10	2000	5	100	NA	NA	15	NA	2.0	50	NA	NA
SMCL			NA	NA	NA	NA	1000	300	NA	50	NA	NA	100	5000
Results														
MW 2D		12/6/2012	< 3.0	3.2	< 3.0	< 3.0	< 3.0	< 100	< 3.0	51	< 0.5	< 15	< 2.0	< 60
MW 2S	Annual	12/18/2013	< 3.0	10	< 3.0	< 3.0	< 3.0	500	< 3.0	410	< 0.3	< 15	< 3.0	< 60
		12/6/2012	< 3.0	13	< 3.0	< 3.0	< 3.0	680	< 3.0	430	< 0.5	< 15	< 2.0	< 60
		7/10/2012	< 3.0	13	< 3.0	< 3.0	< 3.0	580	< 3.0	390	< 0.5	< 15	< 2.0	< 100
MW 3D	Quarterly	9/3/2014	73	86	< 3.0	6.0	< 3.0	35000	< 3.0	1400	< 0.3	< 15	< 2.0	< 60
		5/19/2014	66	82	< 3.0	< 3.0	< 3.0	31000	< 3.0	1300	82	< 15	< 2.0	< 60
		2/27/2014	54	77	< 1.0	< 2.0	< 3.0	42000	< 6.0	1800	< 0.5	< 6.0	< 2.0	12
		11/25/2013	68	88	< 3.0	3.3	< 3.0	30000	< 3.0	1400	NS	< 15	< 3.0	< 60
		9/5/2013	64	89	< 3.0	4.7	< 3.0	36000	< 3.0	1300	< 0.3	< 15	< 3.0	< 60
		5/8/2013	74	96	< 3.0	6.3	< 3.0	40000	< 3.0	1300	< 0.5	< 15	< 3.0	< 60
		2/14/2013	68	96	< 3.0	5.9	< 3.0	40000	< 3.0	1700	< 0.5	< 15	< 2.0	< 60
		12/6/2012	62	97	< 3.0	< 3.0	< 3.0	40000	< 3.0	1800	< 0.5	< 15	< 2.0	< 60
		10/9/2012	65	90	< 3.0	3.0	< 3.0	39000	< 3.0	1400	< 0.5	< 15	< 2.0	< 100
		7/10/2012	66	99	< 3.0	< 3.0	< 3.0	38000	< 3.0	1400	< 0.5	< 15	< 2.0	< 100
		3/20/2012	69	100	< 3.0	< 3.0	< 3.0	40000	< 3.0	1700	< 0.5	< 15	< 2.0	< 60
MW 3I	Quarterly	9/3/2014	43	10	< 3.0	< 3.0	< 3.0	69000	< 3.0	1100	< 0.3	< 15	< 2.0	< 60
		5/19/2014	41	11	< 3.0	< 3.0	< 3.0	64000	< 3.0	1100	< 0.3	< 15	< 2.0	< 60
		2/27/2014	23	10	5.0	< 2.0	< 3.0	78000	< 6.0	1400	< 0.5	< 6.0	< 2.0	16
		11/25/2013	< 3.0	7.1	< 3.0	< 3.0	< 3.0	33000	< 3.0	1100	NS	< 15	< 3.0	< 60
		9/5/2013	38	10	< 3.0	< 3.0	< 3.0	68000	< 3.0	1100	< 0.3	< 15	< 3.0	< 60
		5/8/2013	37	9	< 3.0	< 3.0	< 3.0	64000	< 3.0	980	< 0.5	< 15	< 3.0	< 60
		2/14/2013	41	12	< 3.0	< 3.0	< 3.0	69000	< 3.0	1100	< 0.5	< 15	< 2.0	< 60
		12/6/2012	39	11	< 3.0	< 3.0	< 3.0	72000	< 3.0	1100	< 0.5	< 15	< 2.0	< 60
		10/9/2012	40	11	< 3.0	< 3.0	< 3.0	65000	< 3.0	1000	< 0.5	< 15	< 2.0	< 100
		7/10/2012	42	< 3.0	< 3.0	< 3.0	< 3.0	68000	< 3.0	1100	< 0.5	< 15	< 2.0	< 100
		3/20/2012	44	11	< 3.0	< 3.0	< 3.0	65000	< 3.0	1400	< 0.5	< 15	< 2.0	< 60
MW 3S		12/6/2012	< 3.0	30	< 3.0	< 3.0	< 3.0	250	< 3.0	280	< 0.5	< 15	< 2.0	< 60
MW 4D		12/6/2012	< 3.0	28	< 3.0	< 3.0	< 3.0	< 100	< 3.0	160	< 0.5	< 15	< 2.0	< 60
MW 4S	Annual	12/18/2013	< 3.0	24	< 3.0	< 3.0	< 3.0	2100	< 3.0	4200	< 0.3	< 15	< 3.0	< 60
		12/6/2012	3.4	28	< 3.0	< 3.0	< 3.0	2400	< 3.0	5100	< 0.5	< 15	< 2.0	< 60
		7/10/2012	< 3.0	31	< 3.0	< 3.0	< 3.0	2400	< 3.0	4400	< 0.5	< 15	< 2.0	< 100

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample

Property	Sample Frequency	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc
MW 5D		12/5/2012	< 3.0	64	< 3.0	< 3.0	< 3.0	<150	< 3.0	51	< 0.5	< 15	< 2.0	< 60
MW 5S	Annual	12/18/2013	< 3.0	37	< 3.0	< 3.0	< 3.0	8600	< 3.0	3200	< 0.3	< 15	< 3.0	< 60
		12/5/2012	< 3.0	44	< 3.0	< 3.0	< 3.0	5500	< 3.0	3600	< 0.5	< 15	< 2.0	< 60
		7/10/2012	< 3.0	47	< 3.0	< 3.0	< 3.0	8500	< 3.0	3200	< 0.5	< 15	< 2.0	< 100
MW 8	Annual	12/18/2013	< 3.0	35	< 3.0	< 3.0	< 3.0	< 100	< 3.0	300	< 0.3	< 15	< 3.0	< 60
265 ALSTON AVENUE	Annual	12/18/2013	0.11J	13B	< 0.50	0.43J	220B	NS	1.2	NS	< 0.20	< 1.0	< 0.50	39B
		12/6/2012	< 3.0	13	< 3.0	< 3.0	27	NS	3.3	NS	< 0.5	< 15	< 3.0	< 60
		6/21/2012	< 10	10	< 1.0	< 2.0	< 100	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100
280 ALSTON AVENUE	Annual	12/18/2013	0.26J	22B	< 0.50	0.29J	840B	NS	1.9	NS	< 0.20	< 1.0	0.025J	1200B
		12/6/2012	< 3.0	19	< 3.0	< 3.0	1300	NS	5.1	NS	< 0.5	< 15	< 3.0	350
		6/21/2012	< 10	14	< 1.0	< 2.0	< 100	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100
285 ALSTON AVENUE	Quarterly	3/14/2014	0.43J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		11/20/2013	0.15J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/8/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/22/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
100 MEETINGHOUSE ROAD	Quarterly	5/6/2014	< 1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2014	0.32J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		11/20/2013	0.22J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		8/27/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/8/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/14/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/27/2012	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/21/2012	< 10	25	< 1.0	< 2.0	< 100	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100
		3/23/2012	< 3.0	27	< 3.0	< 3.0	38	< 100	< 3.0	76	< 0.5	< 15	< 2.0	< 60
125 MEETINGHOUSE ROAD	Annual	5/8/2013	< 3.0	42	< 3.0	< 3.0	25	NS	< 3.0	NS	< 0.3	< 15	< 3.0	< 60
		6/21/2012	< 10	42	< 1.0	< 2.0	< 100	< 100	< 6.0	430	< 0.5	< 6.0	< 2.0	< 100
155 MEETINGHOUSE ROAD	Annual	8/15/2013	< 3.0	25	< 3.0	< 3.0	47	NS	< 3.0	NS	< 0.3	< 15	< 3.0	< 60
		7/31/2013	< 3.0	25	< 3.0	< 3.0	97	NS	17	NS	< 0.3	< 15	< 3.0	76
165 MEETINGHOUSE ROAD	Annual	12/6/2012	< 3.0	92	< 3.0	< 3.0	17	NS	< 3.0	NS	< 0.5	< 15	< 3.0	< 60
75 OLD ORCHARD ROAD	Annual	12/6/2012	< 3.0	9	< 3.0	< 3.0	79	NS	< 3.0	NS	< 0.5	< 15	< 3.0	< 60
		6/21/2012	< 10	6	< 1.0	< 2.0	< 100	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100
130B OLD ORCHARD ROAD		12/18/2013	< 1.0	13B	< 0.50	0.074J	92B	NS	0.63J	NS	< 0.20	< 1.0	< 0.50	16B
130A OLD ORCHARD ROAD		12/18/2013	< 1.0	16B	< 0.50	0.21J	180B	NS	0.91J	NS	< 0.20	< 1.0	0.037J	13B
130 OLD ORCHARD ROAD		12/6/2012	< 3.0	16	< 3.0	< 3.0	18	NS	< 3.0	NS	< 0.5	< 15	< 3.0	< 60
		6/21/2012	< 10	12	< 1.0	< 2.0	< 100	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100
180 OLD ORCHARD ROAD	Quarterly	5/6/2014	0.34J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/14/2014	0.25J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		11/20/2013	0.10J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		8/28/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		5/8/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		2/22/2013	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/6/2012	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/27/2012	< 3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/21/2012	< 10	14	< 1.0	< 2.0	< 100	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100
		3/23/2012	< 3.0	12	< 3.0	< 3.0	40	< 100	< 3.0	4.2	< 0.5	< 15	< 2.0	< 60

Notes: NS - Not Sampled

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

B - Analyte detected in Blank and Sample

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Report: GW Metals

Datebase: Eastham Landfill Monitoring



Property	Sample Frequency	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc
210 OLD ORCHARD ROAD	Annual	12/18/2013	< 1.0	59B	< 0.50	< 1.5	50B	NS	4.1	NS	< 0.20	< 1.0	< 0.50	89B
		12/6/2012	< 3.0	55	< 3.0	< 3.0	18	NS	< 3.0	NS	< 0.5	< 15	< 3.0	< 60
		6/21/2012	< 10	54	< 1.0	< 2.0	< 100	< 100	< 6.0	540	< 0.5	< 6.0	< 2.0	< 100
290 OLD ORCHARD ROAD	Annual	6/21/2012	< 10	25	< 1.0	< 2.0	160	< 100	< 6.0	< 100	< 0.5	< 6.0	< 2.0	< 100

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B - Analyte detected in Blank and Sample

9/25/2014 Page 3 of 3
Report: GW Metals
Database: Eastham Landfill Monitoring



TABLE 4.3
SUMMARY OF LANDFILL MONITORING PLAN
GROUNDWATER ANALYTICAL RESULTS
Inorganic Indicator Parameters
Eastham Landfill
Eastham, MA

Property	Sample Frequency	Date	Alkalinity mg/L as CaCO	Chloride mg/L	COD mg/L	Total Cyanide mg/L	Nitrate mg/L	Sulfate mg/L	Total Dissolved Solids mg/L
Standards									
MMCL						0.2	10		
SMCL				250				250	500
Results									
MW 2D		12/6/2012	23	22	<3.0	NS	0.6	6.7	81
MW 2S	Annual	12/18/2013	140	26	< 5.0	< 0.010	< 0.05	24	310
		12/6/2012	150	27	<3.0	NS	0.45	40	280
		7/10/2012	150	28	10	< 0.010	0.27	36	300
MW 3D	Quarterly	9/3/2014	780	85	50	< 0.010	< 0.10	54	1,200
		5/19/2014	830	80	27	< 0.010	< 0.10	51	1,300
		2/27/2014	720	86	62	< 0.010	8.0	35	1,200
		11/25/2013	840	100	50	< 0.010	3.1	58	1,200
		9/5/2013	870	96	56	< 0.010	< 0.10	66	2,500
		5/8/2013	870	100	63	< 0.010	0.87	68	1,400
		2/14/2013	920	120	70	< 0.010	< 0.10	68	1,600
		12/6/2012	960	91	63	NS	1.4	73	1,700
		10/9/2012	960	130	5.8	< 0.010	6.2	70	1,500
		7/10/2012	970	100	71	< 0.010	0.72	67	1,700
		3/20/2012	1,000	240	62	< 0.010	1.7	68	1,500
MW 3I	Quarterly	9/3/2014	200	20	16	< 0.010	< 0.10	30	300
		5/19/2014	200	19	20	< 0.010	< 0.10	29	300
		2/27/2014	110	17	22	< 0.010	0.60	36	300
		11/25/2013	200	16	9.0	< 0.010	1.4	46	260
		9/5/2013	190	12	13	< 0.010	< 0.10	39	240
		5/8/2013	160	13	7.0	< 0.010	0.32	49	260
		2/14/2013	180	14	15	< 0.010	0.14	70	250
		12/6/2012	190	10	17	NS	0.35	81	290
		10/9/2012	180	12	<3.0	< 0.010	< 0.10	79	270

Notes:

Property	Sample Frequency	Date	Alkalinity mg/L as CaCO	Chloride mg/L	COD mg/L	Total Cyanide mg/L	Nitrate mg/L	Sulfate mg/L	Total Dissolved Solids mg/L
MW 3I	Quarterly	7/10/2012	180	19	18	< 0.010	0.19	66	320
		3/20/2012	180	19	15	< 0.010	0.42	63	290
MW 3S		12/6/2012	16	10	<3.0	NS	3.0	10	61
MW 4D		12/6/2012	16	50	<3.0	NS	2.3	18	140
MW 4S	Annual	12/18/2013	170	20	6.0	< 0.010	< 0.05	14	300
		12/6/2012	180	21	14	NS	< 0.10	22	240
		7/10/2012	180	26	13	< 0.010	0.18	20	300
MW 5D		12/5/2012	23	77	<3.0	NS	2.3	25	230
MW 5S	Annual	12/18/2013	210	28	11	< 0.010	0.40	22	370
		12/5/2012	200	34	8.0	NS	0.45	29	320
		7/10/2012	220	33	12	< 0.010	0.28	29	380
MW 8	Annual	12/18/2013	110	34	< 2.0	< 0.010	1.6	16	280
265 ALSTON AVENUE	Annual	6/21/2012	8.6	27	<3.0	< 0.010	2.2	16	100
280 ALSTON AVENUE	Annual	6/21/2012	23	66	<3.0	< 0.010	2.7	7.3	200
100 MEETINGHOUSE ROA	Quarterly	6/21/2012	61	43	<3.0	< 0.010	0.2	18	180
		3/23/2012	NS	45	4.7	< 0.010	0.23	19	150
125 MEETINGHOUSE ROA	Annual	6/21/2012	80	21	<3.0	< 0.010	0.9	23	160
75 OLD ORCHARD ROAD	Annual	6/21/2012	26	25	<3.0	< 0.010	1.0	7.8	96
130 OLD ORCHARD ROAD		6/21/2012	37	69	<3.0	< 0.010	3.5	8.6	220
180 OLD ORCHARD ROAD	Quarterly	6/21/2012	11	32	<3.0	< 0.010	2.0	14	120
		3/23/2012	NS	35	<3.0	< 0.010	2.0	16	100
210 OLD ORCHARD ROAD	Annual	6/21/2012	42	42	<3.0	< 0.010	2.4	23	170
290 OLD ORCHARD ROAD	Annual	6/21/2012	17	32	<3.0	< 0.010	3.3	14	130

Notes:

TABLE 5
SUMMARY OF
BACKGROUND STUDY AREA
ANALYTICAL RESULTS
Residential Properties
Eastham, MA
(All results in ug/l)

Property	Date	Duplicate	1,4 Dioxane
Standards			
RCGW1			0.3
ORSG			0.3
GW1			0.3
Results			
5 ACORN ROAD	5/3/2013		0.042J
10 BALLWIC ROAD	3/13/2014		<0.139
215 BAYSIDE DRIVE	6/19/2014		<0.142
60 BISHOP ROAD	3/11/2014		<0.147
1825 BRIDGE ROAD	3/11/2014		<0.150
60 BRIGGS FIELD ROAD	5/1/2013		< 0.20
CCNS Stevens House 105 Brownell Rd.	8/13/2014		<0.147
CCNS Delfino House 880 Cable Rd.	8/13/2014		<0.144
CCNS Coast Guard Beach Doane Rd. Rear	8/12/2014		<0.144
CCNS Doane Rock Picnic Area Doane Rd.	8/12/2014		0.116J
CCNS Young House 585 Doane Rd. Rear	8/13/2014		<0.147
CCNS Humphrey House 25 MacPherson Wy.	8/12/2014		<0.144
CCNS Nauset Light Beach Ocean View Dr.	8/12/2014		<0.144
CCNS Nauset Ranger Station 1050 Nauset Rd.	8/12/2014		<0.147
CCNS Sparrow House 600 Nauset Rd.	8/12/2014		<0.147
CCNS Withus House 850 Nauset Rd.	8/12/2014		<0.147
CCNS Bartlett House 40 Ocean View Dr.	8/13/2014		<0.15
CCNS Deane House 22 Tomahawk Trail	8/13/2014		<0.15
CCNS Lyman House 28 Tomahawk Trail	8/13/2014		<0.147
CCNS Benz House 30 Tomahawk Trail	8/13/2014		<0.144
20 CEDAR LANE	5/7/2014		<0.144
25 CEDAR LANE	5/7/2014		<0.144
30 CEDAR LANE	3/25/2014		0.289
	3/25/2014	Duplicate	0.285
35 CEDAR LANE	5/7/2014		<0.142
52 DYER PRINCE ROAD	7/17/2014		<0.144
235 ELDREDGE DRIVE	7/17/2014		<0.144
20 GUERRA WAY #42	4/29/2013		< 0.20
20 GUERRA WAY #59	4/29/2013		0.15J
65 KETTLE HOLE ROAD	4/26/2013		< 0.20
80 KETTLE HOLE ROAD	5/1/2013		< 0.20
115 KINGSBURY BEACH ROAD	3/12/2014		<0.150
155 MARY CHASE ROAD	4/14/2014		<0.145
295 MASSASOIT ROAD	3/10/2014		<0.144
130 MASSASOIT TRAIL	6/26/2014		0.156
	6/26/2014	Duplicate	0.151
155 MEADOW DRIVE	3/13/2014		<0.139
1525 NAUSET ROAD	3/10/2014		<0.153
265 NORTH SUNKEN MEADOW ROAD	3/13/2014		<0.139
40 ROGERS LANE	6/23/2014		<0.139

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GW-1 Standard

9/25/2014 Page 1 of 2
Report: Table 5 Background StudyREV
Datebase: Eastham Database



Property	Date	Duplicate	1,4 Dioxane
190 SAMOSET ROAD	12/6/2013		0.048J
20 SEASHELL LANE	6/23/2014		<0.139
21 SMITH LANE	5/9/2013		NS
10 SPINNAKER WAY	8/25/2014		<0.142
44 SQUIRREL RUN	7/17/2014		<0.142

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GW-1 Standard

9/25/2014 Page 2 of 2
Report: Table 5 Background StudyREV
Database: Eastham Database

TABLE 6
SUMMARY OF
KNOWLES STREET GREYWATER AND DRINKING WATER
ANALYTICAL RESULTS
Residential Properties
Eastham, MA
(All results in ug/l)

Property	Date	Duplicate	1,4 Dioxane
Standards			
RCGW1			0.3
ORSG			0.3
GW1			0.3
Results			
50 KNOWLES STREET	Drinking water	6/19/2014	0.0910J
	Greywater	6/19/2014	0.887
	Drinking water	4/14/2014	<0.144
	Drinking water	2/19/2013	0.26
	Drinking water	2/19/2013 Duplicate	0.23
65 KNOWLES STREET	Drinking water	6/16/2014	0.209
	Drinking water	6/16/2014 Duplicate	0.217
	Greywater	6/16/2014	3.7
	Drinking water	3/27/2014	5.03
	Drinking water	3/27/2014 Duplicate	5.42
75 KNOWLES STREET	Drinking water	7/23/2013	0.11J
	Greywater	6/17/2014	0.596
	Drinking water	5/8/2014	<0.144
	Drinking water	4/30/2013	0.075J

Notes: NS - Not Sampled
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GW-1 Standard

9/25/2014 Page 1 of 1
Report: Table 6 Drinking and Grey Water
Datebase: Eastham Database



Eastham Landfill
Private Well Sampling Log

Date: 6/19/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 70°F

Location: 50 Knowles St.
Property Owner: Michele Burnat + Lesa Milas
Property Contact: _____
Phone: 860-228-2524
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: DW - valve on pressure tank, pre-treatment, grey water - D box

Describe water system Water softener system

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1225 Finish: 1240

Volume Purged: 25 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Previously measured

Summary of Sampling and Monitoring Activities:

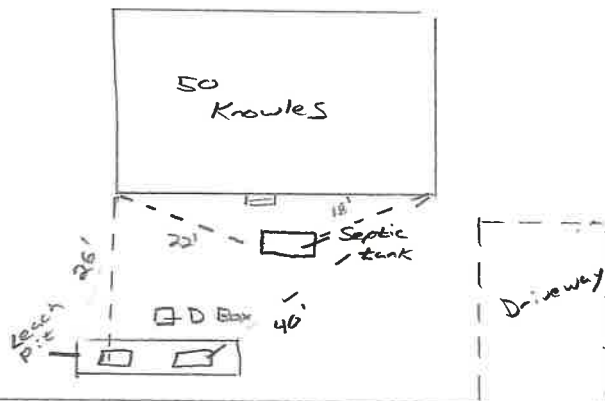
Purge water from kitchen sink,
collect sample from pressure tank pre-treatment.

Collect gray water sample from septic D box
located in front yard.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

⊗ Well



Eastham Landfill
Private Well Sampling Log

Date: 6/19/14
Sampler: EC
Weather Conditions: Cloudy, 0-5 mph wind
Temperature: 70° F

Location: 35 Sharon Circle
Property Owner: Mark + Mary Sullivan
Property Contact: _____
Phone: 860-882-7251
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: outdoor spigot
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1100 Finish: 1115

Volume Purged: 32 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

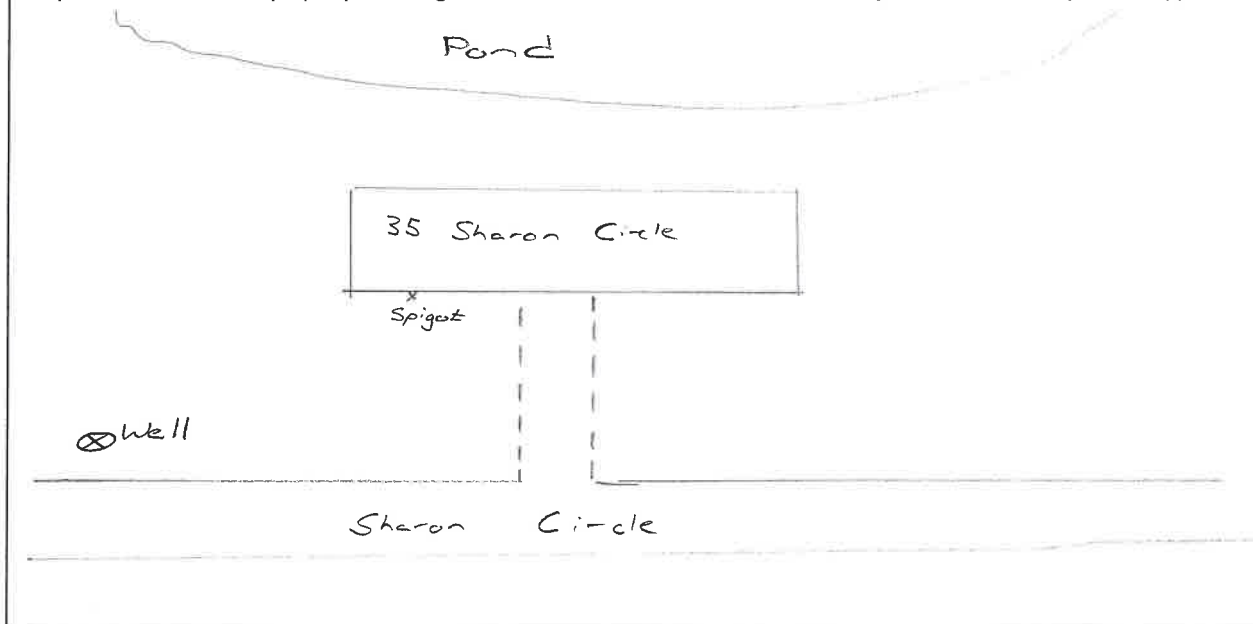
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Previously measured

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on front of house. Remove hose from
spigot prior to sampling.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/19/14
Sampler: EL
Weather Conditions: cloudy, 0-5 mph wind
Temperature: 70°F

Location: 255 Alston Ave.
Property Owner: Paul + Nancy Underhill
Property Contact: _____
Phone: 508-237-1272
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Treatment system samples InP, Mid, EPP
Describe water system _____
including treatment: _____
Water meter reading: 24,146

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: _____ Finish: _____

Volume Purged: _____ gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: Collect samples from system.
Purge approx 2 gal from Effluent prior to sampling.
Sample Eff first, then Mid, then Inf, changing gloves
between each sample.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 6/19/14
Sampler: EC
Weather Conditions: mostly cloudy, 0-5 mph wind
Temperature: 70°F

Location: 215 Bayside Dr.
Property Owner: Bud Mirkin
Property Contact: _____
Phone: 508-240-0444
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink @ cottage (215 B)
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0815 Finish: 0835

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

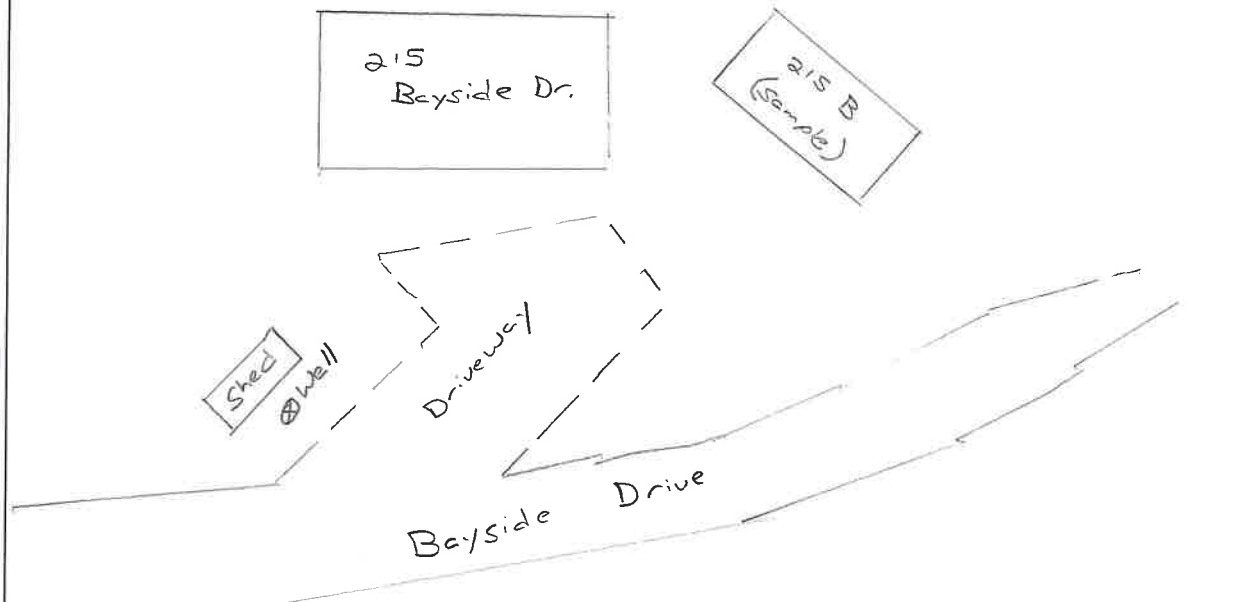
Well Depth: Measured or Provided?

55'

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen sink in cottage (215B). Water in cottage is not filtered or treated.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/16/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 70's

Location: 60 Chipman St.
Property Owner: Ivan + Shirley Freed
Property Contact: _____
Phone: 857-241-9563
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4 Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: No sample
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: _____ Finish: _____

Volume Purged: _____ gallons

Equipment Utilized: _____

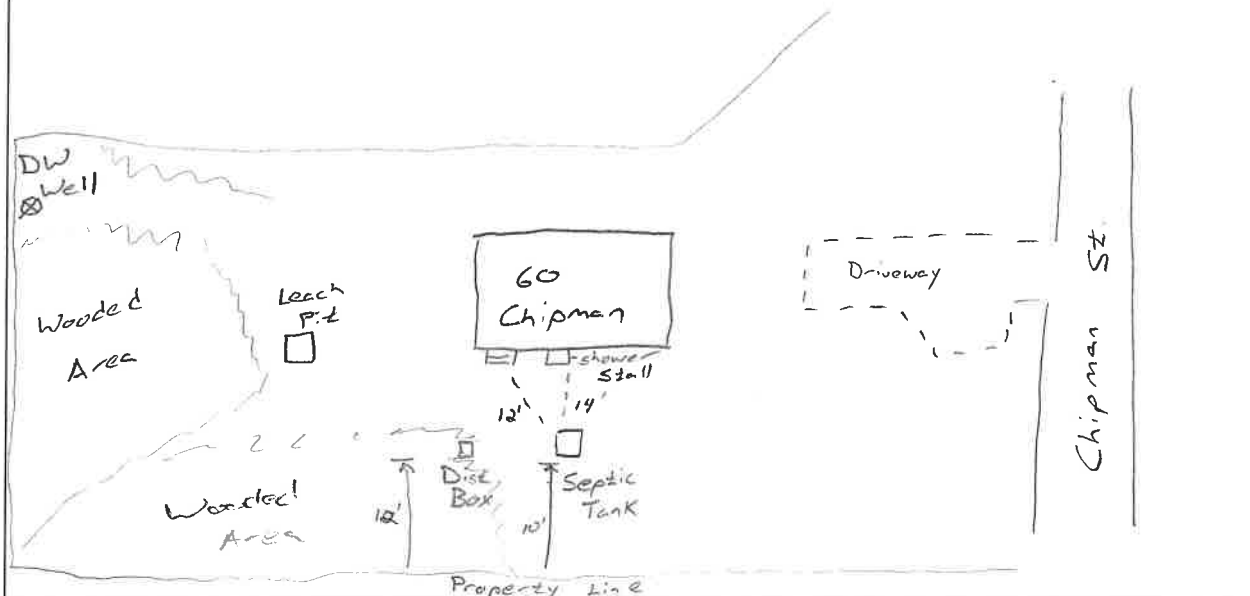
Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: No sample collected. Located septic tank and piping to distribution box. Used metal rod as probe and magnetic pipe locator. Could not locate D box, seemed to be in slightly wooded area.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/16/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 75° F

Location: 70 Knowles St.
Property Owner: Steven Douglas
Property Contact: _____
Phone: 508-255-3368
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot
Describe water system including treatment: System contains pH neutralizers and inline filter. Bypassed for sampling.
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1350 Finish: 1410

Volume Purged: 35 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

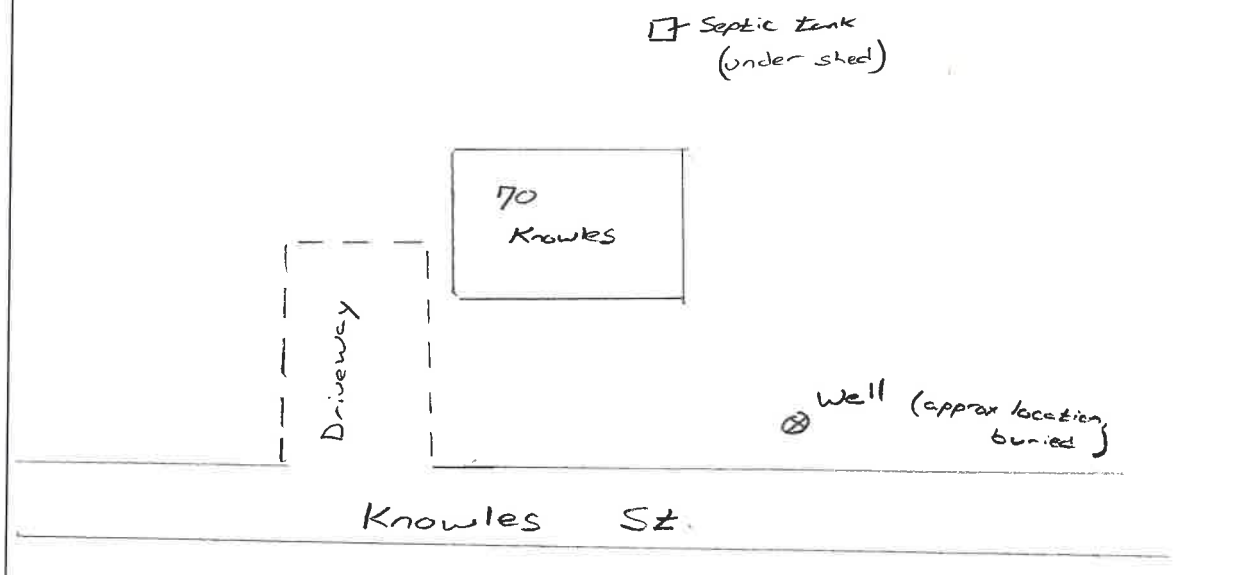
Well Depth: Measured or Provided? Could not measure, well head is buried.

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor-spigot. System contains treatment, but was bypassed for sampling.

Could not collect gray water sample because of shed on top of septic access.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/16/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 75° F

Location: 65 Knowles St.
Property Owner: Devon + Jacquelin O'Rourke
Property Contact: _____
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot
Describe water system including treatment: Pressure tank, no treatment or filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1210 Finish: 1220

Volume Purged: 33 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

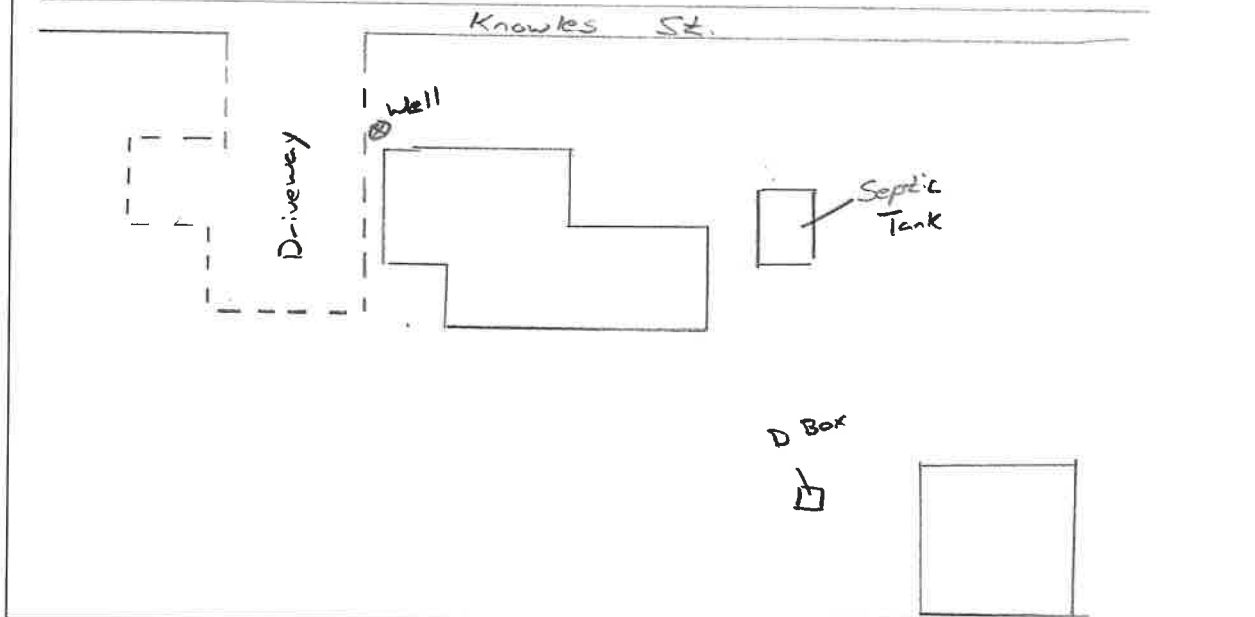
Eastham Landfill
Private Well Sampling Log

Well Depth Measured or Provided? 28.5'

Summary of Sampling and Monitoring Activities: DW system contains no treatment
or filtration. Collect sample from outdoor spigot. Collect
gray water sample from septic system distribution
box.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/17/14
Sampler: EC
Weather Conditions: mostly cloudy, 5-10 mph wind
Temperature: 70°F

Location: 45 Knowles St.
Property Owner: Thomas Linnehan
Property Contact: _____
Phone: 508-361-1643
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: no sample collected

Describe water system _____
including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: _____ Finish: _____

Volume Purged: _____ gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: Attempt to collect sample from septic system. Could not locate D box. Open top to septic tank, but insufficient water for sampling. No sample collected.

Could not access any septic records

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

☐ Septic tank

45 Knowles

Driveway

Knowles Street

Eastham Landfill
Private Well Sampling Log

Date: 6/17/14
Sampler: EL
Weather Conditions: cloudy/light rain, 0-5 mph wind
Temperature: 68° F

Location: 75 Knowles St.
Property Owner: John + Barbara McDonald
Property Contact: _____
Phone: 508-237-4771
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Gray water sample from septic distribution box

Describe water system _____

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: _____ Finish: _____

Volume Purged: _____ gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Previously measured @ 39'

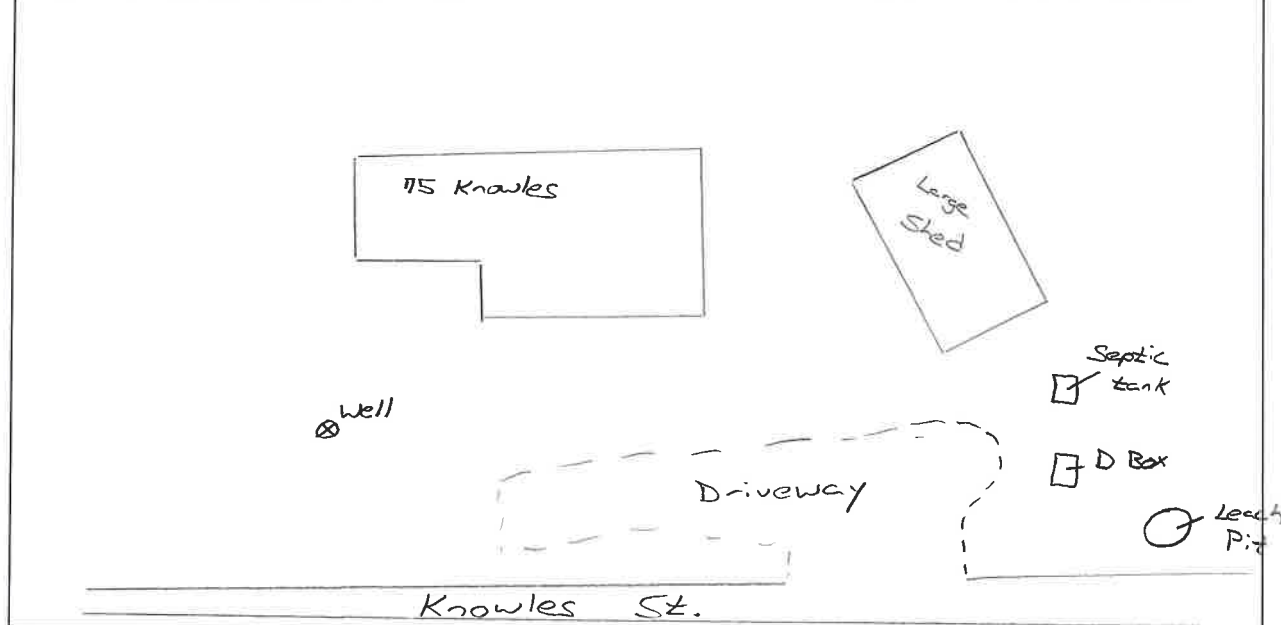
Summary of Sampling and Monitoring Activities:

Use bailer to sample D box.

Septic tank and D box are located to right of driveway near large shed. Both were concrete structures approx. 8' deep.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/17/14
Sampler: EL
Weather Conditions: cloudy, 0-5 mph wind
Temperature: 68°F

Location: 75 Glacier Hills Rd.
Property Owner: Blair-Maddy + France Wilcox
Property Contact: _____
Phone: 845-853-4713
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot w/ filter bypassed
Describe water system In line sediment filter, bypassed for
including treatment: sampling.
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1008 Finish: 1025

Volume Purged: 30 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

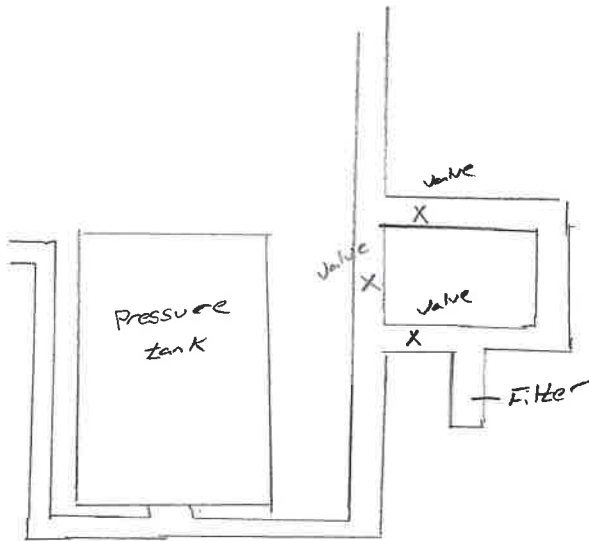
Well Depth Measured or Provided?

46'

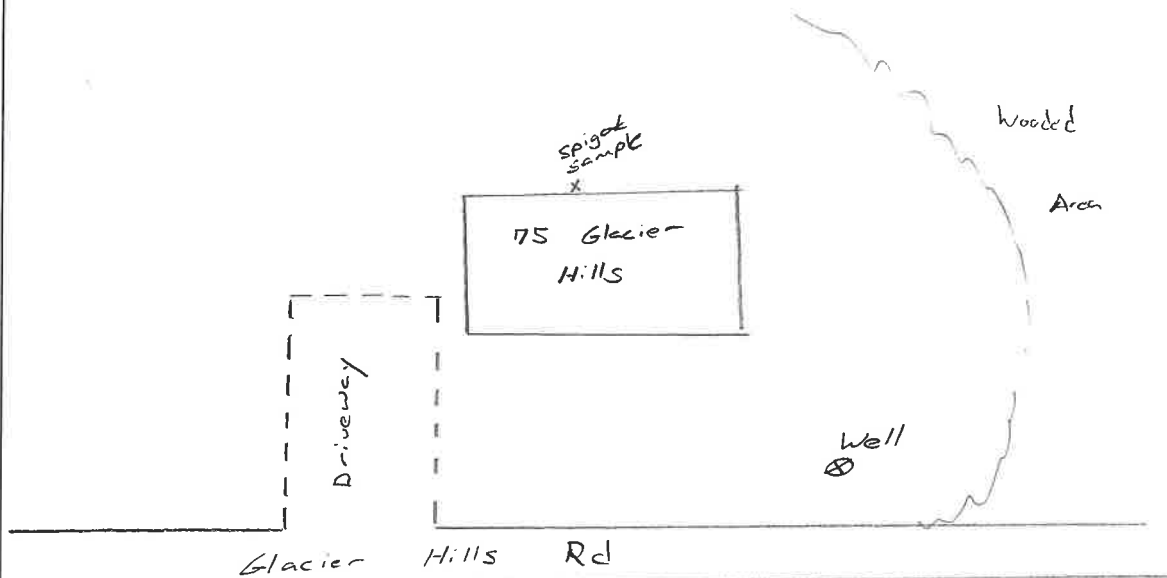
Summary of Sampling and Monitoring Activities:

Purge and sample from outdoor spigot on rear of house. Water system contains small in line sediment filter that was bypassed while collecting samples.

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:





Site Visit Form

PROJECT Eastham Landfill DATE 6/23/14

PERSONNEL EC OTHER PERSONNEL

ARRIVAL TIME 0745 DEPARTURE TIME 1430

WEATHER CONDITIONS 70's, clear, 0-5 mph wind

Check all that apply for this site visit:

- ☒ Samples taken (include location description and copy of COC)
- ☒ Rental equipment used (include rental form for ES&M rentals)
- ☐ Materials purchased

Description of activities and observations:

Sample homes at 30 Wild Goose Ln, 20 Seashell Ln,
90 Schoolhouse Rd, and 40 Rogers Ln. See attached
sampling logs for details of individual properties.
Copy of CoC attached.

Work Completed By: _____

Eastham Landfill
Private Well Sampling Log

Date: 6/23/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 72°F

Location: 40 Rogers Lane
Property Owner: Joyce Weinman
Property Contact: _____
Phone: 845-807-4552
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Outdoor spigot

Describe water system Pressure tank, no treatment or filtration
including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1340 Finish: 1405

Volume Purged: 40 gallons

Equipment Utilized: _____

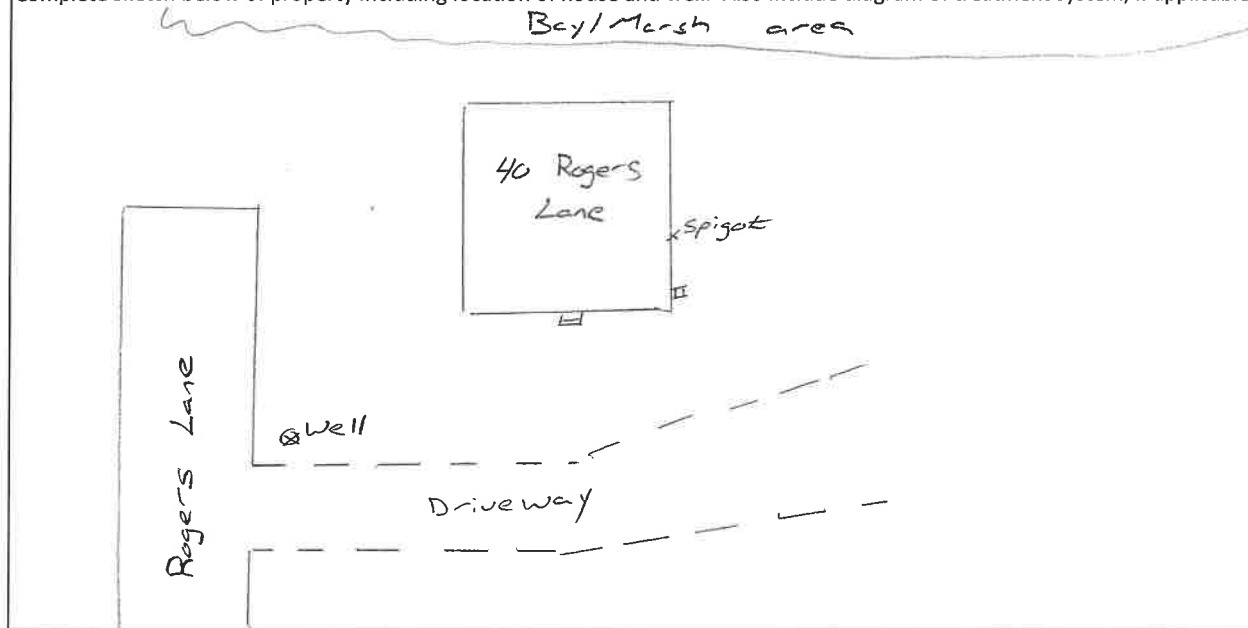
Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided? Pressed PVC cap on wellhead; could not gauge.

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor-spigot on side of house. System contains no treatment or filtration. Attempted gauge well depth but could not due to pressed PVC cap.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/23/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 72° F

Location: 90 Schoolhouse Rd.
Property Owner: Donald + Harriet Emond
Property Contact: _____
Phone: 508-255-0217
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank in basement
Describe water system Conditioning tank: Water Soft, Inc.
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

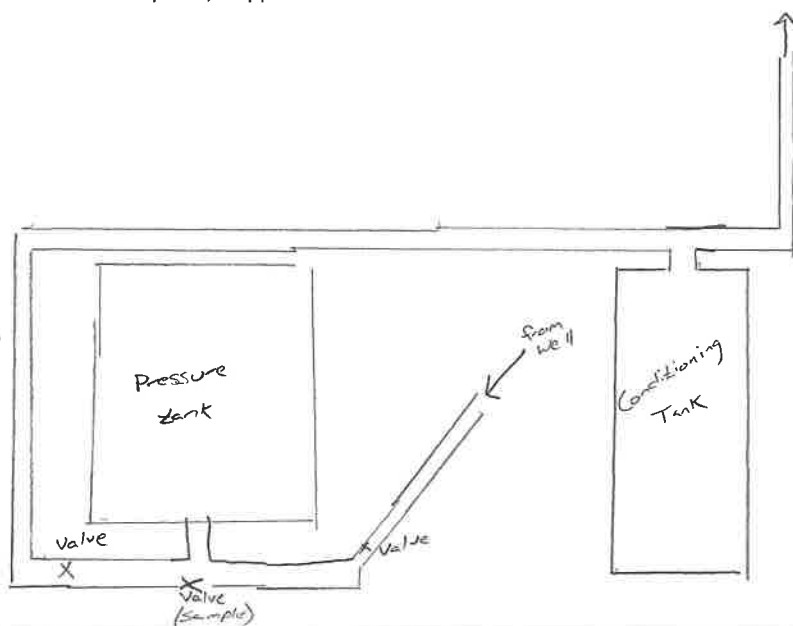
Purge Time: Start: 1205 Finish: 1220

Volume Purged: 35 gallons
Equipment Utilized: _____
Attach Equipment Calibration Log: _____

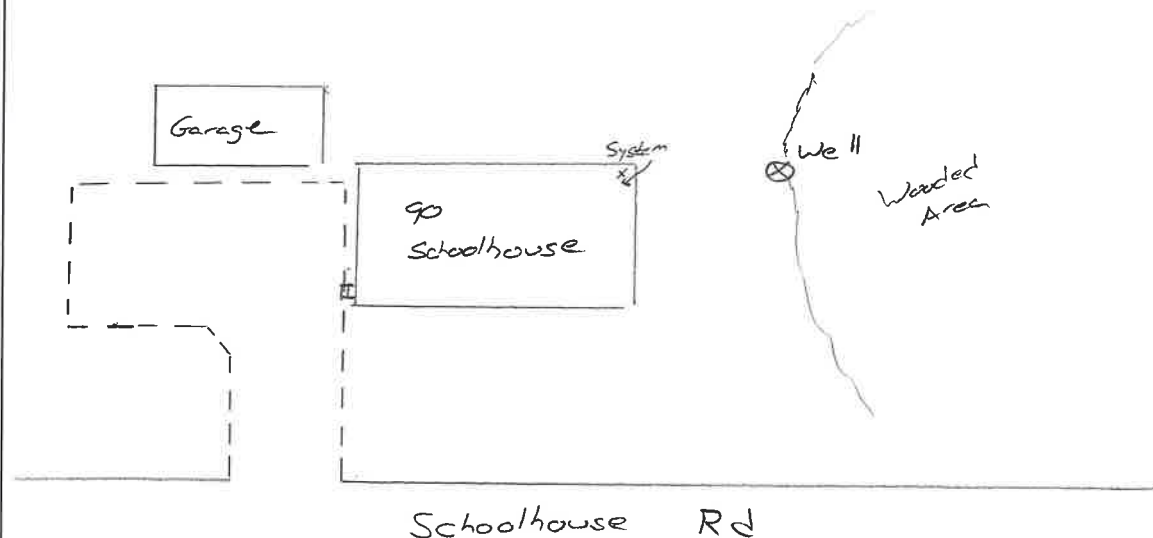
Well Depth: Measured or Provided? Provided by homeowner: 55'

Summary of Sampling and Monitoring Activities: Purge from outdoor spigot. Collect
sample from pressure tank, pre-treatment. System
contains Water-Safe, Inc. Conditioning tank. Well depth
provided by homeowner; 55'

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/23/14
Sampler: EK
Weather Conditions: clear, 0-5 mph wind
Temperature: 70° F

Location: 30 Wild Goose Lane
Property Owner: John Delphia
Property Contact: Joe Jenkins
Phone: 508-737-9680
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen Sink
Describe water system including treatment: Pressure tank, no treatment or filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0815 Finish: 0835

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

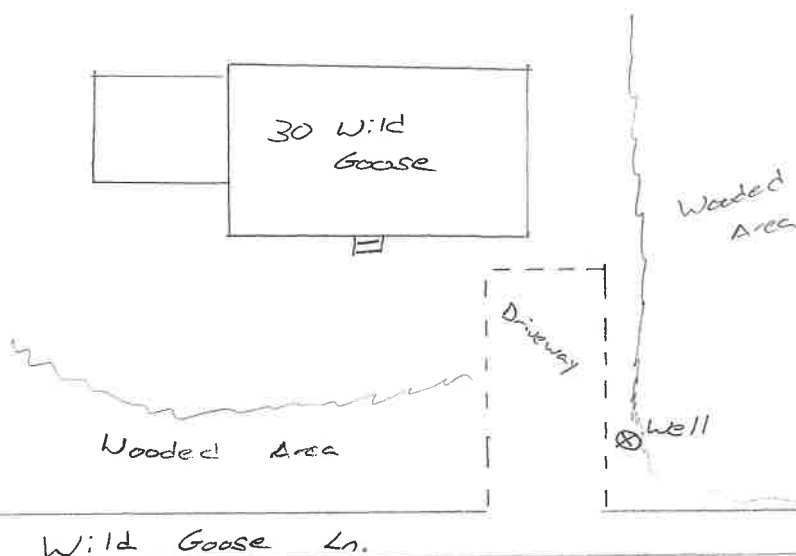
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Measured: 58' depth. DTW: 37'

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen
sink. System contains no treatment or filtration.
Measured well depth. Well is located in front of
property on right side of driveway

Complete sketch of treatment system, if applicable: N/A

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/23/14
Sampler: EL
Weather Conditions: clear, 0-5 mph wind
Temperature: 72°F

Location: 20 Seashell Ln.
Property Owner: ~~David + Mary~~ Joe + Cheryl Kokoszka
Property Contact: _____
Phone: 508-240-0620
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system
including treatment: Pressure tank, no treatment or filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1005 Finish: 1035

Volume Purged: 21 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided?

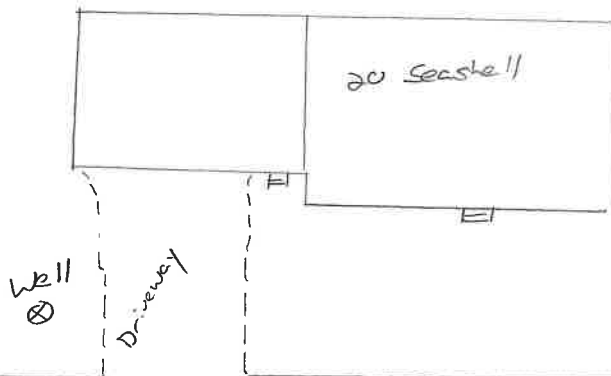
Depth: 34' provided by homeowner

Summary of Sampling and Monitoring Activities:

Purge and sample from kitchen sink. Water system contains no treatment or filtration. Homeowner provided well record stating depth of 34'

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



SC
OF

Date: 6/26/14
Sampler: EC
Weather Conditions: rain, 0-5 mph wind
Temperature: 70°F

Location: 40 Chipman Rd.
Property Owner: Laura Fry
Property Contact: _____
Phone: 407-572-4062
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Valve off pressure tank in pump house
Describe water system No treatment or filtration.
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0910 Finish: 0925

Volume Purged: 32 gallons

Equipment Utilized: _____

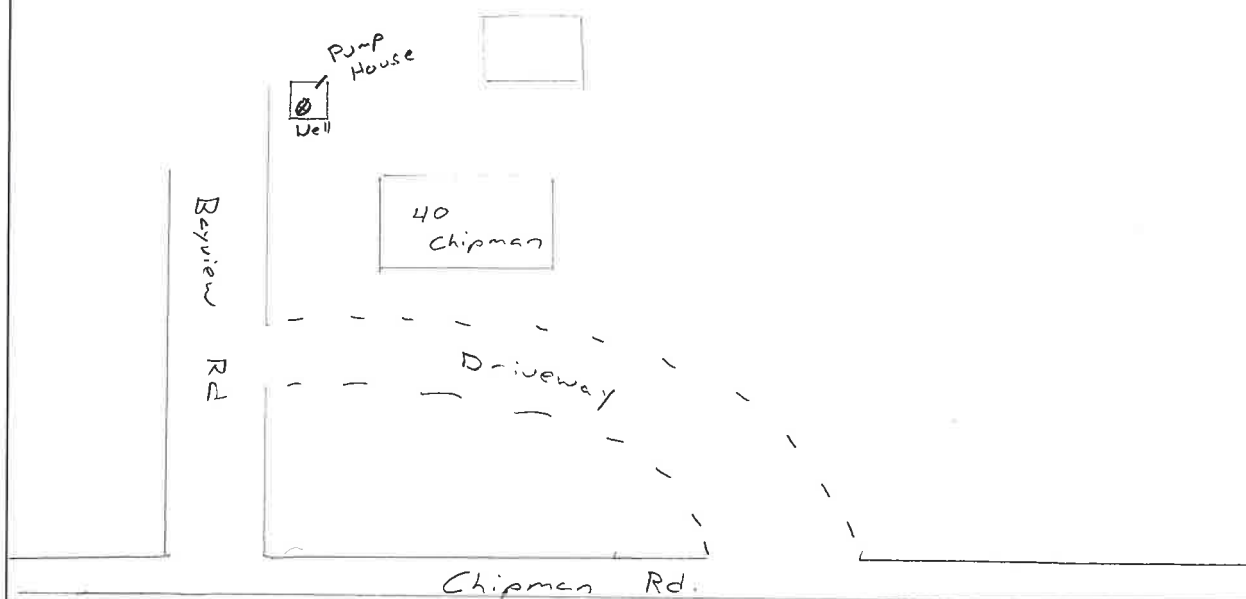
Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided? Could not gauge. Water line is hard
pipied through top of wellhead.

Summary of Sampling and Monitoring Activities:

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/26/14
Sampler: EL
Weather Conditions: cloudy, 0-5 mph wind
Temperature: 70°F

Location: 130 Massasoit Tr.
Property Owner: Robert + Paz Balcom
Property Contact: _____
Phone: 518-265-9092
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, front of house.
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1010 Finish: 1030

Volume Purged: 36 gallons

Equipment Utilized: _____

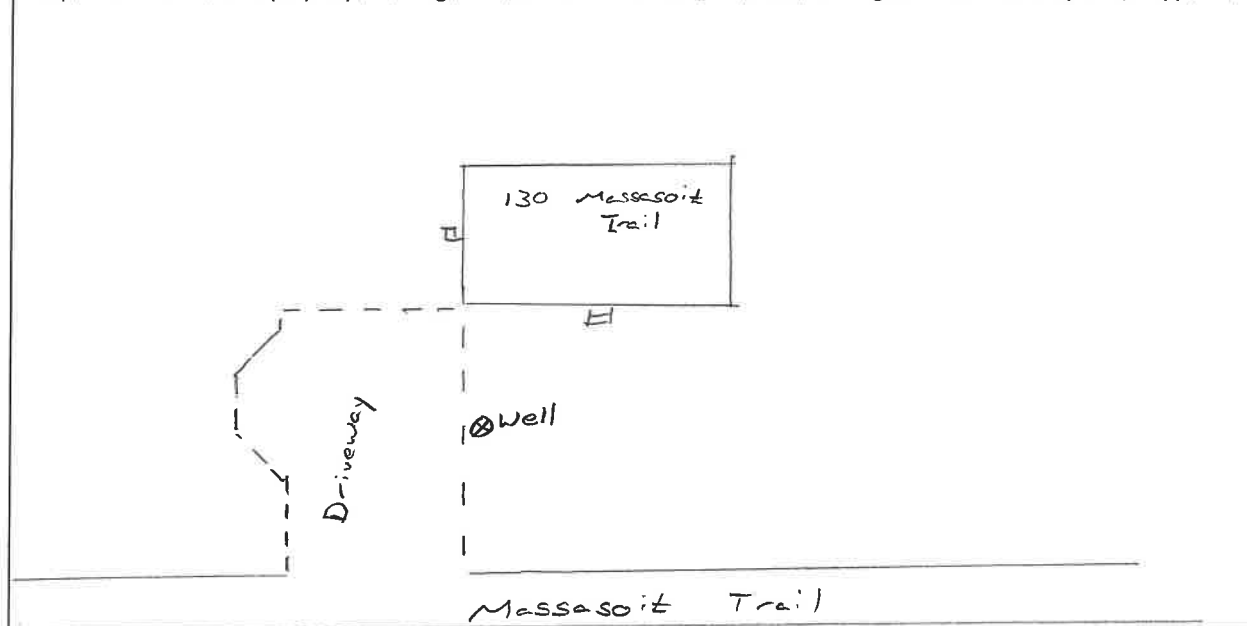
Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided? Could not gauge due to pressed PVC cap in wellhead.

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor spigot on front of house. System includes no treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/26/14
Sampler: EL
Weather Conditions: Sunny, 5-10 mph Wind
Temperature: 78°F

Location: 600 Schoolhouse Rd
Property Owner: Erich Weyerich + Barbara Hayes
Property Contact: _____
Phone: 860-379-6219
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, near back stairs
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1115 Finish: 1125

Volume Purged: 24 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Provided by homeowner: 86'

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on back of house. Well depth provided
in advance by homeowner.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 6/26/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 78° F

Location: 40 Starlight Lane
Property Owner: Elsa Averbach
Property Contact: _____
Phone: 617-733-2444
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank, pre-treatment
Describe water system
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1205 Finish: 1230

Volume Purged: 21 gallons

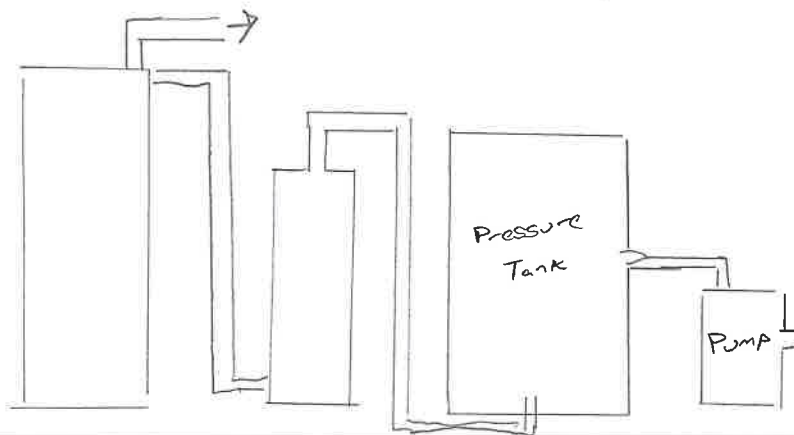
Equipment Utilized: _____

Attach Equipment Calibration Log: _____

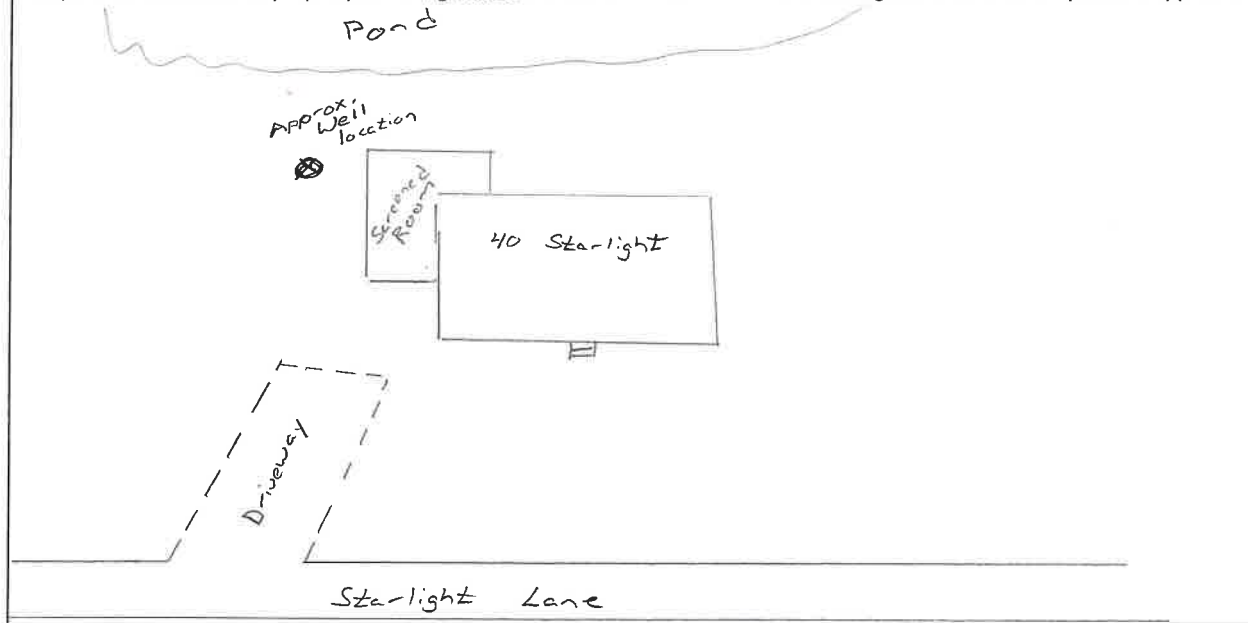
Well Depth: Measured or Provided? Well is buried, can't access for gauging.

Summary of Sampling and Monitoring Activities: Purge from kitchen sink and collect sample from pressure tank, prior to treatment.

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 6/26/14
Sampler: EC
Weather Conditions: partly cloudy, 5-10 mph wind
Temperature: 75°F

Location: 30 Starlight Lane
Property Owner: Byron + Delores Higgins
Property Contact: _____
Phone: 508-255-5611
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank, pre treatment
Describe water system
including treatment: Pressure tank + pH neutralizer
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1310 Finish: 1335

Volume Purged: 21 gallons

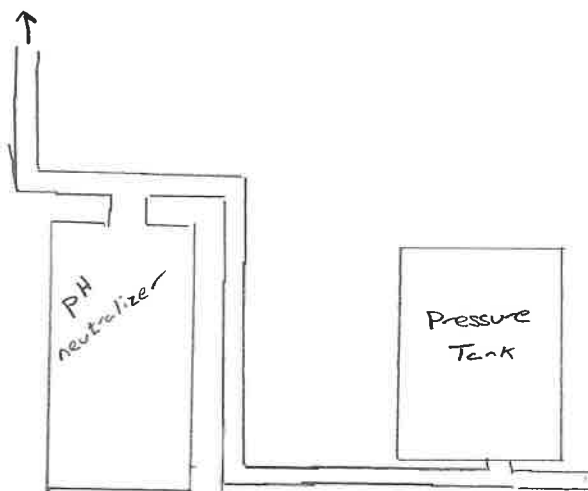
Equipment Utilized: _____

Attach Equipment Calibration Log: _____

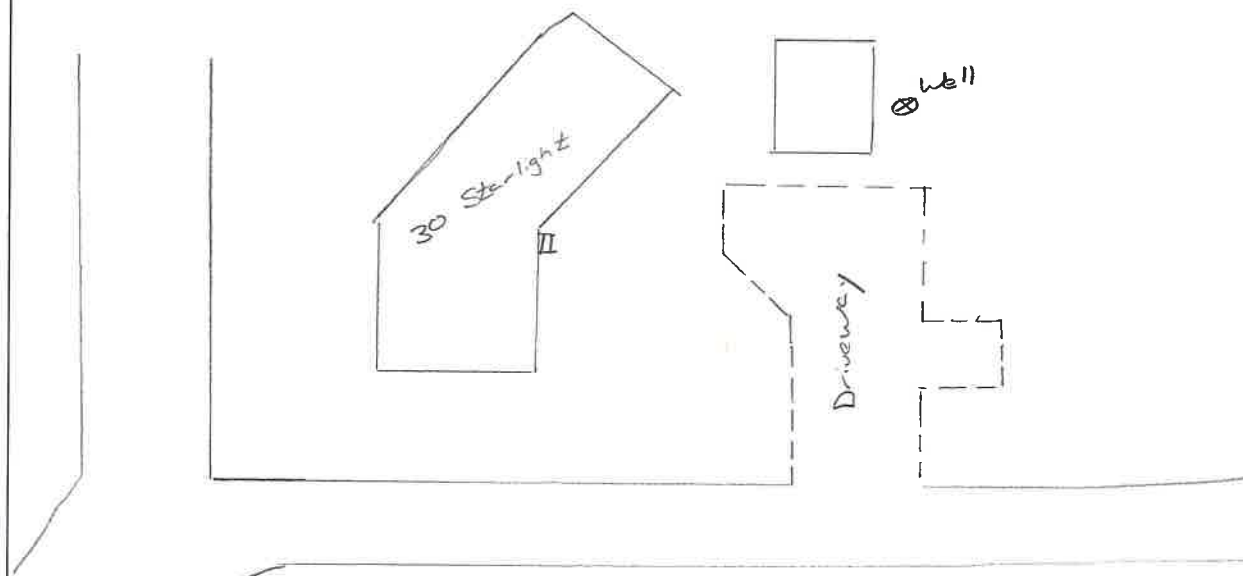
Well Depth: Measured or Provided? Measured @ 63'

Summary of Sampling and Monitoring Activities: Purge from Kitchen sink, collect
sample off of pressure tank, prior to going through
pH neutralizer. Gauge well @ 63'

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:





Site Visit Form

PROJECT Eastham Landfill DATE 7/17/14

PERSONNEL EC OTHER PERSONNEL _____

ARRIVAL TIME 07:45 DEPARTURE TIME 14:30

WEATHER CONDITIONS mostly sunny, 70's, 0-5 mph wind

Check all that apply for this site visit:

- ☒ Samples taken (include location description and copy of COC)
- ☐ Rental equipment used (include rental form for ES&M rentals) none used
- ☐ Materials purchased

Description of activities and observations:

Collect drinking water samples at 75 Candlewood Dr,
4 Preservation Way, 44 Squirrel Run, 235 Eldredge Dr,
275 Alston Ave, and 52 Dyer-Prince Rd.
52 Dyer-Prince Rd. placed on separate chain of custody for
invoicing purposes.
Details for individual properties on attached sampling
logs.
Pack samples on ice and deliver to Alpha Analytical in
Mansfield.
Signed authorization form from 44 Squirrel Run is
attached

Work Completed By: EC

Eastham Landfill
Private Well Sampling Log

Date: 7/17/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 80° F

Location: 275 Alston Ave.
Property Owner: Nada Milohnic
Property Contact: _____
Phone: 845-628-0395
Email: joek911@yahoo.com
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system Pressure tank, no treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 13:15 Finish: 13:35

Volume Purged: 27 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/17/14
Sampler: EC
Weather Conditions: partly cloudy, 0-5 mph wind
Temperature: 78° F

Location: 235 Eldredge Drive
Property Owner: Jean Coppelman
Property Contact: _____
Phone: 508-255-7539
Email: Coppelman@aol.com
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank in basement
Describe water system
including treatment: Pressure tank and Culligan water
softener
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1235 Finish: 1250

Volume Purged: 23 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/17/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 78°F

Location: 52 Dyer Prince Rd.
Property Owner: _____
Property Contact: Lisa Adams (Orleans Village Properties)
Phone: 508-255-1700
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank in basement
Describe water system Pressure tank and Softouch Potassium
including treatment: Chloride water softener
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1110 Finish: 1145

Volume Purged: 21 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/17/14
Sampler: EC
Weather Conditions: mostly cloudy, 0-5 mph wind
Temperature: 72° F

Location: 44 Squirrel Run
Property Owner: Patricia Maxwell
Property Contact: _____
Phone: 914-629-0043
Email: pmaxwell@verizon.net
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank in basement
Describe water system
including treatment: Pressure tank and pH neutralizer
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1015 Finish: 1035

Volume Purged: 29 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/17/14
Sampler: EC
Weather Conditions: mostly cloudy, 0-5 mph wind
Temperature: 68° F

Location: 4 Preservation Way
Property Owner: Nancy Fuller
Property Contact: _____
Phone: 508-240-7030
Email: cepecodstm@comcast.net
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank in basement
Describe water system Pressure tank and water softener
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 09:15 Finish: 09:45

Volume Purged: 27 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/17/14
Sampler: EC
Weather Conditions: mostly cloudy, 0-5 mph wind
Temperature: 68°F

Location: 75 Candlewood Drive
Property Owner: Mel Senator
Property Contact: _____
Phone: 203-246-7574
Email: sntr@aol.com
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Valve on pressure tank in basement
Describe water system pressure tank + pH neutralizer
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0810 Finish: 0830

Volume Purged: 21 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____



Site Visit Form

PROJECT Eastham Landfill DATE 7/23/14

PERSONNEL EC OTHER PERSONNEL _____

ARRIVAL TIME 0745 DEPARTURE TIME 1315

WEATHER CONDITIONS 80's, mostly sunny, 5-10 mph wind

Check all that apply for this site visit:

☒ Samples taken (include location description and copy of COC)

☒ Rental equipment used (include rental form for ES&M rentals)

☐ Materials purchased

LF - input dtb.

Description of activities and observations:

Arrive onsite, tailgate safety review

Collect drinking water samples from outdoor spigots at 265 Schoolhouse Rd, 200 Meetinghouse Rd, and 290 Old Orchard Rd.

Meet realtor Sarah Sherman at 1000 Schoolhouse Rd.

No treatment or filtration in water system, collect sample from kitchen sink.

Purge at least 20 gal of water through systems before sampling.

Sampling details on attached sampling logs.

Drop off samples at Alpha

Work Completed By: EC

Eastham Landfill
Private Well Sampling Log

Date: 7/23/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 78° F

Location: 265 Schoolhouse Rd.
Property Owner: Thomas + Bethanny Steiner
Property Contact: _____
Phone: _____
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outside shower, back of house
Describe water system
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0805 Finish: 0830

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/23/14

Sampler: EC

Weather Conditions: Sunny, 5-10 mph wind

Temperature: 80°F

Location: 200 Meezinghouse Rd.

Property Owner: Jim Spillane

Property Contact: _____

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Outside spigot, front of house

Describe water system
including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1000 Finish: 1012

Volume Purged: 24 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/23/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 85° F

Location: 1000 Schoolhouse Rd.
Property Owner: _____
Property Contact: Realtor Sarah Sherman
Phone: 617-817-0816
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen Sink
Describe water system Pressure tank, no treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1100 Finish: 1130

Volume Purged: 26 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Date: 7/23/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 85°F

Location: 290 Old Orchard Rd.
Property Owner: Paul Delaney
Property Contact: _____
Phone: _____
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outside spigot, front of house
Describe water system
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 12:15 Finish: 12:25

Volume Purged: 38 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____



Site Visit Form

PROJECT Eastham Landfill DATE 7/31/14 - 8/5/14
PERSONNEL EC OTHER PERSONNEL _____
ARRIVAL TIME _____ DEPARTURE TIME _____
WEATHER CONDITIONS _____

Check all that apply for this site visit:

- ☒ Samples taken (include location description and copy of COC)
- ☒ Rental equipment used (include rental form for ES&M rentals)
- ☐ Materials purchased

Description of activities and observations:

Collect drinking water samples from homes
on 7/31, 8/1, 8/4, + 8/5.
Sampling details on attached sampling logs

Work Completed By: EC

Eastham Landfill
Private Well Sampling Log

Date: 7/31/14
Sampler: EL
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 75°F

Location: 100 Old Orchard Rd.
Property Owner: David + Amanda Young
Property Contact: _____
Phone: 508-247-9276
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, right side of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1430 Finish: 1445

Volume Purged: 32 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Previously entered.

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on right side of house. Well
depth information has been previously entered.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 7/31/14
Sampler: EL
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 80 Old Orchard Rd.
Property Owner: Deborah King + Susan Thirard
Property Contact: _____
Phone: 508-255-2206
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system
including treatment: Pressure tank, no treatment or
filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1110 Finish: 1140

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Well depth already provided

Summary of Sampling and Monitoring Activities: House is a Duplex. Collect sample
from SOB. Purge or sample from kitchen sink.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 7/31/14
Sampler: EL
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 1 Whidah Lane
Property Owner: Maria Gilman
Property Contact: _____
Phone: 508-847-8860
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system Pressure tank, no treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0815 Finish: 0845

Volume Purged: 23 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

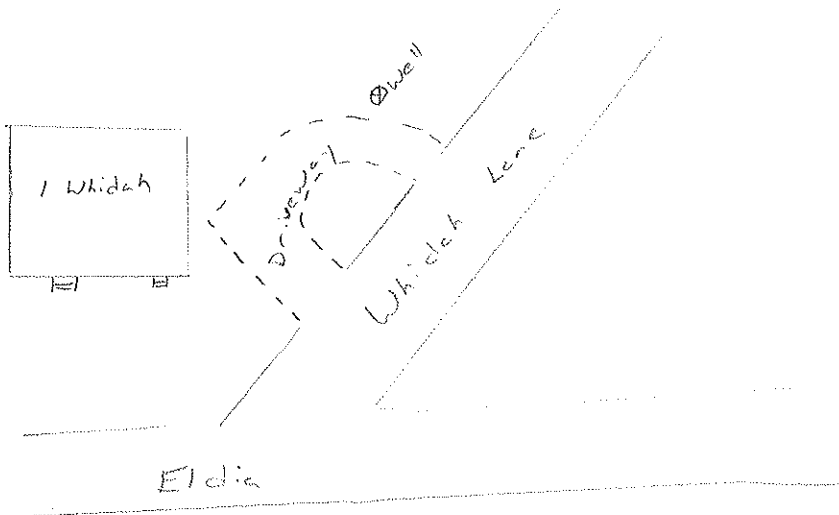
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Pressed PVC cap, could not open

Summary of Sampling and Monitoring Activities: Purge and sample from
Kitchen sink. Attempt to gauge well depth but
well head has pressed PVC cap. Well is located
to right of driveway near road.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 7/31/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 9 Whitch Lane
Property Owner: Judith Courney
Property Contact: _____
Phone: 508-240-2051
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system
including treatment: Pressure tank, no treatment or
filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0910 Finish: 0935

Volume Purged: 26 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log. _____

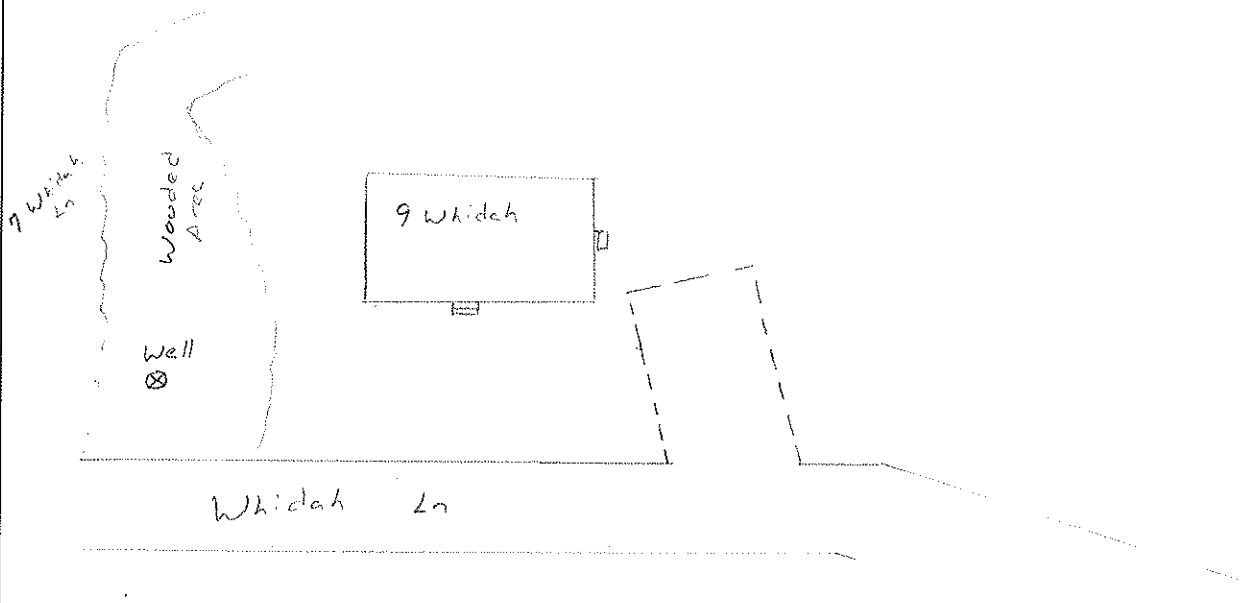
Well Depth: Measured or Provided? Pressed PVC cap, could not gauge.

Homeowner says well is very deep.

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen
sink. Attempted to gauge well depth, but well head
could not be opened. Well is located in wooded
on left side of property near 7 Whidah Ln.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 7/31/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 75° F

Location: 215 Alston Ave.
Property Owner: Christopher Horton
Property Contact: _____
Phone: 508-241-1684
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outside faucet, front of house
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1310 Finish: 1320

Volume Purged: 29 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

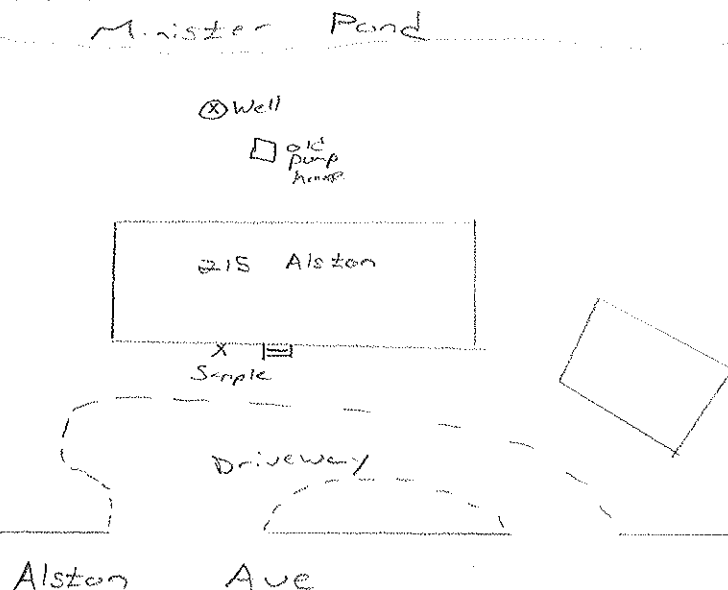
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Measured: Depth: 20'
DTW: 210'

Summary of Sampling and Monitoring Activities: Purge and sample from outside
spigot on front of house. Measured depth of well.
Well is very shallow, Minister Pond is about
backyard.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/1/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 350 Old Orchard Rd.
Property Owner: Ann Marie Hoyt
Property Contact: _____
Phone: 508-274-5994
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank, pre-treatment
Describe water system
including treatment: Pressure tank + conditioning tank
(pH neutralizer)
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0935 Finish: 0950

Volume Purged: 36 gallons

Equipment Utilized: _____

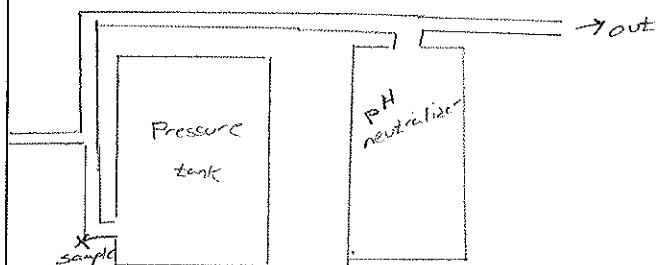
Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

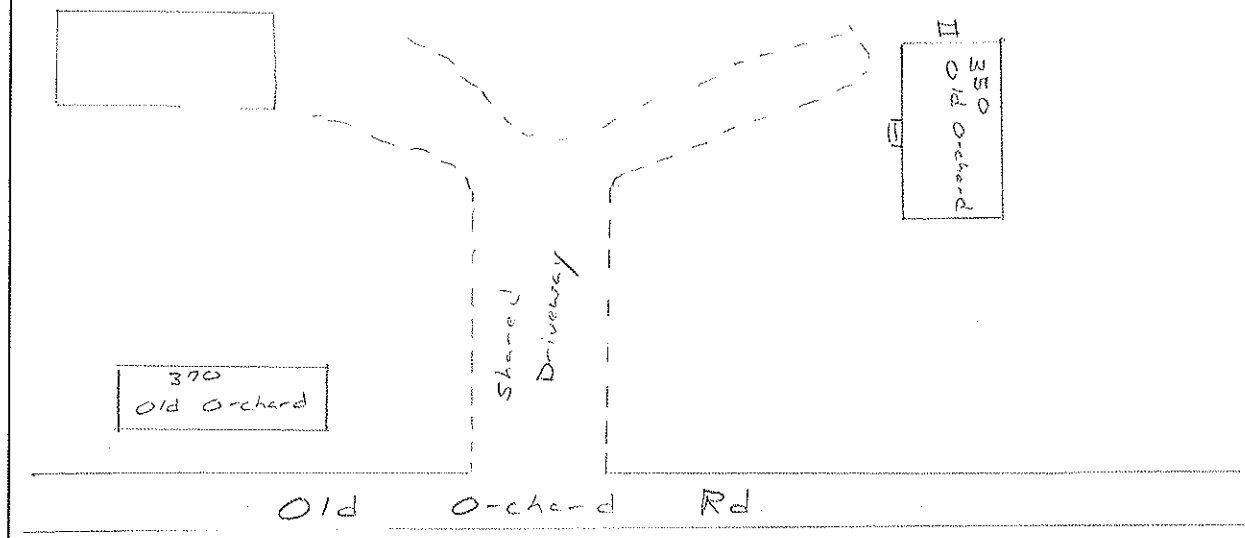
Well Depth: Measured or Provided? Pressed PVC cap, could not gauge

Summary of Sampling and Monitoring Activities: Purge from outdoor shower,
collect sample from pressure tank in basement,
pre-treatment system includes pH neutralizer

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/1/14
Sampler: EC
Weather Conditions: mostly cloudy, 0-5 mph wind
Temperature: 72°F

Location: 75 Deepwood Dr.
Property Owner: Sandra Larsen
Property Contact: _____
Phone: 508-240-5207
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outside spigot
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1440 Finish: 1500

Volume Purged: 38 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: Purge and sample from outside
spigot on back of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/1/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 385 Meetinghouse Rd.
Property Owner: Doris Kozlowski
Property Contact: _____
Phone: 508-255-6086
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank pre-treatment
Describe water system pH neutralizer + filter
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0810 Finish: 0845

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

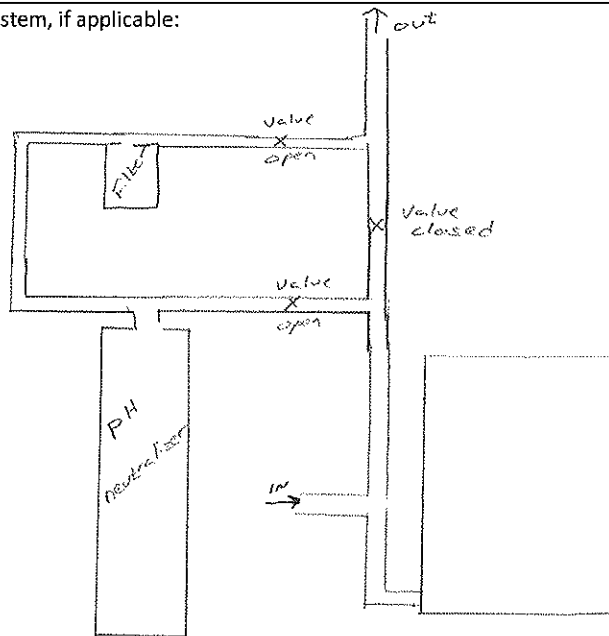
Well Depth: Measured or Provided?

Provided by homeowner: 93'

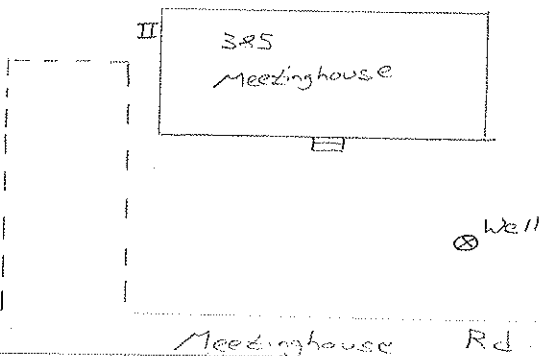
Summary of Sampling and Monitoring Activities:

Purge from kitchen sink, collect sample from pressure tank, pre-treatment and filtration. System contains pH neutralizer + filter.

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/1/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 75°F

Location: 275 Meetinghouse Rd.
Property Owner: Allen + Virginia Corbett
Property Contact: _____
Phone: 508-255-0705
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, front of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1110 Finish: 1120

Volume Purged: 26 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

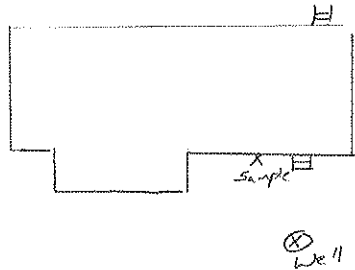
Previously entered

Summary of Sampling and Monitoring Activities:

Purge and sample from
outdoor spigot on front of house. System
contains no treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Meetinghouse Rd.

Eastham Landfill
Private Well Sampling Log

Date: 8/11/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 75° F

Location: 13 Starlight Ln.
Property Owner: Walter + Marie Watson
Property Contact: Dan Watson
Phone: Dan: 978-866-1776
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system Pressure tank, no treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1210 Finish: 1240

Volume Purged: 25 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Wellhead is buried, could not gauge

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen
sink. System contains no treatment or filtration.
Pump is located in basement and wellhead is
buried; could not gauge

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Starlight Lane

Eastham Landfill
Private Well Sampling Log

Date: 8/1/14
Sampler: EL
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 75°F

Location: 5 Bayview Ave.
Property Owner: Wendy Gamba
Property Contact: _____
Phone: 508-360-2183
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outside spigot, front of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1315 Finish: 1330

Volume Purged: 39 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Previously submitted.

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on front of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/4/14
Sampler: EC
Weather Conditions: mostly cloudy, 0-5 mph wind
Temperature: 73°F

Location: 4 Eldia Way
Property Owner: _____
Property Contact: _____
Phone: 508-237-7415
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, left side of
Describe water system house
including treatment: -No treatment or filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0940 Finish: 1000

Volume Purged: 40 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

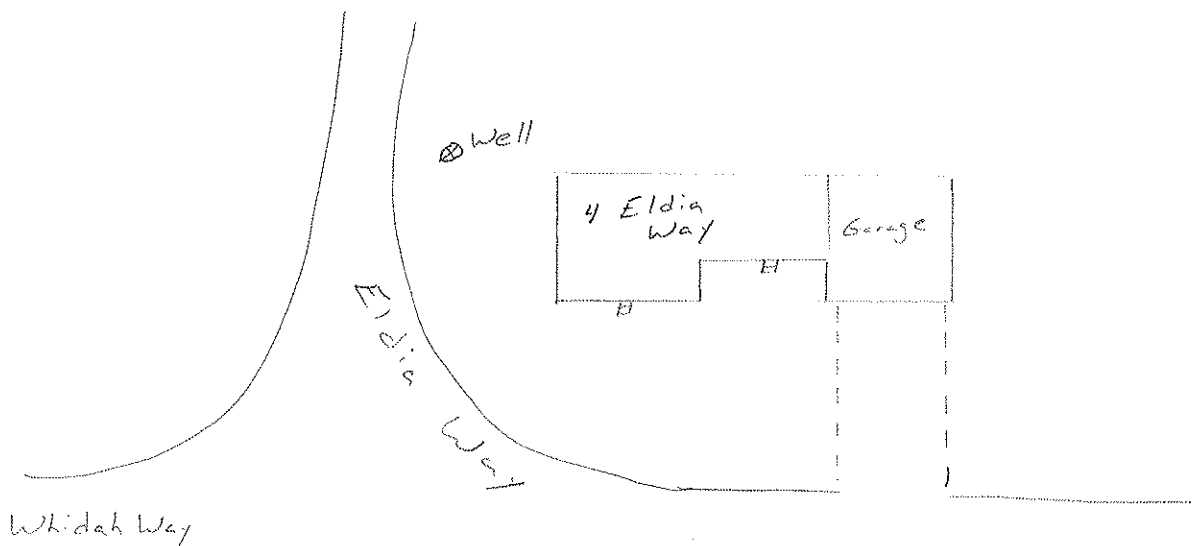
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Previously submitted

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on left side of house. System contains no
treatment or filtration. Well depth info has been
previously submitted.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/4/14
Sampler: EL
Weather Conditions: mostly sunny, 5-10 mph wind
Temperature: 72°F

Location: 2 Eldia Way
Property Owner: Mary Maloney
Property Contact: _____
Phone: 413-222-4897
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system including treatment: Pressure tank, no treatment or filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1110 Finish: 1140

Volume Purged: 26 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

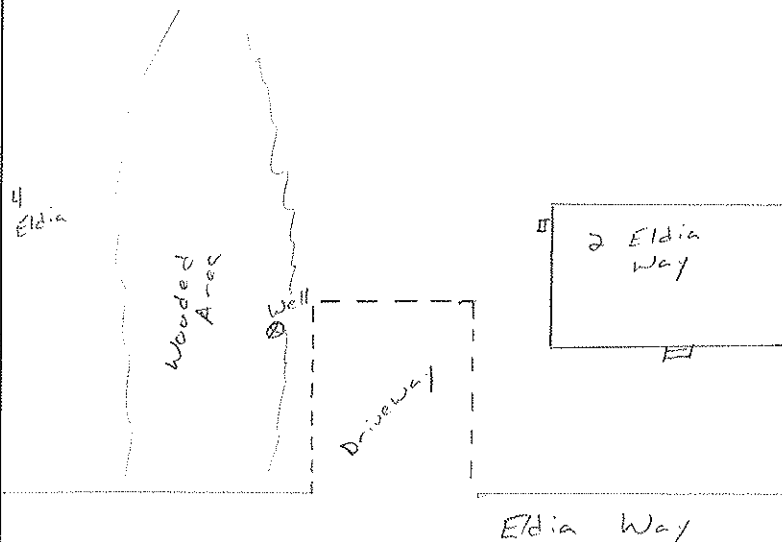
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? 2" PVC well, could not access to gauge

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen sink. System contains no treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/4/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 72°F

Location: 270 Alston Ave
Property Owner: Kenneth Bastwick
Property Contact: _____
Phone: 508-255-0906
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: outdoor spigot, left side of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1300 Finish: 1315

Volume Purged: 28 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

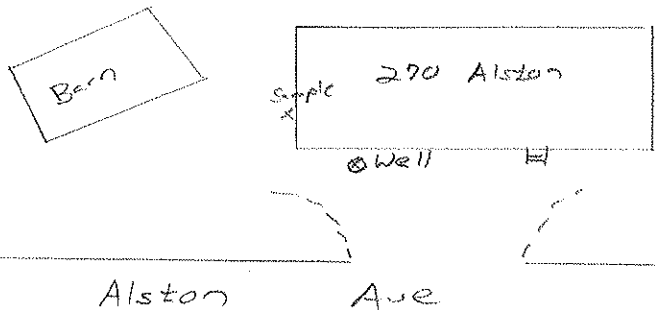
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Wellhead is buried, cannot access for gauging.

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor spigot on left side of house. Wellhead is buried and pump is located in basement. Could not gauge.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/4/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 75°F

Location: 70 Glacier Hills Rd.
Property Owner: Randall Gill
Property Contact: _____
Phone: 774-722-2243
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, back of house
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1350 Finish: 1410

Volume Purged: 37 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

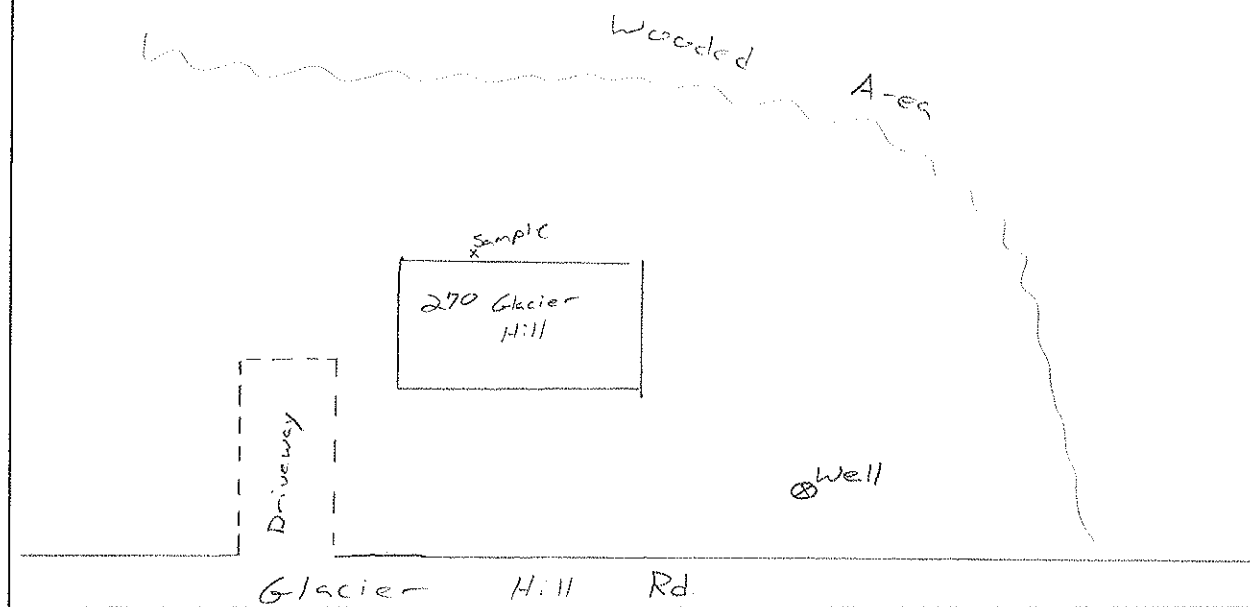
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? well info previously submitted

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on back of house near shower. Well
info has been previously submitted.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/4/14
Sampler: EL
Weather Conditions: cloudy, 0-5 mph wind
Temperature: 72°F

Location: 10 Starlight Lane
Property Owner: Steven Douglas
Property Contact: _____
Phone: 508-255-3368
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: From well (vacant lot)
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: _____ Finish: _____

Volume Purged: _____ gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Measured: Depth: 82'
DTW: 49'

Summary of Sampling and Monitoring Activities: Collect sample from well using
disposable bailer. Well is on vacant lot. Gauged
depth to 82'

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/5/14
Sampler: EC
Weather Conditions: partly cloudy, 0-5 mph wind
Temperature: 70°F

Location: 10 235 Alston Ave.
Property Owner: William + Ethel Brown
Property Contact: Scott Brown
Phone: 304-639-6061
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Outdoor spigot back of house

Describe water system including treatment: Pressure tank + pump in pump house, rust removal tank in basement. Outdoor spigots are

Water meter reading: bypassed for rust removal

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0810 Finish: 0835

Volume Purged: 34 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

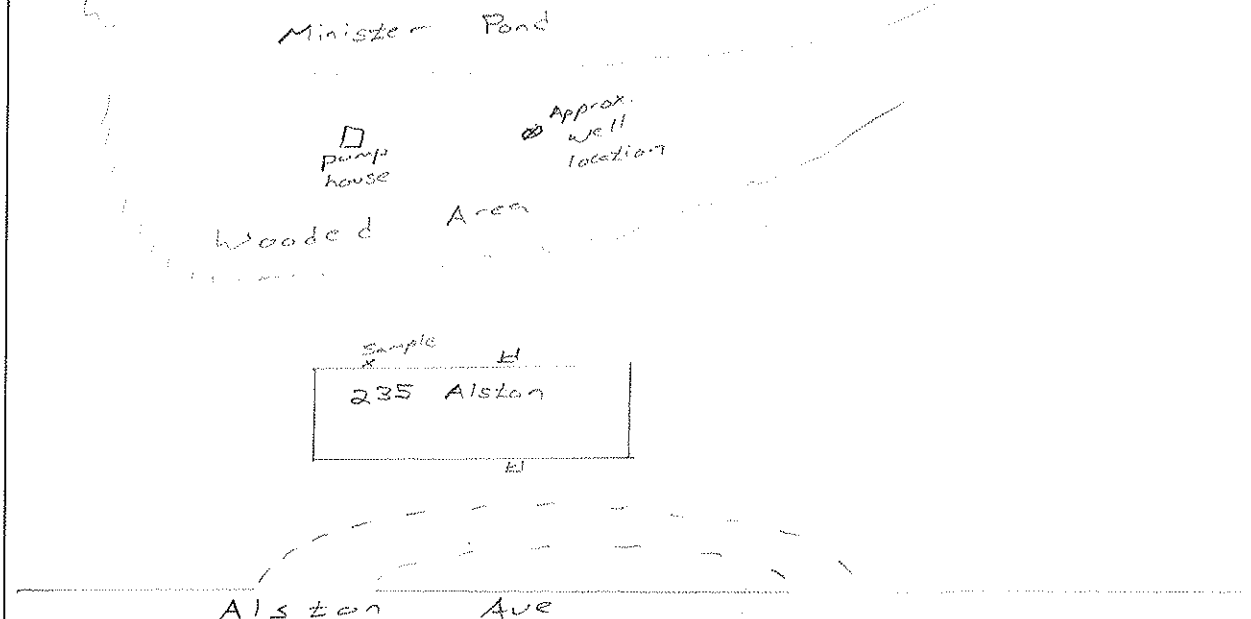
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Wellhead is buried, could not gauge.

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor spigot on back of house. Iron removal system in basement, but spigots are bypassed. Wellhead is located close to Minister Pond, but is buried so could not gauge.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/5/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 74°F

Location: 415 Schoolhouse Rd.
Property Owner: Kim Tracy + Debra Palmer
Property Contact: _____
Phone: 508-237-1728
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Pressure tank, pre-filtration
Describe water system Small in-line filter
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0935 Finish: ~~1000~~ 1010

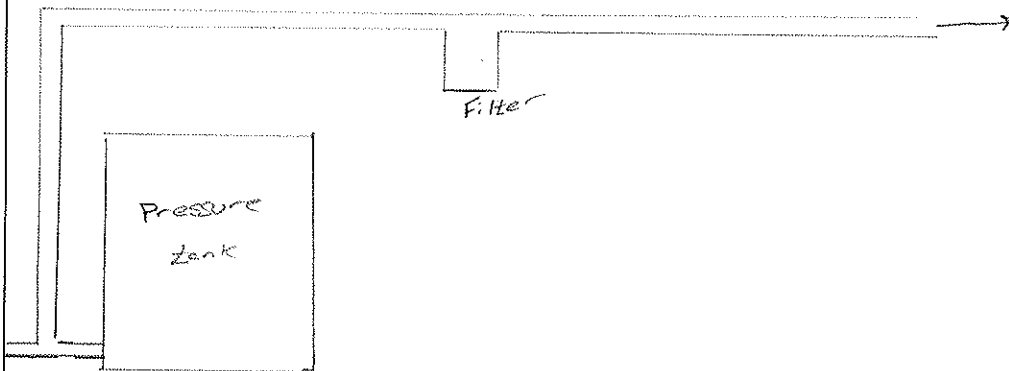
Volume Purged: 21 gallons
Equipment Utilized: _____
Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

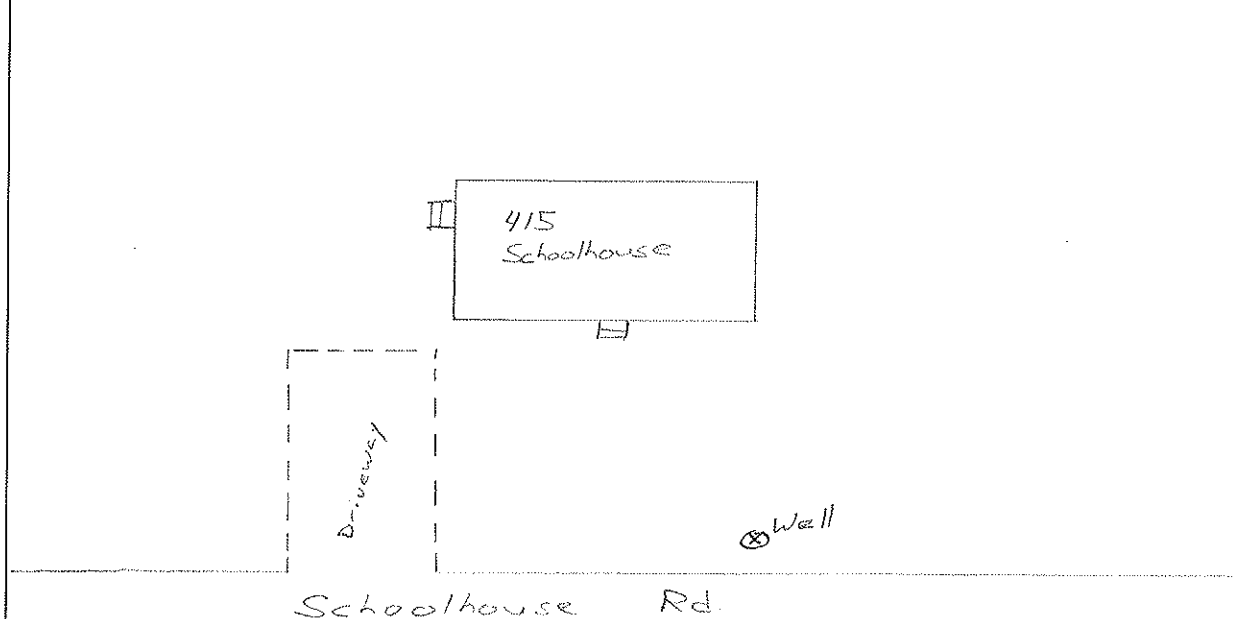
Well Depth: Measured or Provided? Measured: Depth: 46'
DTW: 39'

Summary of Sampling and Monitoring Activities: Purge from bathroom sink, collect
sample from pressure tank. Measure well depth
and depth to water.

Complete sketch of treatment system, if applicable:



Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/5/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 75°F

Location: 200 Glacie Hills Rd.
Property Owner: Nancy Correia
Property Contact: _____
Phone: 508-361-4045 508-255-3531
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outside spigot, front of house
Describe water system No treatment or filtration.
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1110 Finish: 1125

Volume Purged: 39 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

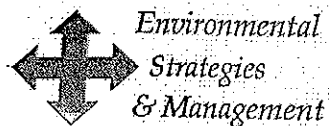
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Wellhead buried, could not gauge

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on post in front yard. System
contains no treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Site Visit Form

PROJECT Eastern Landfill DATE 8/3/2014
PERSONNEL TES, DB OTHER PERSONNEL _____
ARRIVAL TIME 9:45 DEPARTURE TIME _____
WEATHER CONDITIONS Overcast 75°F

Check all that apply for this site visit:

- ☐ Samples taken (include location description and copy of COC)
- ☐ Rental equipment used (include rental form for ES&M rentals)
- ☐ Materials purchased

Description of activities and observations:

Collect End-of-Life Samples

PTC-16 255 Alston EFF 10:09

PTC-16 255 Alston MID 10:15

PTC-16 255 Alston EFF 10:20

Change Carbon - rotate secondary to primary
5 28,756.08 F 28,884.56

Clack Windsor, WI

CS-HAC Coconut Shell High Activity

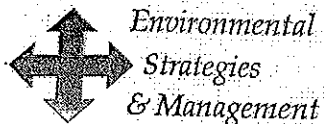
AB009-14 1 CU FT 12x40

purge 11:19 - 12:00 some clogs

PTC-17 255 Alston MID 12:10

PTC-17 255 Alston EFF 12:25

Work Completed By: _____



Site Visit Form

PROJECT Eastham Landfill DATE 8/12/14 + 8/13/14

PERSONNEL EC OTHER PERSONNEL _____

ARRIVAL TIME _____ DEPARTURE TIME _____

WEATHER CONDITIONS _____

Check all that apply for this site visit:

☒ Samples taken (include location description and copy of COC)

☒ Rental equipment used (include rental form for ES&M rentals)

☐ Materials purchased

Description of activities and observations:

Meet w/ Rich Murphy of National Park Service
for escort to various properties

8/12/14: Sample Salt Pond Visitor Center, Doane Rock Picnic
Area, Coast Guard Beach, Nausett Light Beach, 600 Nausett Rd,
25 MacPherson Way, 880 Nausett Rd, + 1050 Nausett Rd.

8/13/14: Sample 22, 28, + 30 Tomhawk Trail, 585 Doane Rd;
40 Ocean View Drive, 880 Cable Rd, + 105 Brownell Rd.

Sampling details on attached sampling logs.

Drop samples off at Alpha each day, Chain of Custody
attached.

Work Completed By: _____

Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 600 Nauset Rd.
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, back of house
Describe water system
including treatment: Pressure tank, no treatment or
filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1235 Finish: 1250

Volume Purged: 28 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Could not locate well

Summary of Sampling and Monitoring Activities:

Purge and sample from outdoor
spigot on back of house. System contains no
treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 70°F

Location: 850 Nauset Rd.

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Kitchen sink

Describe water system including treatment: Pressure tank, no treatment or filtration.

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1205 Finish: 1220

Volume Purged: 21 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

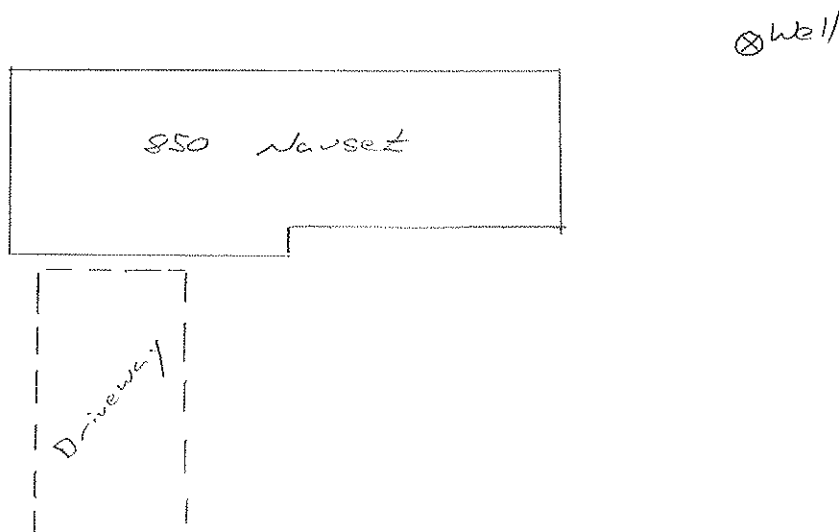
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Could not measure

Summary of Sampling and Monitoring Activities: Purge and sample from
Kitchen sink. System contains no treatment or
filtration. Well contained pressed PVC cap, could
not gauge

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 70°F

Location: 25 MacPherson Way
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: outdoor spigot, back of house
Describe water system Pressure tank, no treatment or
including treatment: filtration
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1135 Finish: 1150

Volume Purged: 34 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

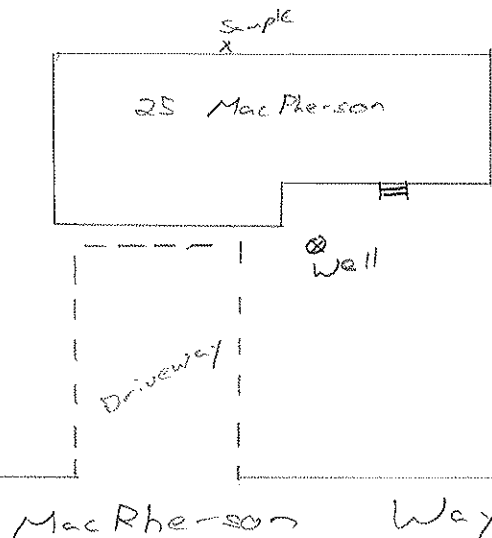
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Gauged: Depth: 44'
DTW: 39'

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor-
spigot on back of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 72°F

Location: 1050 Nauset Rd.

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Kitchen sink

Describe water system Pressure tank, no treatment or filtration

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1055 Finish: 1120

Volume Purged: 26 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

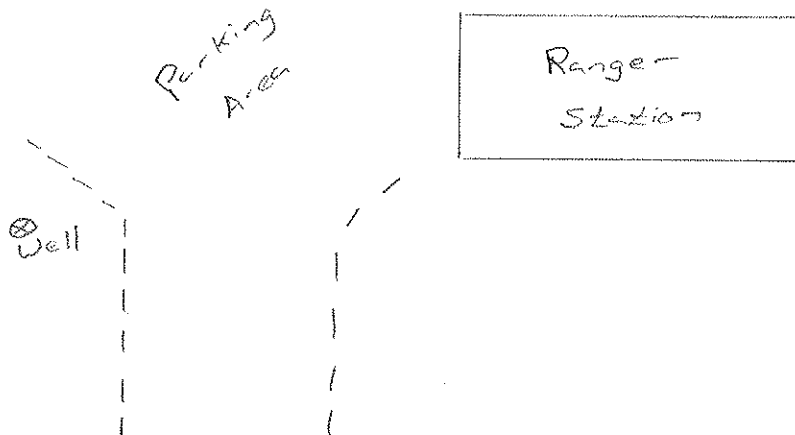
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Wellhead is covered by poison ivy, did not gauge.

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen sink at ranger station. System does not include any treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EK
Weather Conditions: Sunny, 10-15 mph wind
Temperature: 70°F

Location: Nauset Light Beach

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Raw water tap in system room

Describe water system Pressure tank + chlorine treatment

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1010 Finish: 1030

Volume Purged: 24 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Could not access well for gauging.

Summary of Sampling and Monitoring Activities: Purge from silt in lifeguard
station, collect sample from raw water tap in
system room. Could not access well for gauging

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: Sunny, 10-15 mph wind
Temperature: 72°F

Location: Coast Guard Beach
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Raw water tap in pit
Describe water system Pressure tank and chlorination treatment
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0930 Finish: 0955

Volume Purged: 20 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Gauged:

Depth: 99'

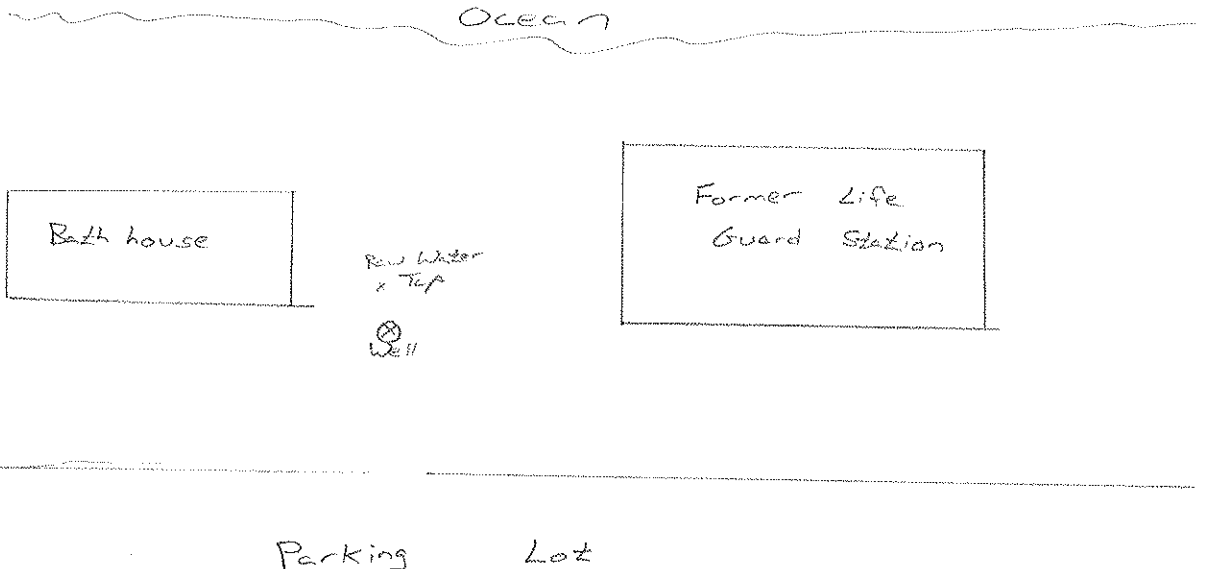
DTW: 41'

Summary of Sampling and Monitoring Activities:

Purge from kitchen sink in former lifeguard station. Collect sample from raw water tap in pit, pre-treatment. Gauge well, located next to pit to left of former lifeguard station.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70° F

Location: Doane Rock Picnic Area

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Raw water tap, pre-treatment

Describe water system Pressure tank and chlorine treatment

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0845 Finish: 0915

Volume Purged: 21 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

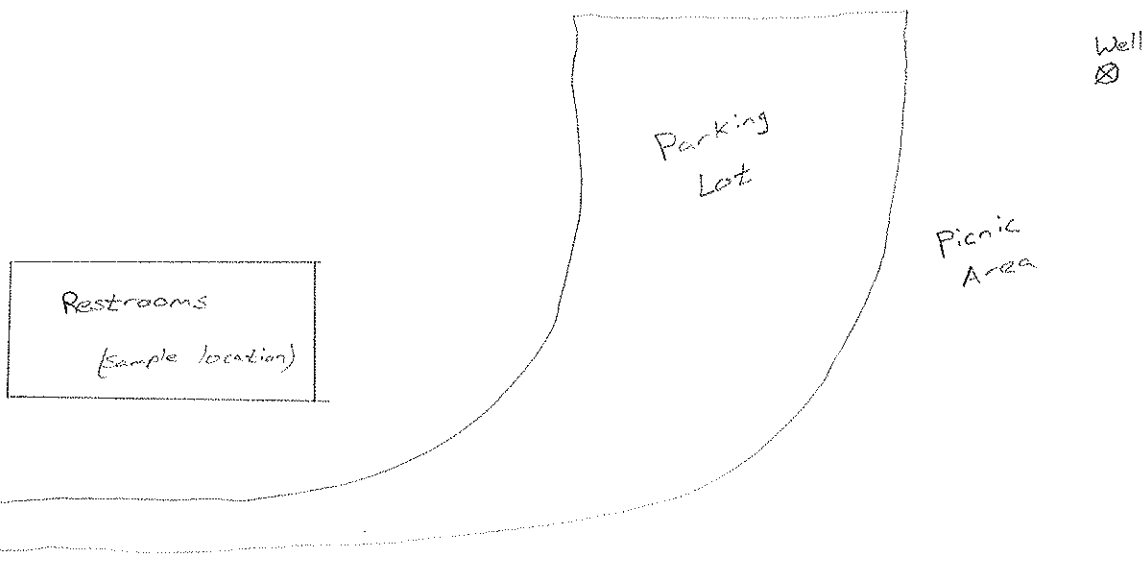
Well Depth: Measured or Provided? Gauged Depth: 63'

DTW: 44'

Summary of Sampling and Monitoring Activities: Purge from bathroom sink in
men's room. Collect sample from raw water tap,
prior to chlorine treatment. Gauge well depth and
DTW. Well is located in wooded area across
parking area from restrooms.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/12/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 68°F

Location: Salt Pond Visitor Center

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Pressure tank, pre-treatment

Describe water system 4 sediment filters, chlorination tank

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0815 Finish: 0830

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Previously gauged.

Summary of Sampling and Monitoring Activities: Purge from sink in basement,
collect sample from pressure tanks prior to
filtration and chlorine treatment.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EC
Weather Conditions: cloudy, 10-15 mph wind
Temperature: 65°F

Location: 105 Brownell Rd.
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, front of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1050 Finish: 1110

Volume Purged: 36 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

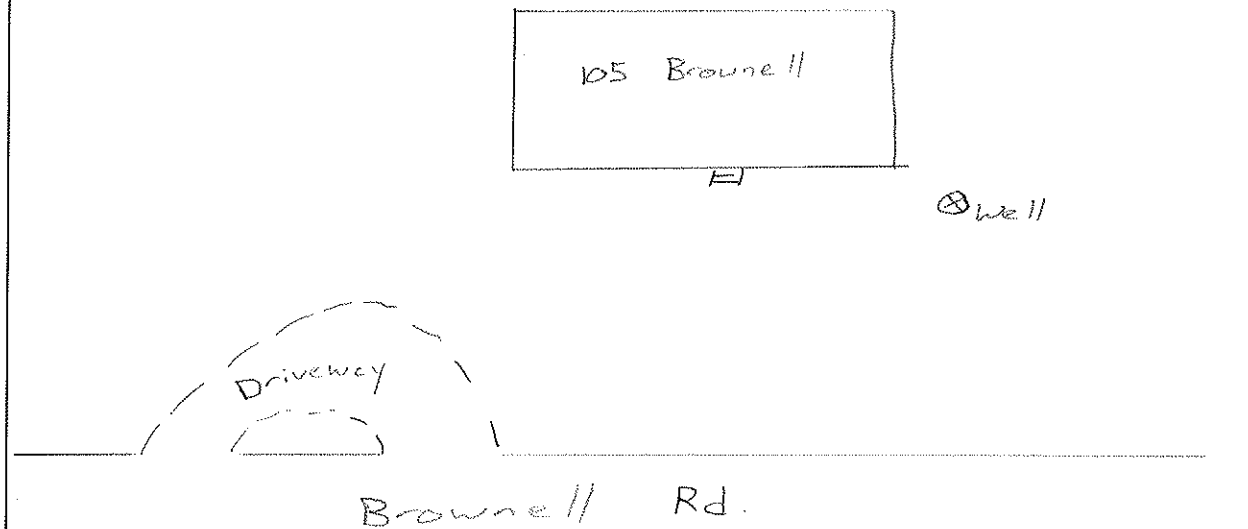
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Gauged : Depth: 76'
DTW: 64'

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on front of house. Gauge well depth. Well
is located in front yard just off right corner
of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EL
Weather Conditions: Cloudy, 15-20 mph wind
Temperature: 65°F

Location: 40 Ocean View Drive
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: outdoor spigot, front of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1020 Finish: 1035

Volume Purged: 29 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Could not locate well

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on front of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EC
Weather Conditions: cloudy, 15-20 mph wind
Temperature: 65°F

Location: 585 Doane Rd.

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Outside spigot, back of house

Describe water system No treatment or filtration

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0945 Finish: 1005

Volume Purged: 33 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Gauged Depth: 71'

DTW: 50'

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on back of house. Gauge well,
located just off back left corner of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EC
Weather Conditions: cloudy, 15-20 mph wind
Temperature: 65°F

Location: 22 Tomahawk Trail
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, front of house.
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0915 Finish: 0930

Volume Purged: 28 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

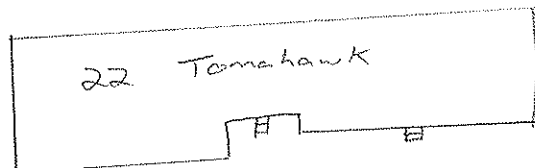
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Gauged Depth: 39'
DTW: 31'

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on front of house. Gauge well depth, located
in front yard near house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EC
Weather Conditions: cloudy, 15-20 mph wind
Temperature: 65°F

Location: 30 Turnhawk Trail
Property Owner: _____
Property Contact: Rich Murphy
Phone: _____
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, front of house
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0845 Finish: 0900

Volume Purged: 30 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Could not locate well

Summary of Sampling and Monitoring Activities: Purge and sample from outdoor
spigot on front of house. Could not locate
well head for gauging.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EC
Weather Conditions: cloudy, 15-20 mph wind
Temperature: 65°F

Location: 28 Tomahawk Trail

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Outside spigot, front of house

Describe water system no treatment or filtration

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0820 Finish: 0835

Volume Purged: 29 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

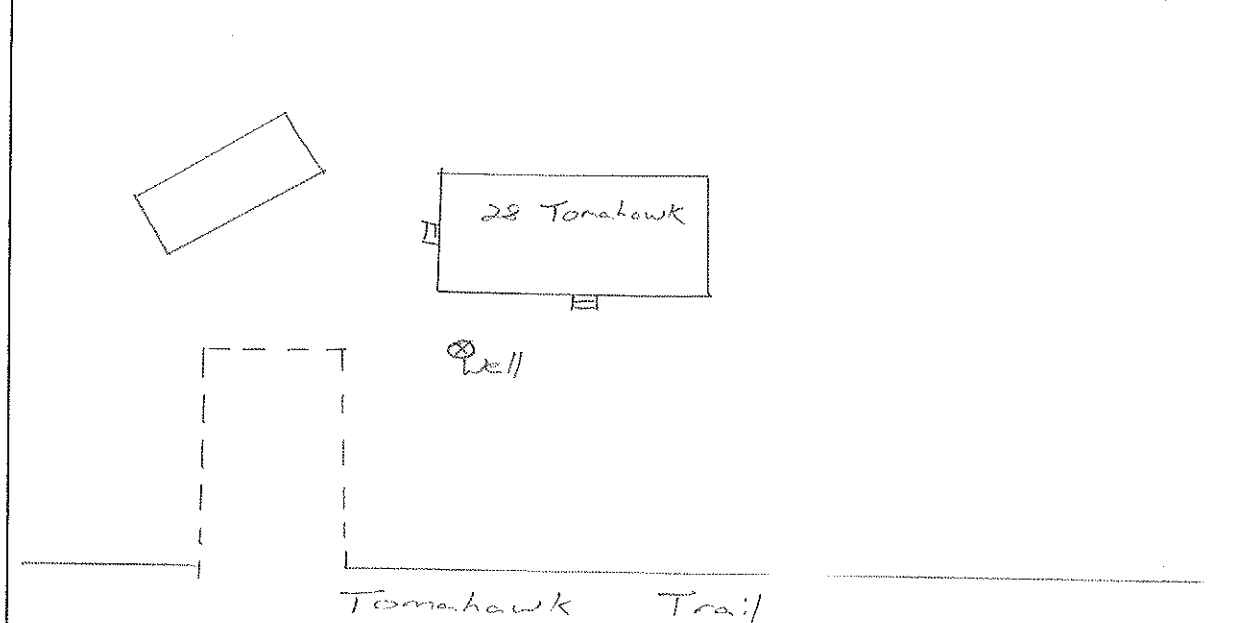
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Gauged: Depth: 36'
DTW: 24'

Summary of Sampling and Monitoring Activities: Puge and sample from outdoor spigot on front of house. Gauge well depth. Well is located in front yard off left corner of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/13/14
Sampler: EL
Weather Conditions: cloudy, 10-15 mph wind
Temperature: 65° F

Location: 880 Cable Rd.

Property Owner: _____

Property Contact: Rich Murphy

Phone: _____

Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)

Analytical Lab: Alpha

Sample Location: Outdoor spigot, front of house

Describe water system No treatment or filtration

including treatment: _____

Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1125 Finish: 1145

Volume Purged: 35 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Pressed PVC cap, could not gauge.

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on front of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/15/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph Wind
Temperature: 62°F

Location: 55 Deepwood Dr.
Property Owner: David Bauer
Property Contact: _____
Phone: 203-253-4573
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: No sample collected
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: _____ Finish: _____

Volume Purged: _____ gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: Homeowner not home at
scheduled appointment time, waited 20 mins. Stopped
by again in afternoon, still nobody home.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/15/14
Sampler: EL
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 65°F

Location: 155 Meetinghouse Rd.
Property Owner: Sophia Hughes
Property Contact: _____
Phone: 413-347-6204
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0935 Finish: 1005

Volume Purged: 28 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

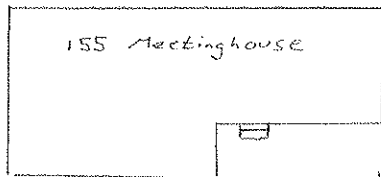
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Pressed cap, could not gauge

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen
sink. Water system contains no treatment or filtration.
Well is located in front of house to ~~right~~
left of driveway.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Meetinghouse Rd.

Eastham Landfill
Private Well Sampling Log

Date: 8/15/14
Sampler: EC
Weather Conditions: mostly sunny, 0-5 mph wind
Temperature: 65°F

Location: 75 Old Orchard Rd.
Property Owner: John + Melanie Woods
Property Contact: _____
Phone: 508-951-2461
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1105 Finish: 1130

Volume Purged: 20 gallons
Equipment Utilized: _____
Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Could not locate well

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen
sink. System contains no treatment or filtration.
Met w/ tenant's son Chad. Could not locate
well to gauge.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/15/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70°F

Location: 170 Meetinghouse Rd.
Property Owner: James + Joyce Stone
Property Contact: _____
Phone: 413-567-7832
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, under shower
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1150 Finish: 1210

Volume Purged: 29 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot under shower in back of house.
Walk property in attempt to locate well for gauging,
could not locate.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:

Eastham Landfill
Private Well Sampling Log

Date: 8/15/14
Sampler: EC
Weather Conditions: Sunny, 5-10 mph wind
Temperature: 75°F

Location: 4 Fairview Ave.
Property Owner: William + Alice Kingsman
Property Contact: _____
Phone: 508-947-6556
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, left side of house
Describe water system no treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1300 Finish: 1315

Volume Purged: 32 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided? Provided by homeowner: 30'

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on left side of house. System
contains no treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



WEATHER CONDITIONS 70's, clear, 0-5 mph wind

- ☒ Samples taken (include location description and copy of COC)
- ☐ Rental equipment used (include rental form for ES&M rentals)
- ☐ Materials purchased

Collect drinking water samples from 1 Preservation Way,
55 Deepwood Drive, 180 Glacier Hills Road, and
10 Spinnaker Way. 10 Spinnaker is on separate
COC as it was not part of Eastern BOH
sampling.

Samples preserved on ice and dropped off @
Alpha in Mansfield.

Work Completed By: EC

Eastham Landfill
Private Well Sampling Log

Date: 8/25/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 75°F

Location: 180 Glacier Hills Rd.
Property Owner: Nina Goldman
Property Contact: _____
Phone: 508-240-1854
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1125 Finish: 1155

Volume Purged: 21 gallons

Equipment Utilized: _____

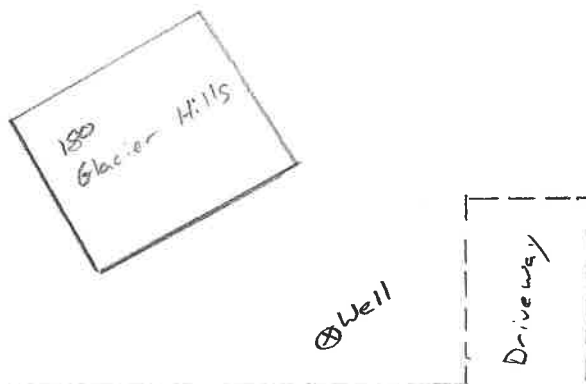
Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided? Could not gauge, pressed cap.

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen sink, System contains no treatment or filtration.
Well could not be gauged due to pressed PVC cap.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Glacier Hills Rd

Eastham Landfill
Private Well Sampling Log

Date: 8/25/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 75° F

Location: 55 Deepwood Dr.
Property Owner: David Beaver
Property Contact: _____
Phone: 203-253-4573
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Outdoor spigot, back of house
Describe water system _____
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 1040 Finish: 1100

Volume Purged: 29 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

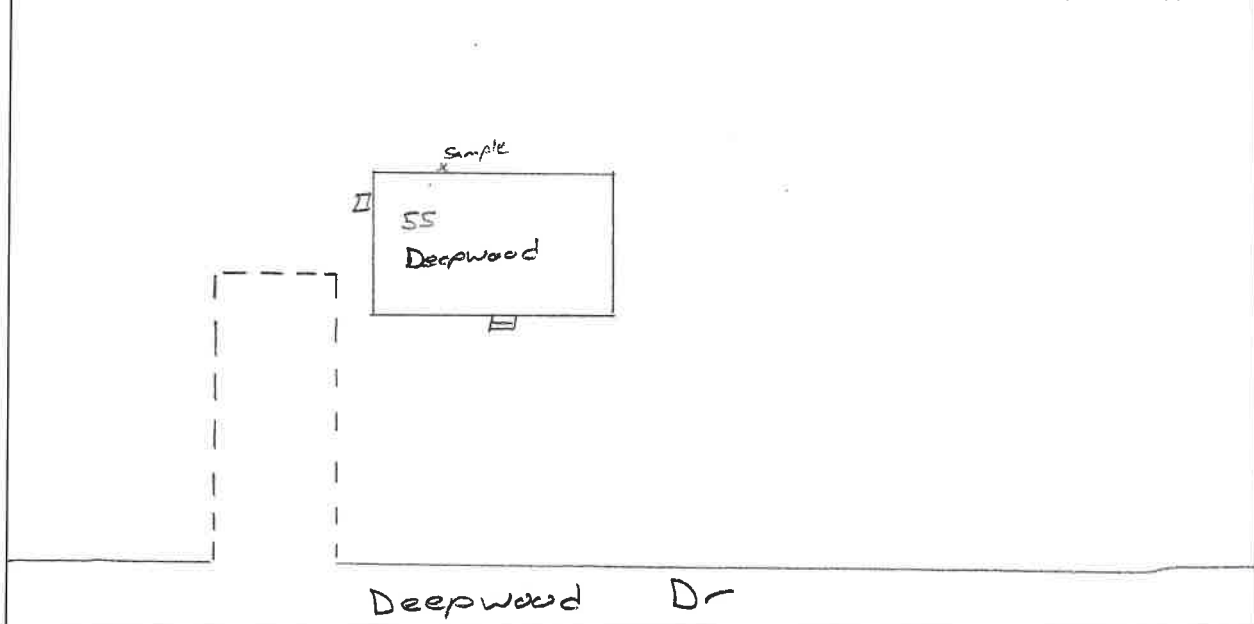
Eastham Landfill
Private Well Sampling Log

Well Depth: Measured or Provided?

Summary of Sampling and Monitoring Activities: Purge and sample from
outdoor spigot on back of house.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 8/25/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph Wind
Temperature: 70° F

Location: 1 Preservation Way
Property Owner: Eliza Fitts
Property Contact: _____
Phone: 508-255-8435
Email: _____
Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0805 Finish: 0825

Volume Purged: 23 gallons

Equipment Utilized: _____

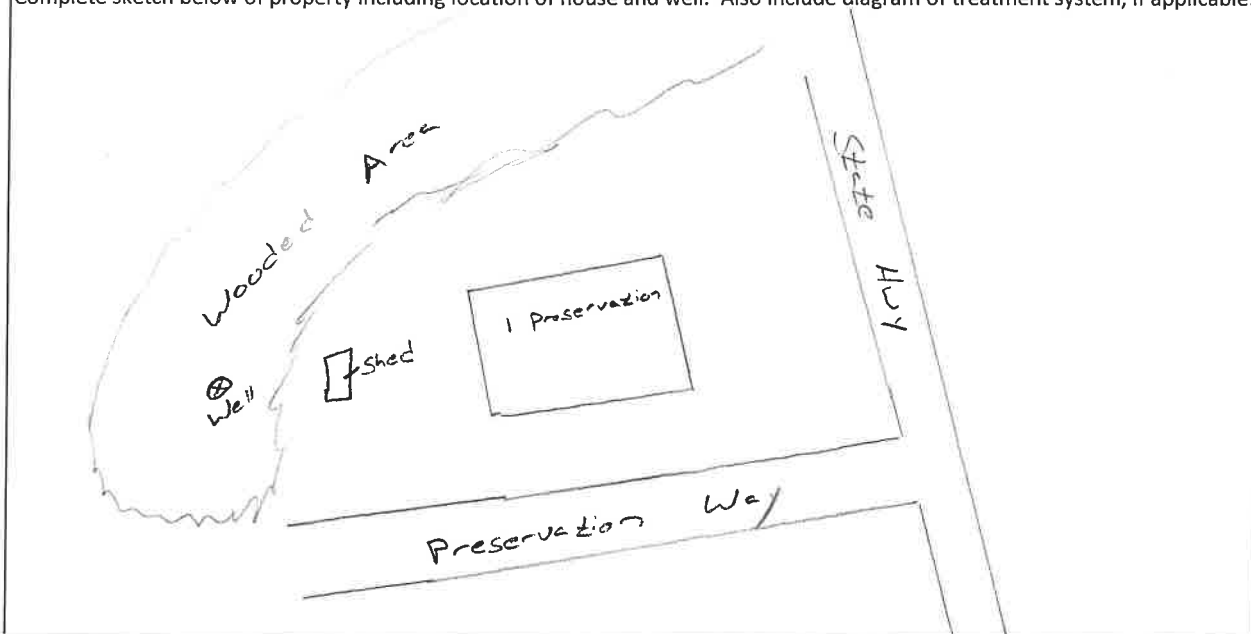
Attach Equipment Calibration Log: _____

Well Depth: Measured or Provided? Well not accessible for gauging.

Summary of Sampling and Monitoring Activities: Purge and sample from kitchen sink. System contains no treatment or filtration.
Well is located in wooded area to left of house,
behind shed. Well could not be accessed for gauging,
possibly buried.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:



Eastham Landfill
Private Well Sampling Log

Date: 2/25/14
Sampler: EC
Weather Conditions: Sunny, 0-5 mph wind
Temperature: 70° F

Location: 10 Spinner Way
Property Owner: _____
Property Contact: Lisa Adams
Phone: 508-254-8001
Email: _____

Contact Log Attached: Yes: _____ No: _____

Analysis Required: 1,4-Dioxane (8270 SIM)
Analytical Lab: Alpha
Sample Location: Kitchen sink
Describe water system No treatment or filtration
including treatment: _____
Water meter reading: _____

Purge Process - purge well minimum 20 gallons, then wait for stabilized parameters

Purge Time: Start: 0935 Finish: 1000

Volume Purged: 22 gallons

Equipment Utilized: _____

Attach Equipment Calibration Log: _____

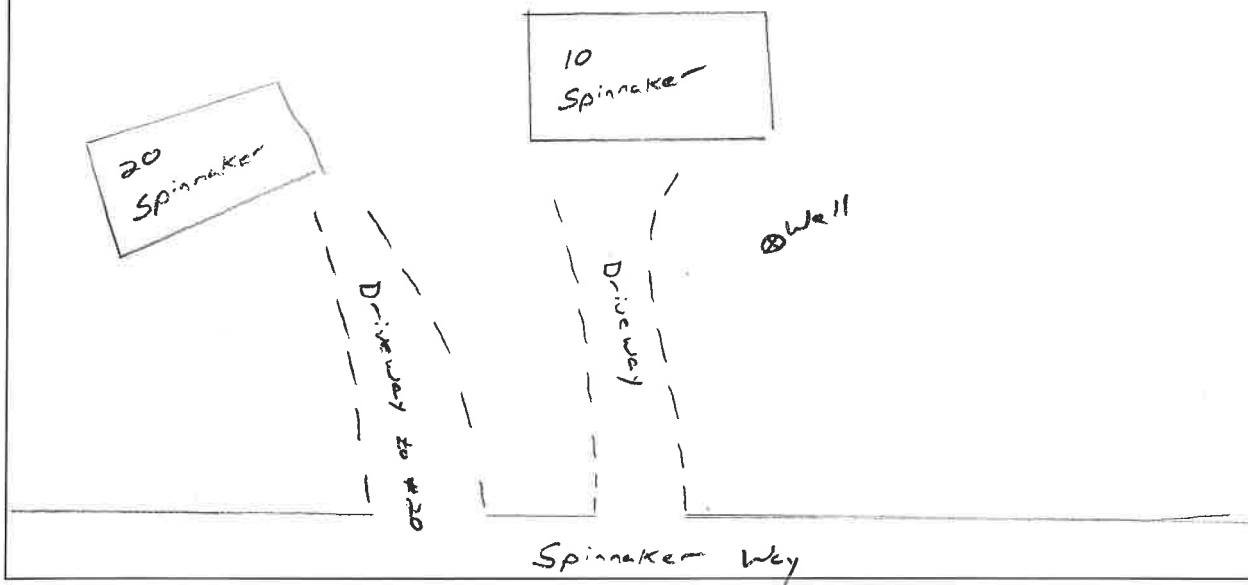
Well Depth: Measured or Provided? Provided by homeowner: 56'

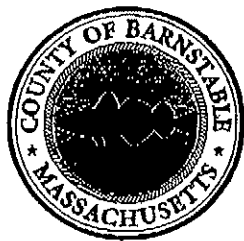
Summary of Sampling and Monitoring Activities: Meet realtor onsite @ 0930.

Purge and sample from kitchen sink. System
contains no treatment or filtration.

Complete sketch of treatment system, if applicable:

Complete sketch below of property including location of house and well. Also include diagram of treatment system, if applicable:





**BARNSTABLE COUNTY
DEPARTMENT OF HEALTH AND ENVIRONMENT**

BARNSTABLE COUNTY COMPLEX
3195 MAIN STREET / PO BOX 427
BARNSTABLE, MASSACHUSETTS 02630

Phone: (508) 375-6613
FAX (508) 362-2603
TDD (508) 362-5885

WATER SAMPLING LOG: EASTHAM LANDFILL

WELL NUMBER: mw 3I DATE: 9/3/14
WEATHER: sunny 80 TIME: 1130

EVACUATION DATA

DESCRIPTION OF MEASURING POINT: Top of Casing
DEPTH TO BOTTOM OF WELL: 52.35 DIAMETER OF CASING: 2"
DEPTH TO WATER IN WELL: 20.54 MATERIAL OF WELL: PVC
FEET OF WATER IN WELL: 31.79 GALLONS PER FOOT: 0.16
GALLONS OF WATER IN WELL: 5.09 AMOUNT TO PURGE: 35gal

EVACUATION METHOD: DC Purgible Pump/dedicated bailer/dedicated watterra

SAMPLING DATA/FIELD PARAMETERS

COLOR: clear ODOR: slight APPEARANCE: -
PH: 7.23 TEMP: 12.87 COND: 375 DO: 1.64
OTHER: _____

SAMPLING METHOD AND MATERIAL: dedicated bailer/dedicated watterra

CONSTITUENTS SAMPLED	CONTAINER DESCRIPTION	PRESERVATIVE
Nit/Alk 200	500 mL plastic	-
*Metals 201, 207	250 mL plastic	HNO3
COD 202	40 mL glass vial	H2SO4
VOC 203, 204, 205	40 mL glass vial	HCl
TCN 206	500 mL plastic	NaOH

REMARKS: * Field Filtered

SAMPLING PERSONNEL: Lynn Mulkeen -BCDHE

WELL CASING VOLUMES:

1 1/4"=0.06 1 1/2"=0.09 2"=0.16 2 1/2"=0.26 3"=0.37 3 1/2"=0.50
4"=0.65 6"=1.47



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Phone: (508) 375-6613
FAX (508) 362-2603
TDD (508) 362-5885

WATER SAMPLING LOG: EASTHAM LANDFILL

WELL NUMBER: mw 3D(BCH#13) DATE: 9/3/14
WEATHER: sunny 80 TIME: 1130

EVACUATION DATA

DESCRIPTION OF MEASURING POINT: Top of Casing
DEPTH TO BOTTOM OF WELL: 73.43 DIAMETER OF CASING: 2"
DEPTH TO WATER IN WELL: 20.37 MATERIAL OF WELL: PVC
FEET OF WATER IN WELL: 53.06 GALLONS PER FOOT: 0.16
GALLONS OF WATER IN WELL: 8.49 AMOUNT TO PURGE: 55gal

EVACUATION METHOD: DC Purgible Pump/dedicated bailer/dedicated watterra

SAMPLING DATA/FIELD PARAMETERS

COLOR: clear ODOR: slight leachate APPEARANCE: -
PH: 8.05 TEMP: 13.25 COND: 1423 DO: 2.01
OTHER: _____

SAMPLING METHOD AND MATERIAL: dedicated bailer/dedicated watterra

CONSTITUENTS SAMPLED	CONTAINER DESCRIPTION	PRESERVATIVE
216 Nit/Alk 208	500 mL plastic	-
223, 217 *Metals 209, 215	250 mL plastic	HNO3
218 COD 210	40 mL glass vial	H2SO4
219, 220, 221 VOC 211, 212, 213	40 mL glass vial	HCl
222 TCN 214	500 mL plastic	NaOH

REMARKS: * Field Filtered

SAMPLING PERSONNEL: Lynn Mulkeen -BCDHE

WELL CASING VOLUMES:

1 1/4"=0.06 1 1/2"=0.09 2"=0.16 2 1/2"=0.26 3"=0.37 3 1/2"=0.50
4"=0.65 6"=1.47

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Lisa Flynn	Lynn Mulkeen
COMPANY:	DATE:
ESM	9/24/2014
FAX NUMBER:	TOTAL NO. OF PAGES, INCLUDING COVER:
508-226-1811	3
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
	n/a
RE:	YOUR REFERENCE NUMBER:
Eastham Field Logs	n/a

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Please find attached the field logs for the Eastham Landfill. Please contact me at 508-375-6676 or lmulkeen@barnstablecounty.org with any questions.

Thanks

Lynn

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1413089	6/16/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Knowles St_065	6/16/2014	L1413089-1	DW	8270
Knowles St_065 Dup	6/16/2014	L1413089-2	DW	8270
Knowles St_070	6/16/2014	L1413089-3	DW	8270
Knowles St_070 Dup	6/16/2014	L1413089-4	DW	Not Analyzed

All QAQC data, including surrogate, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 6/26/14.



ANALYTICAL REPORT

Lab Number:	L1413089
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Doug Heely
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	Not Specified
Report Date:	06/19/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413089
Report Date: 06/19/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1413089-01	KNOWLES ST_065	EASTHAM, MA	06/16/14 12:25
L1413089-02	KNOWLES ST_065 DUP	EASTHAM, MA	06/16/14 12:30
L1413089-03	KNOWLES ST_070	EASTHAM, MA	06/16/14 14:10
L1413089-04	KNOWLES ST_070 DUP	EASTHAM, MA	06/16/14 14:15

Project Name: EASTHAM LANDFILL

Lab Number: L1413089

Project Number: Not Specified

Report Date: 06/19/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413089
Report Date: 06/19/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413089
Report Date: 06/19/14

Case Narrative (continued)

Report Submission

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

MCP Related Narrative

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 06/19/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1413089**Project Number:** Not Specified**Report Date:** 06/19/14**SAMPLE RESULTS**

Lab ID: L1413089-01
 Client ID: KNOWLES ST_065
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/17/14 18:15
 Analyst: CM

Date Collected: 06/16/14 12:25
 Date Received: 06/16/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/17/14 08:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.209		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	24		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413089**Project Number:** Not Specified**Report Date:** 06/19/14**SAMPLE RESULTS**

Lab ID: L1413089-02
 Client ID: KNOWLES ST_065 DUP
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/19/14 15:52
 Analyst: CM

Date Collected: 06/16/14 12:30
 Date Received: 06/16/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/18/14 15:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.217		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	21		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413089**Project Number:** Not Specified**Report Date:** 06/19/14**SAMPLE RESULTS**

Lab ID: L1413089-03
Client ID: KNOWLES ST_070
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/17/14 19:04
Analyst: CM

Date Collected: 06/16/14 14:10
Date Received: 06/16/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/17/14 08:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Project Name: EASTHAM LANDFILL

Lab Number: L1413089

Project Number: Not Specified

Report Date: 06/19/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/17/14 15:49

Extraction Date: 06/17/14 08:26

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03 Batch: WG698395-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	29		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413089**Project Number:** Not Specified**Report Date:** 06/19/14**Method Blank Analysis**
Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/19/14 13:36

Extraction Date: 06/18/14 15:57

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 02 Batch: WG698937-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	26		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM LANDFILL

Lab Number: L1413089

Project Number: Not Specified

Report Date: 06/19/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03 Batch: WG698395-2 WG698395-3								
1,4-Dioxane	100		98		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	38		33		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM LANDFILL**Lab Number:** L1413089**Project Number:** Not Specified**Report Date:** 06/19/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 02 Batch: WG698937-2 WG698937-3								
1,4-Dioxane	104		106		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	25		26		15-110

Project Name: EASTHAM LANDFILL**Project Number:** Not Specified**Lab Number:** L1413089**Report Date:** 06/19/14**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413089-01A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413089-01B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413089-02A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413089-02B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413089-03A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413089-03B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413089-04A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1413089-04B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413089
Report Date: 06/19/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413089
Report Date: 06/19/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413089
Report Date: 06/19/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

PAGE 1 OF 1

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

Project Name: Eastern Landfill

Project Location: Eastham, MA

Project #:

Project Manager: Doug Heely

ALPHA Quote #:

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Client: ES+M

Address: 273 W. Main St.

Norton, MA 02766

Phone: 508-226-1800

Email: iflynn@esm-inc.com

Additional Project Information:

Report Information - Data Delivered

☐ ADEx ☒ EMAIL

Regulatory Requirements

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

Project Information Requirements

Billing Information

☐ Same as Client info	PO #:

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

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:

Date/Time

Received By:

Date/Time

All samples submitted are subject to Alpha's Terms and Conditions.
See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1413214	6/17/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Glacier Hills Rd_075	6/17/2014	L1413214-1	DW	8270
Glacier Hills Rd_075 Dup	6/17/2014	L1413214-2	DW	Not Analyzed

All QAQC data, including surrogate, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 6/26/14.



ANALYTICAL REPORT

Lab Number:	L1413214
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Doug Heely
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	Not Specified
Report Date:	06/19/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413214
Report Date: 06/19/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1413214-01	GLACIER HILLS RD_075	EASTHAM, MA	06/17/14 10:30
L1413214-02	GLACIER HILLS RD_075 DUP	EASTHAM, MA	06/17/14 10:35

Project Name: EASTHAM LANDFILL

Lab Number: L1413214

Project Number: Not Specified

Report Date: 06/19/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413214
Report Date: 06/19/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413214
Report Date: 06/19/14

Case Narrative (continued)

MCP Related Narratives

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Peter Henriksen

Title: Technical Director/Representative

Date: 06/19/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1413214**Project Number:** Not Specified**Report Date:** 06/19/14**SAMPLE RESULTS**

Lab ID: L1413214-01
 Client ID: GLACIER HILLS RD_075
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/19/14 16:37
 Analyst: CM

Date Collected: 06/17/14 10:30
 Date Received: 06/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/18/14 15:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	22		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413214**Project Number:** Not Specified**Report Date:** 06/19/14**Method Blank Analysis**
Batch Quality Control

Analytical Method: 97,8270D-SIM

Analytical Date: 06/19/14 13:36

Analyst: CM

Extraction Method: EPA 3510C

Extraction Date: 06/18/14 15:57

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01 Batch: WG698937-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	26		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM LANDFILL**Lab Number:** L1413214**Project Number:** Not Specified**Report Date:** 06/19/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG698937-2 WG698937-3								
1,4-Dioxane	104		106		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	25		26		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413214**Project Number:** Not Specified**Report Date:** 06/19/14**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413214-01A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413214-01B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413214-02A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413214-02B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413214
Report Date: 06/19/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413214
Report Date: 06/19/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL**Lab Number:** L1413214**Project Number:** Not Specified**Report Date:** 06/19/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

PAGE 1 OF 1

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

Project Name: Eastern Landfill

Project Location: Eastham, MA

Project #:

Project Manager: Doug Heely

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Date Rec'd in Lab:

ALPHA Job #: 11413214

Report Information - Data Deliverables

□ ADE_x □ 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: ESM

Address: 273 W. Main St.

Norton, MA 02766

Phone: 508-226-1800

Email: 1flynn@esm-inc.com

Additional Project Information:

[illegible][illegible]**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:

Date/Time

~~Received By:~~

Date/Time

All samples submitted are subject to Alpha's Terms and Conditions.
See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1413501	6/19/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Bayside Dr_215	6/19/2014	L1413501-1	DW	8270
Bayside Dr_215 Dup	6/19/2014	L1413501-2	DW	Not Analyzed
Sharon Cir_035	6/19/2014	L1413501-3	DW	8270
Sharon Cir_035 Dup	6/19/2014	L1413501-4	DW	8270
Knowles St_050	6/19/2014	L1413501-5	DW	8270
Knowles St_050 Dup	6/19/2014	L1413501-6	DW	Not Analyzed
Trip Blank	6/19/2014	L1413501-7	DW	8270

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 6/26/14.



ANALYTICAL REPORT

Lab Number:	L1413501
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	2013-027
Report Date:	06/25/14

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1413501
Report Date: 06/25/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1413501-01	BAYSIDE DR_215	EASTHAM, MA	06/19/14 08:35
L1413501-02	BAYSIDE DR_215 DUP	EASTHAM, MA	06/19/14 08:40
L1413501-03	SHARON CIR_035	EASTHAM, MA	06/19/14 11:30
L1413501-04	SHARON CIR_035 DUP	EASTHAM, MA	06/19/14 11:35
L1413501-05	KNOWLES ST_050	EASTHAM, MA	06/19/14 12:45
L1413501-06	KNOWLES ST_050 DUP	EASTHAM, MA	06/19/14 12:50
L1413501-07	TRIP BLANK	EASTHAM, MA	06/19/14 00:00

Project Name: EASTHAM LANDFILL

Lab Number: L1413501

Project Number: 2013-027

Report Date: 06/25/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1413501
Report Date: 06/25/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1413501
Report Date: 06/25/14

Case Narrative (continued)

1,4-Dioxane

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 06/25/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1413501**Project Number:** 2013-027**Report Date:** 06/25/14**SAMPLE RESULTS**

Lab ID: L1413501-01
Client ID: BAYSIDE DR_215
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/22/14 16:19
Analyst: CM

Date Collected: 06/19/14 08:35
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	30		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1413501**Project Number:** 2013-027**Report Date:** 06/25/14**SAMPLE RESULTS**

Lab ID: L1413501-03
Client ID: SHARON CIR_035
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/22/14 17:04
Analyst: CM

Date Collected: 06/19/14 11:30
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.143		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	22		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413501**Project Number:** 2013-027**Report Date:** 06/25/14**SAMPLE RESULTS**

Lab ID: L1413501-04
Client ID: SHARON CIR_035 DUP
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/24/14 14:38
Analyst: JT

Date Collected: 06/19/14 11:35
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/23/14 16:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.154		ug/l	0.153	0.0765	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	29		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413501**Project Number:** 2013-027**Report Date:** 06/25/14**SAMPLE RESULTS**

Lab ID: L1413501-05
 Client ID: KNOWLES ST_050
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/22/14 17:49
 Analyst: CM

Date Collected: 06/19/14 12:45
 Date Received: 06/19/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.0910	J	ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413501**Project Number:** 2013-027**Report Date:** 06/25/14**SAMPLE RESULTS**

Lab ID: L1413501-07
Client ID: TRIP BLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/22/14 18:35
Analyst: CM

Date Collected: 06/19/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	24		15-110

Project Name: EASTHAM LANDFILL

Lab Number: L1413501

Project Number: 2013-027

Report Date: 06/25/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/22/14 14:03

Extraction Date: 06/20/14 16:03

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07 Batch: WG699649-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	35		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413501**Project Number:** 2013-027**Report Date:** 06/25/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 06/24/14 11:23**Extraction Date:** 06/23/14 16:30**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 04 Batch: WG700128-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1413501

Report Date: 06/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07 Batch: WG699649-2 WG699649-3								
1,4-Dioxane	102		105		40-140	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	39		39		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM LANDFILL**Project Number:** 2013-027**Lab Number:** L1413501**Report Date:** 06/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 04 Batch: WG700128-2 WG700128-3								
1,4-Dioxane	100		104		40-140	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	32		31		15-110

Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1413501

Report Date: 06/25/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413501-01A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-01B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-02A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1413501-02B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1413501-03A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-03B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-04A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-04B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-05A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-05B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-06A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1413501-06B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1413501-07A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413501-07B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1413501
Report Date: 06/25/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1413501
Report Date: 06/25/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1413501
Report Date: 06/25/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: **L1413501**

Project Information

Project Name: **Eastham Landfill**

Project Location: **Eastham, MA**

Project #: **2013-027**

Project Manager: **Doug Heely**

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

ANALYSIS		SAMPLE INFO		TOTAL # BOTTLES
		Filtration		
VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	☐ Field	☐ Lab to do	
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	Preservation	☐ Lab to do	
EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only			
☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint			
1,4-Dioxene by 8270 SIM				

Client Information

Client: **ES+M**

Address: **273 W. Main St.**

Norton, MA 02766

Phone: **508-226-1800**

Email: **flynn@esm-inc.com**

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
13501-01	Bayside Dr - 215	6/19/14	0835	DW	EC
02	Bayside Dr - 215 DUP		0840	DW	EC
03	Sharon Cir - 035		1130	DW	EC
04	Sharon Cir - 035 DUP		1135	DW	EC
05	Knowles St - 050		1245	DW	EC
06	Knowles St - 050 DUP		1250	DW	EC
07	Tip Blank				

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:

Date/Time

Received By:

Date/Time

6/19/14 1650

6/19/14 1650

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1413502	6/16 - 6/19/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
GR Knowles St_065	6/16/2014	L1413502-1	DW	8270
GR Knowles St_075	6/17/2014	L1413502-2	DW	8270
GR Knowles St_050	6/19/2014	L1413502-3	DW	8270

All QAQC data, including surrogate, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 6/26/14.



ANALYTICAL REPORT

Lab Number:	L1413502
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	Not Specified
Report Date:	06/24/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413502
Report Date: 06/24/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1413502-01	GR KNOWLES ST_065	EASTHAM ,MA	06/16/14 13:00
L1413502-02	GR KNOWLES ST_075	EASTHAM ,MA	06/17/14 08:45
L1413502-03	GR KNOWLES ST_050	EASTHAM ,MA	06/19/14 13:55

Project Name: EASTHAM LANDFILL

Lab Number: L1413502

Project Number: Not Specified

Report Date: 06/24/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413502
Report Date: 06/24/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413502
Report Date: 06/24/14

Case Narrative (continued)

1,4-Dioxane

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Peter Henriksen

Title: Technical Director/Representative

Date: 06/24/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1413502**Project Number:** Not Specified**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413502-01
 Client ID: GR KNOWLES ST_065
 Sample Location: EASTHAM ,MA
 Matrix: Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/22/14 19:20
 Analyst: CM

Date Collected: 06/16/14 13:00
 Date Received: 06/19/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	3.70		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	26		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413502**Project Number:** Not Specified**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413502-02
 Client ID: GR KNOWLES ST_075
 Sample Location: EASTHAM ,MA
 Matrix: Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/22/14 21:31
 Analyst: CM

Date Collected: 06/17/14 08:45
 Date Received: 06/19/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.596		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	29		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413502**Project Number:** Not Specified**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413502-03
 Client ID: GR KNOWLES ST_050
 Sample Location: EASTHAM ,MA
 Matrix: Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/22/14 22:16
 Analyst: CM

Date Collected: 06/19/14 13:55
 Date Received: 06/19/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.887		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1413502**Project Number:** Not Specified**Report Date:** 06/24/14**Method Blank Analysis**
Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/22/14 14:03

Extraction Date: 06/20/14 16:03

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-03 Batch: WG699649-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	35		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM LANDFILL

Project Number: Not Specified

Lab Number: L1413502

Report Date: 06/24/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG699649-2 WG699649-3								
1,4-Dioxane	102		105		40-140	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	39		39		15-110

Project Name: EASTHAM LANDFILL**Project Number:** Not Specified**Lab Number:** L1413502**Report Date:** 06/24/14**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413502-01A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413502-01B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413502-02A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413502-02B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413502-03A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413502-03B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413502
Report Date: 06/24/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1413502
Report Date: 06/24/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL**Lab Number:** L1413502**Project Number:** Not Specified**Report Date:** 06/24/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1413506	6/19/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Trip Blank	6/19/2014	L1413506-1	DW	8270
PTC-15_255 Alston INF	6/19/2014	L1413506-2	DW	8270
PTC-15_255 Alston MID	6/19/2014	L1413506-3	DW	8270
PTC-15_255 Alston EFF	6/19/2014	L1413506-4	DW	8270

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 6/26/14.



ANALYTICAL REPORT

Lab Number:	L1413506
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	06/24/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413506
Report Date: 06/24/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1413506-01	TRIPBLANK	EASTHAM ,MA	06/19/14 00:00
L1413506-02	PTC-15_255 ALSTON INF	EASTHAM ,MA	06/19/14 10:20
L1413506-03	PTC-15_255 ALSTON MID	EASTHAM ,MA	06/19/14 10:15
L1413506-04	PTC-15_255 ALSTON EFF	EASTHAM ,MA	06/19/14 10:10

Project Name: EASTHAM DW

Lab Number: L1413506

Project Number: 2013-027

Report Date: 06/24/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413506
Report Date: 06/24/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413506
Report Date: 06/24/14

Case Narrative (continued)

1,4 Dioxane

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Peter Henriksen

Title: Technical Director/Representative

Date: 06/24/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1413506**Project Number:** 2013-027**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413506-01
Client ID: TRIPBLANK
Sample Location: EASTHAM ,MA
Matrix: Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/22/14 23:02
Analyst: CM

Date Collected: 06/19/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.136	0.0682	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Project Name: EASTHAM DW**Lab Number:** L1413506**Project Number:** 2013-027**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413506-02
Client ID: PTC-15_255 ALSTON INF
Sample Location: EASTHAM ,MA
Matrix: Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/22/14 23:47
Analyst: CM

Date Collected: 06/19/14 10:20
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	2.12		ug/l	0.136	0.0682	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	27		15-110

Project Name: EASTHAM DW**Lab Number:** L1413506**Project Number:** 2013-027**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413506-03
Client ID: PTC-15_255 ALSTON MID
Sample Location: EASTHAM ,MA
Matrix: Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/23/14 00:32
Analyst: CM

Date Collected: 06/19/14 10:15
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.0706	J	ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	31		15-110

Project Name: EASTHAM DW**Lab Number:** L1413506**Project Number:** 2013-027**Report Date:** 06/24/14**SAMPLE RESULTS**

Lab ID: L1413506-04
Client ID: PTC-15_255 ALSTON EFF
Sample Location: EASTHAM ,MA
Matrix: Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/23/14 01:17
Analyst: CM

Date Collected: 06/19/14 10:10
Date Received: 06/19/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/20/14 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.136	0.0682	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Project Name: EASTHAM DW

Lab Number: L1413506

Project Number: 2013-027

Report Date: 06/24/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/22/14 14:03

Extraction Date: 06/20/14 16:03

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-04 Batch: WG699649-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	35		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1413506

Report Date: 06/24/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG699649-2 WG699649-3								
1,4-Dioxane	102		105		40-140	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	39		39		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1413506

Report Date: 06/24/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413506-01A	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-01B	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-02A	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-02B	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-03A	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-03B	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-04A	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413506-04B	Amber 500ml unpreserved	A	7	2.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413506
Report Date: 06/24/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413506
Report Date: 06/24/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413506
Report Date: 06/24/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



CHAIN OF CUSTODY

PAGE 1 OF 1

Project Information

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Project Name: Eastham DW

Client Information

Client: Environmental Strategies & Mgmt

Project Location: Eastham MA

Address: 273 West Main Street

Project #: 2013-027

Norton, MA 02703

Project Manager: Lisa Flynn

Phone: 508-226-1800

ALPHA Quote #:

Fax: 508-226-1811

Turn-Around Time

Email: aboyd@esm-inc.com *

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

☐ These samples have been Previously analyzed by Alpha

Due Date:

Time:

Other Project Specific Requirements/Comments/Detection Limits:

* please also email results to lflynn@esm-inc.com

There are no duplicate samples

Date Rec'd in Lab:

ALPHA Job #: L1413506

Report Information Data Deliverables

☐ FAX☒ EMAIL☒ ADEx☐ Add'l Deliverables

Billing Information

☒ Same as Client info

PO #:

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

8270-MCP CAM

0.15 UG/L FOR 1,4 DIOXANE, GW 1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes☐ No

Are MCP Analytical Methods Required?

☐ Yes☐ No

Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

1,4 DIOXANE BY 8270 SIM

SAMPLE HANDLING

Filtration

☐ Done☐ Not Needed☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	1,4 D														Sample Specific Comments	
		Date	Time																		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
13506-01	TRIPBLANK			W		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		2	
↓ 22 23 24	PTC-15_255 Alston INF	6/19/14	1020	W	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		2	
	PTC-15_255 Alston MID	6/19/14	1015	W	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		2	
	PTC-15_255 Alston EFF	6/19/14	1010	W	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		2	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

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Preservative

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IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I)
(rev. 5-JAN-12)

Relinquished By:

Date/Time

6/19/14 1650

Received By:

Date/Time

6/19/14 1650

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1413763	6/23/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Wild Goose Ln_030	6/23/2014	L1413763-1	DW	8270
Wild Goose Ln_030 Dup	6/23/2014	L1413763-2	DW	Not Analyzed
Seashell Ln_020	6/23/2014	L1413763-3	DW	8270
Seashell Ln_020 Dup	6/23/2014	L1413763-4	DW	Not Analyzed
Schoolhouse Rd_090	6/23/2014	L1413763-5	DW	8270
Schoolhouse Rd_090 Dup	6/23/2014	L1413763-6	DW	Not Analyzed
Rogers LN_040	6/23/2014	L1413763-7	DW	8270
Rogers LN_040 Dup	6/23/2014	L1413763-8	DW	Not Analyzed
Trip Blank	6/23/2014	L1413763-9	DW	8270

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 7/1/14.



ANALYTICAL REPORT

Lab Number:	L1413763
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	06/26/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413763
Report Date: 06/26/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1413763-01	WILD GOOSE LN_030	EASTHAM MA	06/23/14 08:35
L1413763-02	WILD GOOSE LN_030 DUP	EASTHAM MA	06/23/14 08:40
L1413763-03	SEASHELL LN_020	EASTHAM MA	06/23/14 10:40
L1413763-04	SEASHELL LN_020 DUP	EASTHAM MA	06/23/14 10:45
L1413763-05	SCHOOLHOUSE RD_090	EASTHAM MA	06/23/14 12:30
L1413763-06	SCHOOLHOUSE RD_090 DUP	EASTHAM MA	06/23/14 12:35
L1413763-07	ROGERS LN_040	EASTHAM MA	06/23/14 14:10
L1413763-08	ROGERS LN_040 DUP	EASTHAM MA	06/23/14 14:15
L1413763-09	TRIP BLANK	EASTHAM MA	06/23/14 00:00

Project Name: EASTHAM DW

Lab Number: L1413763

Project Number: 2013-027

Report Date: 06/26/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413763
Report Date: 06/26/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413763
Report Date: 06/26/14

Case Narrative (continued)

1,4-Dioxanes

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 06/26/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1413763**Project Number:** 2013-027**Report Date:** 06/26/14**SAMPLE RESULTS**

Lab ID: L1413763-01

Date Collected: 06/23/14 08:35

Client ID: WILD GOOSE LN_030

Date Received: 06/23/14

Sample Location: EASTHAM MA

Field Prep: Not Specified

Matrix: Drinking Water

Extraction Method: EPA 3510C

Analytical Method: 97,8270D-SIM

Extraction Date: 06/24/14 15:22

Analytical Date: 06/25/14 11:31

Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	0.109	J	ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	36		15-110

Project Name: EASTHAM DW**Lab Number:** L1413763**Project Number:** 2013-027**Report Date:** 06/26/14**SAMPLE RESULTS**

Lab ID: L1413763-03
Client ID: SEASHELL LN_020
Sample Location: EASTHAM MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/25/14 12:20
Analyst: JT

Date Collected: 06/23/14 10:40
Date Received: 06/23/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/24/14 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Project Name: EASTHAM DW**Lab Number:** L1413763**Project Number:** 2013-027**Report Date:** 06/26/14**SAMPLE RESULTS**

Lab ID: L1413763-05
Client ID: SCHOOLHOUSE RD_090
Sample Location: EASTHAM MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/25/14 13:09
Analyst: JT

Date Collected: 06/23/14 12:30
Date Received: 06/23/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/24/14 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	31		15-110

Project Name: EASTHAM DW**Lab Number:** L1413763**Project Number:** 2013-027**Report Date:** 06/26/14**SAMPLE RESULTS**

Lab ID: L1413763-07
 Client ID: ROGERS LN_040
 Sample Location: EASTHAM MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/25/14 13:58
 Analyst: JT

Date Collected: 06/23/14 14:10
 Date Received: 06/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/24/14 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Project Name: EASTHAM DW**Lab Number:** L1413763**Project Number:** 2013-027**Report Date:** 06/26/14**SAMPLE RESULTS**

Lab ID: L1413763-09
 Client ID: TRIP BLANK
 Sample Location: EASTHAM MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/25/14 14:47
 Analyst: JT

Date Collected: 06/23/14 00:00
 Date Received: 06/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/24/14 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Project Name: EASTHAM DW

Lab Number: L1413763

Project Number: 2013-027

Report Date: 06/26/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/25/14 09:05

Extraction Date: 06/24/14 15:22

Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09 Batch: WG700457-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	40		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1413763

Report Date: 06/26/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09 Batch: WG700457-2 WG700457-3								
1,4-Dioxane	102		102		40-140	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	42		40		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1413763

Report Date: 06/26/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413763-01A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-01B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-02A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-02B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-03A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-03B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-04A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-04B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-05A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-05B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-06A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-06B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-07A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-07B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-08A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-08B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	HOLD(14)
L1413763-09A	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1413763-09B	Amber 500ml unpreserved	A	7	2.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413763
Report Date: 06/26/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413763
Report Date: 06/26/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1413763
Report Date: 06/26/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

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ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1414256	6/26/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Schoolhouse Rd_600	6/26/2014	L1414256-01	DW	8270	Starlight Ln_030	6/26/2014	L1414256-07	DW	8270
Schoolhouse Rd_600 Dup	6/26/2014	L1414256-02	DW	8270	Starlight Ln_030 Dup	6/26/2014	L1414256-08	DW	8270
Massasoit Tr_130	6/26/2014	L1414256-03	DW	8270	Trip Blank	6/26/2014	L1414256-09	DW	8270
Massasoit Tr_130 Dup	6/26/2014	L1414256-04	DW	8270	Chipman Rd_040	6/26/2014	L1414256-10	DW	8270
Starlight Ln_040	6/26/2014	L1414256-05	DW	8270	Chipman Rd_040 Dup	6/26/2014	L1414256-11	DW	Not Analyzed
Starlight Ln_040 Dup	6/26/2014	L1414256-06	DW	8270					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/7/14.



ANALYTICAL REPORT

Lab Number:	L1414256
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	07/02/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1414256
Report Date: 07/02/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1414256-01	SCHOOLHOUSE RD_600	EASTHAM, MA	06/26/14 11:30
L1414256-02	SCHOOLHOUSE RD_600 DUP	EASTHAM, MA	06/26/14 11:35
L1414256-03	MASSASOIT TR_130	EASTHAM, MA	06/26/14 10:35
L1414256-04	MASSASOIT TR_130 DUP	EASTHAM, MA	06/26/14 10:40
L1414256-05	STARLIGHT LN_040	EASTHAM, MA	06/26/14 12:35
L1414256-06	STARLIGHT LN_040 DUP	EASTHAM, MA	06/26/14 12:40
L1414256-07	STARLIGHT LN_030	EASTHAM, MA	06/26/14 13:40
L1414256-08	STARLIGHT LN_030 DUP	EASTHAM, MA	06/26/14 13:45
L1414256-09	TRIP BLANK	EASTHAM, MA	06/26/14 00:00
L1414256-10	CHIPMAN RD_040	EASTHAM, MA	06/26/14 09:30
L1414256-11	CHIPMAN RD_040 DUP	EASTHAM, MA	06/26/14 09:35

Project Name: EASTHAM DW

Lab Number: L1414256

Project Number: 2013-027

Report Date: 07/02/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1414256
Report Date: 07/02/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1414256
Report Date: 07/02/14

Case Narrative (continued)

Report Submission

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

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 07/02/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-01
 Client ID: SCHOOLHOUSE RD_600
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/29/14 19:00
 Analyst: CM

Date Collected: 06/26/14 11:30
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/29/14 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.226		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-02
 Client ID: SCHOOLHOUSE RD_600 DUP
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/01/14 20:15
 Analyst: CM

Date Collected: 06/26/14 11:35
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/30/14 19:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.206		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	34		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-03
Client ID: MASSASOIT TR_130
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 06/29/14 19:46
Analyst: CM

Date Collected: 06/26/14 10:35
Date Received: 06/26/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/29/14 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.156		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-04
 Client ID: MASSASOIT TR_130 DUP
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/01/14 21:01
 Analyst: CM

Date Collected: 06/26/14 10:40
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/30/14 19:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.151		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	35		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-05
 Client ID: STARLIGHT LN_040
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/29/14 20:31
 Analyst: CM

Date Collected: 06/26/14 12:35
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/29/14 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.874		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-06
Client ID: STARLIGHT LN_040 DUP
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 07/01/14 21:47
Analyst: CM

Date Collected: 06/26/14 12:40
Date Received: 06/26/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/30/14 19:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.936		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	33		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-07
 Client ID: STARLIGHT LN_030
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/29/14 21:16
 Analyst: CM

Date Collected: 06/26/14 13:40
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/29/14 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.279		ug/l	0.136	0.0682	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-08
Client ID: STARLIGHT LN_030 DUP
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 07/01/14 22:33
Analyst: CM

Date Collected: 06/26/14 13:45
Date Received: 06/26/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/30/14 19:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.302		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	34		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-09
 Client ID: TRIP BLANK
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/29/14 22:01
 Analyst: CM

Date Collected: 06/26/14 00:00
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/29/14 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**SAMPLE RESULTS**

Lab ID: L1414256-10
 Client ID: CHIPMAN RD_040
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 06/29/14 22:46
 Analyst: CM

Date Collected: 06/26/14 09:30
 Date Received: 06/26/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/29/14 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	29		15-110

Project Name: EASTHAM DW

Lab Number: L1414256

Project Number: 2013-027

Report Date: 07/02/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 06/29/14 16:45

Extraction Date: 06/29/14 12:00

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09-10 Batch: WG701864-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	31		15-110

Project Name: EASTHAM DW**Lab Number:** L1414256**Project Number:** 2013-027**Report Date:** 07/02/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 07/01/14 17:58**Extraction Date:** 06/30/14 19:12**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 02,04,06,08 Batch: WG702196-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	43		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1414256

Report Date: 07/02/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09-10 Batch: WG701864-2 WG701864-3								
1,4-Dioxane	104		106		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	37		35		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1414256

Report Date: 07/02/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 02,04,06,08 Batch: WG702196-2 WG702196-3								
1,4-Dioxane	106		107		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	38		39		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1414256

Report Date: 07/02/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1414256-01A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-01B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-02A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-02B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-03A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-03B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-04A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-04B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-05A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-05B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-06A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-06B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-07A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-07B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-08A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-08B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-09A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-09B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-10A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-10B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1414256-11A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	HOLD(14)
L1414256-11B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1414256
Report Date: 07/02/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1414256
Report Date: 07/02/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1414256
Report Date: 07/02/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1415941	7/17/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Candlewood Dr_075	7/17/2014	L1415941-01	DW	8270	Eldredge Dr_235	7/17/2014	L1415941-07	DW	8270
Candlewood Dr_075 Dup	7/17/2014	L1415941-02	DW	Not Analyzed	Eldredge Dr_235 Dup	7/17/2014	L1415941-08	DW	Not Analyzed
Preservation Way_004	7/17/2014	L1415941-03	DW	8270	Alston Ave_275	7/17/2014	L1415941-09	DW	8270
Preservation Way_004 Dup	7/17/2014	L1415941-04	DW	8270	Alston Ave_275 Dup	7/17/2014	L1415941-10	DW	8270
Squirrel Run_044	7/17/2014	L1415941-05	DW	8270	Trip Blank	7/17/2014	L1415941-11	DW	8270
Squirrel Run_044 Dup	7/17/2014	L1415941-06	DW	Not Analyzed					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/7/14.



ANALYTICAL REPORT

Lab Number:	L1415941
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	2013-027
Report Date:	07/25/14

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1415941

Report Date: 07/25/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1415941-01	CANDLEWOOD DR_075	DRINKING WATER	EASTHAM, MA	07/17/14 08:30	07/17/14
L1415941-02	CANDLEWOOD DR_075 DUP	DRINKING WATER	EASTHAM, MA	07/17/14 08:35	07/17/14
L1415941-03	PRESERVATION WAY_004	DRINKING WATER	EASTHAM, MA	07/17/14 09:45	07/17/14
L1415941-04	PRESERVATION WAY_004 DUP	DRINKING WATER	EASTHAM, MA	07/17/14 09:50	07/17/14
L1415941-05	SQUIRREL RUN_044	DRINKING WATER	EASTHAM, MA	07/17/14 10:35	07/17/14
L1415941-06	SQUIRREL RUN_044 DUP	DRINKING WATER	EASTHAM, MA	07/17/14 10:40	07/17/14
L1415941-07	ELDREDGE DR_235	DRINKING WATER	EASTHAM, MA	07/17/14 12:50	07/17/14
L1415941-08	ELDREDGE DR_235 DUP	DRINKING WATER	EASTHAM, MA	07/17/14 12:55	07/17/14
L1415941-09	ALSTON AVE_275	DRINKING WATER	EASTHAM, MA	07/17/14 13:40	07/17/14
L1415941-10	ALSTON AVE_275 DUP	DRINKING WATER	EASTHAM, MA	07/17/14 13:45	07/17/14
L1415941-11	TRIP BLANK	DRINKING WATER	EASTHAM, MA	07/17/14 00:00	07/17/14

Project Name: EASTHAM LANDFILL

Lab Number: L1415941

Project Number: 2013-027

Report Date: 07/25/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415941
Report Date: 07/25/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415941
Report Date: 07/25/14

Case Narrative (continued)

Report Submission

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

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 07/25/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-01
 Client ID: CANDLEWOOD DR_075
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/20/14 15:12
 Analyst: CM

Date Collected: 07/17/14 08:30
 Date Received: 07/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	31		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-03
Client ID: PRESERVATION WAY_004
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 07/20/14 16:01
Analyst: CM

Date Collected: 07/17/14 09:45
Date Received: 07/17/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.192		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	31		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-04
 Client ID: PRESERVATION WAY_004 DUP
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/24/14 22:54
 Analyst: CM

Date Collected: 07/17/14 09:50
 Date Received: 07/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/23/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.217		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	31		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-05
Client ID: SQUIRREL RUN_044
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 07/20/14 16:49
Analyst: CM

Date Collected: 07/17/14 10:35
Date Received: 07/17/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	31		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-07
 Client ID: ELDREDGE DR_235
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/20/14 17:38
 Analyst: CM

Date Collected: 07/17/14 12:50
 Date Received: 07/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	30		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-09
 Client ID: ALSTON AVE_275
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/20/14 18:27
 Analyst: CM

Date Collected: 07/17/14 13:40
 Date Received: 07/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	1.28		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	29		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-10
 Client ID: ALSTON AVE_275 DUP
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/24/14 23:42
 Analyst: CM

Date Collected: 07/17/14 13:45
 Date Received: 07/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/23/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	1.35		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	31		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**SAMPLE RESULTS**

Lab ID: L1415941-11
Client ID: TRIP BLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 07/20/14 19:15
Analyst: CM

Date Collected: 07/17/14 00:00
Date Received: 07/17/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	30		15-110			

Project Name: EASTHAM LANDFILL

Lab Number: L1415941

Project Number: 2013-027

Report Date: 07/25/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 07/20/14 11:58

Extraction Date: 07/18/14 19:00

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11 Batch: WG706962-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	36		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1415941**Project Number:** 2013-027**Report Date:** 07/25/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 07/24/14 20:27**Extraction Date:** 07/23/14 16:00**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 04,10 Batch: WG708067-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	37		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1415941

Report Date: 07/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11 Batch: WG706962-2 WG706962-3								
1,4-Dioxane	99		100		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	38		35		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1415941

Report Date: 07/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 04,10 Batch: WG708067-2 WG708067-3								
1,4-Dioxane	100		101		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	39		34		15-110

Project Name: EASTHAM LANDFILL

Lab Number: L1415941

Project Number: 2013-027

Report Date: 07/25/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1415941-01A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-01B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-02A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	HOLD(14)
L1415941-02B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	HOLD(14)
L1415941-03A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-03B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-04A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-04B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-05A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-05B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-06A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	HOLD(14)
L1415941-06B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	HOLD(14)
L1415941-07A	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-07B	Amber 500ml unpreserved	A	7	3.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-08A	Amber 500ml unpreserved	B	7	2.7	Y	Absent	HOLD(14)
L1415941-08B	Amber 500ml unpreserved	B	7	2.7	Y	Absent	HOLD(14)
L1415941-09A	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-09B	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-10A	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-10B	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-11A	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-11B	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-11C	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415941-11D	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415941
Report Date: 07/25/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415941
Report Date: 07/25/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415941
Report Date: 07/25/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

CHAIN OF CUSTODY

PAGE 1 OF 2

Client Information

Client: ES+M
Address: 273 West Main St.
Norton, MA 02766
Phone: 508-226-1800
Email: lflynn@esm-inc.com

Additional Project Information:

Project Information

Project Name: Eastham Landfill
Project Location: Eastham, MA
Project #:
Project Manager: D. Heely
ALPHA Quote #:

Turn-Around Time

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

Date Rec'd in Lab:

ALPHA Job #: L415941

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS												SAMPLE INFO		TOTAL # BOTTLES
		Date	Time			VOC: ☐ 8260 ☐ 824 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	1,4 Dioxene ☐ 8270 SIM				Filtration ☐ Field ☐ Lab to do	Preservation ☐ Lab to do	
15941 01	Candlewood Dr - 075	7/17/14	08:30	DW	EC													X		2
	02	Candlewood Dr - 075 DUP	7/17/14	08:35	DW	EC												X		2
	03	Preservation Way - 004	7/17/14	09:45	DW	EC												X		2
	04	Preservation Way - 004 DUP	7/17/14	09:50	DW	EC												X		2
	05	Squirrel Run - 044	7/17/14	10:35	DW	EC												X		2
	06	Squirrel Run - 044 DUP	7/17/14	10:40	DW	EC												X		2
	07	Eldredge Dr - 235	7/17/14	12:50	DW	EC												X		2
	08	Eldredge Dr - 235 DUP	7/17/14	12:55	DW	EC												X		2
	09	Alston Ave - 275	7/17/14	13:40	DW	EC												X		2
	10	Alston Ave - 275 DUP	7/17/14	13:45	DW	EC												X		2

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:

Date/Time

7/17/14 15:15

Received By:

Date/Time

7/17/14 15:15

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1415941

Client Information

Client: ES+M
Address: 273 West Main St.
Norton, MA 02766
Phone: 508-226-1800
Email: llynn@esm-inc.com

Additional Project Information:

Project Information

Project Name: Eastham Lands: 11
Project Location: Eastham, MA
Project #:
Project Manager: D. Heely
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

ANALYSIS		SAMPLE INFO	
VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	Filtration	☐ Field ☐ Lab to do
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8	Preservation	
EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ Lab to do	
TPH: ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint		
1,4 Dioxane 8270 SIM			
Sample Comments			

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
15941-11	Trip Blank	7/17/14		~~Blank~~	

Container Type

P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
E= 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:

Date/Time

Received By:

Date/Time

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:	L1415946
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	2013-027
Report Date:	07/22/14

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415946
Report Date: 07/22/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1415946-01	DYER PRINCE RD_052	DRINKING WATER	EASTHAM, MA	07/17/14 11:45	07/17/14
L1415946-02	DYER PRINCE RD_052 DUP	DRINKING WATER	EASTHAM, MA	07/17/14 11:45	07/17/14

Project Name: EASTHAM LANDFILL

Lab Number: L1415946

Project Number: 2013-027

Report Date: 07/22/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415946
Report Date: 07/22/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415946
Report Date: 07/22/14

Case Narrative (continued)

Report Submission

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

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 07/22/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1415946**Project Number:** 2013-027**Report Date:** 07/22/14**SAMPLE RESULTS**

Lab ID: L1415946-01
 Client ID: DYER PRINCE RD_052
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/20/14 20:04
 Analyst: CM

Date Collected: 07/17/14 11:45
 Date Received: 07/17/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/18/14 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	29		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1415946**Project Number:** 2013-027**Report Date:** 07/22/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 07/20/14 11:58**Extraction Date:** 07/18/14 19:00**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01 Batch: WG706962-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	36		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1415946

Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG706962-2 WG706962-3								
1,4-Dioxane	99		100		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	38		35		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1415946**Project Number:** 2013-027**Report Date:** 07/22/14**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1415946-01A	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415946-01B	Amber 500ml unpreserved	B	7	2.7	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1415946-02A	Amber 500ml unpreserved	B	7	2.7	Y	Absent	HOLD(14)
L1415946-02B	Amber 500ml unpreserved	B	7	2.7	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415946
Report Date: 07/22/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415946
Report Date: 07/22/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1415946
Report Date: 07/22/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1416409	7/23/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Schoolhouse Rd_265	7/23/2014	L1416409-01	DW	8270	Old Orchard Rd_290	7/23/2014	L1416409-07	DW	8270
Schoolhouse Rd_265 Dup	7/23/2014	L1416409-02	DW	Not Analyzed	Old Orchard Rd_290 Dup	7/23/2014	L1416409-08	DW	Not Analyzed
Meetinghouse Rd_200	7/23/2014	L1416409-03	DW	8270	Trip Blank	7/23/2014	L1416409-09	DW	8270
Meetinghouse Rd_200 Dup	7/23/2014	L1416409-04	DW	Not Analyzed					
Schoolhouse Rd_1000	7/23/2014	L1416409-05	DW	8270					
Schoolhouse Rd_1000 Dup	7/23/2014	L1416409-06	DW	Not Analyzed					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/7/14.



ANALYTICAL REPORT

Lab Number:	L1416409
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Doug Heely
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	Not Specified
Report Date:	07/28/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL

Project Number: Not Specified

Lab Number: L1416409

Report Date: 07/28/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1416409-01	SCHOOLHOUSE RD_265	DRINKING WATER	EASTHAM, MA	07/23/14 08:30	07/23/14
L1416409-02	SCHOOLHOUSE RD_265 DUP	DRINKING WATER	EASTHAM, MA	07/23/14 08:35	07/23/14
L1416409-03	MEETINGHOUSE RD_200	DRINKING WATER	EASTHAM, MA	07/23/14 10:20	07/23/14
L1416409-04	MEETINGHOUSE RD_200 DUP	DRINKING WATER	EASTHAM, MA	07/23/14 10:25	07/23/14
L1416409-05	SCHOOLHOUSE RD_1000	DRINKING WATER	EASTHAM, MA	07/23/14 11:30	07/23/14
L1416409-06	SCHOOLHOUSE RD_1000 DUP	DRINKING WATER	EASTHAM, MA	07/23/14 11:35	07/23/14
L1416409-07	OLD ORCHARD RD_290	DRINKING WATER	EASTHAM, MA	07/23/14 12:30	07/23/14
L1416409-08	OLD ORCHARD RD_290 DUP	DRINKING WATER	EASTHAM, MA	07/23/14 12:35	07/23/14
L1416409-09	TRIP BLANK	DRINKING WATER	EASTHAM, MA	07/23/14 00:00	07/23/14

Project Name: EASTHAM LANDFILL

Lab Number: L1416409

Project Number: Not Specified

Report Date: 07/28/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1416409
Report Date: 07/28/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1416409
Report Date: 07/28/14

Case Narrative (continued)

Report Submission

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

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 07/28/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Lab Number:** L1416409**Project Number:** Not Specified**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1416409-01
 Client ID: SCHOOLHOUSE RD_265
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/25/14 20:14
 Analyst: CM

Date Collected: 07/23/14 08:30
 Date Received: 07/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/24/14 15:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.0945	J	ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	30		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1416409**Project Number:** Not Specified**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1416409-03
 Client ID: MEETINGHOUSE RD_200
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/25/14 21:03
 Analyst: CM

Date Collected: 07/23/14 10:20
 Date Received: 07/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/24/14 15:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	28		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1416409**Project Number:** Not Specified**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1416409-05
 Client ID: SCHOOLHOUSE RD_1000
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/25/14 21:51
 Analyst: CM

Date Collected: 07/23/14 11:30
 Date Received: 07/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/24/14 15:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	28		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1416409**Project Number:** Not Specified**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1416409-07
 Client ID: OLD ORCHARD RD_290
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/25/14 22:40
 Analyst: CM

Date Collected: 07/23/14 12:30
 Date Received: 07/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/24/14 15:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	28		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1416409**Project Number:** Not Specified**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1416409-09
 Client ID: TRIP BLANK
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 07/25/14 23:29
 Analyst: CM

Date Collected: 07/23/14 00:00
 Date Received: 07/23/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/24/14 15:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	29		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1416409**Project Number:** Not Specified**Report Date:** 07/28/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 07/25/14 17:47**Extraction Date:** 07/24/14 15:30**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09 Batch: WG708411-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	33		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM LANDFILL

Lab Number: L1416409

Project Number: Not Specified

Report Date: 07/28/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09 Batch: WG708411-2 WG708411-3								
1,4-Dioxane	101		102		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	36		35		15-110

Project Name: EASTHAM LANDFILL**Project Number:** Not Specified**Lab Number:** L1416409**Report Date:** 07/28/14**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1416409-01A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-01B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-02A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-02B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-03A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-03B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-04A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-04B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-05A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-05B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-06A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-06B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-07A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-07B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-08A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-08B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	HOLD(14)
L1416409-09A	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1416409-09B	Amber 500ml unpreserved	A	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1416409
Report Date: 07/28/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1416409
Report Date: 07/28/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: Not Specified

Lab Number: L1416409
Report Date: 07/28/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: 21416409

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

Client Information

Client: ES+M

Address: 273 West Main St.

Norton, MA 02766

Phone: 508-226-1800

Email: 1flynn@esm-inc.com

Additional Project Information:

Project Information

Project Name: Eastham Landfill

Project Location: Eastham, MA

Project #:

Project Manager: D. Heely

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	VOC:	SVOC:	METALL:	METALL:	EPH: □	VPH: □	□ PCB	TPH: □	1, 4							Lab to Go
		Date	Time																		Sample Comments
16409.01	Schoolhouse Rd - 265	7/23/14	08:30	DW	EC									X							2
02	Schoolhouse Rd - 265 DUP	7/23/14	08:35	DW	EC									X							2
03	Meetinghouse Rd - 200	7/23/14	10:20	DW	EC									X							2
04	Meetinghouse Rd - 200 DUP	7/23/14	10:25	DW	EC									X							2
05	Schoolhouse Rd - 1000	7/23/14	11:30	DW	EC									X							2
06	Schoolhouse Rd - 1000 DUP	7/23/14	11:35	DW	EC									X							2
07	Old Orchard Rd - 290	7/23/14	12:30	DW	EC									X							2
08	Old Orchard Rd - 290 DUP	7/23/14	12:35	DW	EC									X							2
	Trip Blank													X							

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

Received By:

Date/Time

Relinquished By:

7/23/14 1340

Received 1

7/23/14 1340

All samples submitted are subject to Alpha's Terms and Conditions.
See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: **L1416409**

Client Information

Client: **ES+M**
Address: **273 West Main St.**
Norton, MA 02766
Phone: **508-226-1800**
Email: **lflynn@esm-inc.com**

Project Information

Project Name: **Eastham Landfill**
Project Location: **Eastham, MA**
Project #:
Project Manager: **D. Heely**
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

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS												SAMPLE INFO		TOTAL # BOTTLES
		Date	Time			VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	1,4 Dioxene ☐ 8270 SIM				Filtration ☐ Field ☐ Lab to do	Preservation ☐ Lab to do	
16409.01	Schoolhouse Rd - 265	7/23/14	08:30	DW	EC													X		2
02	Schoolhouse Rd - 265 DUP	7/23/14	08:35	DW	EC													X		2
03	Meetinghouse Rd - 200	7/23/14	10:30	DW	EC													X		2
04	Meetinghouse Rd - 200 DUP	7/23/14	10:25	DW	EC													X		2
05	Schoolhouse Rd - 1000	7/23/14	11:30	DW	EC													X		2
06	Schoolhouse Rd - 1000 DUP	7/23/14	11:35	DW	EC													X		2
07	Old Orchard Rd - 290	7/23/14	12:30	DW	EC													X		2
08	Old Orchard Rd - 290 DUP	7/23/14	12:35	DW	EC													X		2

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:

Date/Time

Received By:

Date/Time

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1419336	8/25/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Preservation Way_001	8/25/2014	L1419336-1	DW	8270	Glacier Hills Rd_180 Dup	8/25/2014	L1419336-6	DW	Not Analyzed
Preservation Way_001 Dup	8/25/2014	L1419336-2	DW	8270	Spinnaker Way_010	8/25/2014	L1419336-7	DW	8270
Deepwood Dr_055	8/25/2014	L1419336-3	DW	8270	Spinnaker Way_010 Dup	8/25/2014	L1419336-8	DW	Not Analyzed
Deepwood Dr_055 Dup	8/25/2014	L1419336-4	DW	Not Analyzed	Trip Blank	8/25/2014	L1419336-9	DW	8270
Glacier Hills Rd_180	8/25/2014	L1419336-5	DW	8270					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 9/4/14.



ANALYTICAL REPORT

Lab Number:	L1419336
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM LANDFILL
Project Number:	2013-027
Report Date:	09/02/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM LANDFILL

Project Number: 2013-027

Lab Number: L1419336

Report Date: 09/02/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1419336-01	PRESERVATION WAY_001	DRINKING WATER	EASTHAM, MA	08/25/14 08:30	08/25/14
L1419336-02	PRESERVATION WAY_001 DUP	DRINKING WATER	EASTHAM, MA	08/25/14 08:35	08/25/14
L1419336-03	DEEPWOOD DR_055	DRINKING WATER	EASTHAM, MA	08/25/14 11:05	08/25/14
L1419336-04	DEEPWOOD DR_055 DUP	DRINKING WATER	EASTHAM, MA	08/25/14 11:10	08/25/14
L1419336-05	GLACIER HILLS RD_180	DRINKING WATER	EASTHAM, MA	08/25/14 12:00	08/25/14
L1419336-06	GLACIER HILLS RD_180 DUP	DRINKING WATER	EASTHAM, MA	08/25/14 12:05	08/25/14
L1419336-07	SPINNAKER WAY_010	DRINKING WATER	EASTHAM, MA	08/25/14 10:05	08/25/14
L1419336-08	SPINNAKER WAY_010 DUP	DRINKING WATER	EASTHAM, MA	08/25/14 10:10	08/25/14
L1419336-09	TRIP BLANK	DRINKING WATER	EASTHAM, MA	08/25/14 00:00	08/25/14

Project Name: EASTHAM LANDFILL

Lab Number: L1419336

Project Number: 2013-027

Report Date: 09/02/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1419336
Report Date: 09/02/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1419336
Report Date: 09/02/14

Case Narrative (continued)

Report Submission

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

1,4-Dioxanes

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 09/02/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM LANDFILL**Project Number:** 2013-027**Lab Number:** L1419336**Report Date:** 09/02/14**SAMPLE RESULTS**

Lab ID: L1419336-01
Client ID: PRESERVATION WAY_001
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/27/14 12:46
Analyst: JT

Date Collected: 08/25/14 08:30
Date Received: 08/25/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/26/14 17:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.174		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM LANDFILL**Lab Number:** L1419336**Project Number:** 2013-027**Report Date:** 09/02/14**SAMPLE RESULTS**

Lab ID: L1419336-02
Client ID: PRESERVATION WAY_001 DUP
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 09/02/14 13:26
Analyst: CM

Date Collected: 08/25/14 08:35
Date Received: 08/25/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/29/14 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.199		ug/l	0.150	0.0750	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	29		15-110			

Project Name: EASTHAM LANDFILL**Project Number:** 2013-027**Lab Number:** L1419336**Report Date:** 09/02/14**SAMPLE RESULTS**

Lab ID: L1419336-03
Client ID: DEEPWOOD DR_055
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/27/14 13:35
Analyst: JT

Date Collected: 08/25/14 11:05
Date Received: 08/25/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/26/14 17:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.139	0.0694	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	22		15-110

Project Name: EASTHAM LANDFILL**Project Number:** 2013-027**Lab Number:** L1419336**Report Date:** 09/02/14**SAMPLE RESULTS**

Lab ID: L1419336-05

Client ID: GLACIER HILLS RD_180

Sample Location: EASTHAM, MA

Matrix: Drinking Water

Analytical Method: 97,8270D-SIM

Analytical Date: 08/27/14 14:24

Analyst: JT

Date Collected: 08/25/14 12:00

Date Received: 08/25/14

Field Prep: Not Specified

Extraction Method: EPA 3510C

Extraction Date: 08/26/14 17:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	20		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1419336**Project Number:** 2013-027**Report Date:** 09/02/14**SAMPLE RESULTS**

Lab ID: L1419336-07
Client ID: SPINNAKER WAY_010
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/27/14 15:13
Analyst: JT

Date Collected: 08/25/14 10:05
Date Received: 08/25/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/26/14 17:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	21		15-110

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1419336
Report Date: 09/02/14

SAMPLE RESULTS

Lab ID: L1419336-09
 Client ID: TRIP BLANK
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/27/14 16:01
 Analyst: JT

Date Collected: 08/25/14 00:00
 Date Received: 08/25/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/26/14 17:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM LANDFILL

Lab Number: L1419336

Project Number: 2013-027

Report Date: 09/02/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 08/27/14 10:20

Extraction Date: 08/26/14 17:58

Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09 Batch: WG717007-1					
1,4-Dioxane	ND		ug/l	0.119	0.0595

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	25		15-110

Project Name: EASTHAM LANDFILL**Lab Number:** L1419336**Project Number:** 2013-027**Report Date:** 09/02/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 09/02/14 11:00**Extraction Date:** 08/29/14 15:21**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 02 Batch: WG718505-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM LANDFILL**Project Number:** 2013-027**Lab Number:** L1419336**Report Date:** 09/02/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09 Batch: WG717007-2 WG717007-3								
1,4-Dioxane	98		99		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	23		28		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM LANDFILL**Project Number:** 2013-027**Lab Number:** L1419336**Report Date:** 09/02/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 02 Batch: WG718505-2 WG718505-3								
1,4-Dioxane	97		96		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	27		31		15-110

Project Name: EASTHAM LANDFILL

Lab Number: L1419336

Project Number: 2013-027

Report Date: 09/02/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1419336-01A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-01B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-02A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-02B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-03A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-03B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-04A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1419336-04B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1419336-05A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-05B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-06A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1419336-06B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1419336-07A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-07B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-08A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1419336-08B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	HOLD(14)
L1419336-09A	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1419336-09B	Amber 500ml unpreserved	A	7	3.0	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1419336
Report Date: 09/02/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1419336
Report Date: 09/02/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM LANDFILL
Project Number: 2013-027

Lab Number: L1419336
Report Date: 09/02/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: L1419336

Project Information

Project Name: Eastham Landfill

Project Location: Eastham, MA

Project #: 2013-027

Project Manager: D. Heely

ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEX ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: ES+M

Address: 273 West Main St.

Norton, MA 02766

Phone: 508-226-1800

Email: Alynn@esm-inc.com

Additional Project Information:

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

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

ANALYSIS										SAMPLE INFO		Sample Comments
VOC: ☐ 8260 ☐ 624 ☐ 524.2	Filtration											
SVOC: ☐ ABN ☐ PAH	☐ Field											
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	☐ Lab to do											
METALS: ☐ RCRA5 ☐ RCRA8	Preservation											
EPH: ☐ Ranges & Targets ☐ Ranges Only	☐ Lab to do											
VPH: ☐ Ranges & Targets ☐ Ranges Only												
☐ PCB ☐ PEST												
TPH: ☐ Quant Only ☐ Fingerprint												
1,4-Dioxane 8070.514												

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
<u>19336.01</u>	<u>PRESERVATION WAY_001</u>	<u>8/25/14</u>	<u>0830</u>	<u>DW</u>	<u>EC</u>
<u>02</u>	<u>PRESERVATION WAY_001 DUP</u>	<u>8/25/14</u>	<u>0835</u>	<u>DW</u>	<u>EC</u>
<u>03</u>	<u>DEEPWOOD DR-055</u>	<u>8/25/14</u>	<u>1105</u>	<u>DW</u>	<u>EC</u>
<u>04</u>	<u>DEEPWOOD DR-055 DUP</u>	<u>8/25/14</u>	<u>1110</u>	<u>DW</u>	<u>EC</u>
<u>05</u>	<u>GLACIER HILLS Rd - 180</u>	<u>8/25/14</u>	<u>1200</u>	<u>DW</u>	<u>EC</u>
<u>06</u>	<u>GLACIER HILLS Rd - 180 DUP</u>	<u>8/25/14</u>	<u>1205</u>	<u>DW</u>	<u>EC</u>

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:

Date/Time

Received By:

Date/Time

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: L1419336

Project Information

Project Name: Eastham Landfill

Project Location: Eastham, MA

Project #: 2013-027

Project Manager: D. Heely

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: ES+M

Address: 273 West Main St.

Norton, MA 02766

Phone: 508-226-1800

Email: Alynn@esm-inc.com

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS										SAMPLE INFO	TOTAL # BOTTLES
		Date	Time														
19336.01	PRESERVATION WAY_001	8/25/14	0830	DW	EC											X	
02	PRESERVATION WAY_001 DUP	8/25/14	0835	DW	EC											X	
03	DEEPWOOD DR_055	8/25/14	1105	DW	EC											X	
04	DEEPWOOD DR_055 DUP	8/25/14	1110	DW	EC											X	
05	GLACIER HILLS Rd_180	8/25/14	1200	DW	EC											X	
06	GLACIER HILLS Rd_180 DUP	8/25/14	1205	DW	EC											X	

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:

Date/Time

Received By:

Date/Time

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1417182	7/31/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Trip Blank	7/31/2014	L1417182-01	DW	8270	Old Orchard Rd_080 Dup	7/31/2014	L1417182-07	DW	Not Analyzed
Whidah Ln_001	7/31/2014	L1417182-02	DW	8270	Alston Ave_215	7/31/2014	L1417182-08	DW	8270
Whidah Ln_001 Dup	7/31/2014	L1417182-03	DW	Not Analyzed	Alston Ave_215 Dup	7/31/2014	L1417182-09	DW	Not Analyzed
Whidal Ln_009	7/31/2014	L1417182-04	DW	8270	Old Orchard Rd_100	7/31/2014	L1417182-10	DW	8270
Whidal Ln_009 Dup	7/31/2014	L1417182-05	DW	Not Analyzed	Old Orchard Rd_100 Dup	7/31/2014	L1417182-11	DW	Not Analyzed
Old Orchard Rd_080	7/31/2014	L1417182-06	DW	8270					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

Note: 1,4 Dioxane was detected in the method blank at a concentration below the reporting limit, but above the MDL. Data is not affected, as 1,4 Dioxane was not detected in the trip blank or analytical samples - AB 8/7/14

This report was deemed usable by Angela Boyd on 8/7/14.



ANALYTICAL REPORT

Lab Number:	L1417182
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/04/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417182

Report Date: 08/04/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417182-01	TRIP BLANK	DRINKING WATER	EASTHAM, MA	07/31/14 00:00	07/31/14
L1417182-02	WHIDAH LN_001	DRINKING WATER	EASTHAM, MA	07/31/14 08:45	07/31/14
L1417182-03	WHIDAH LN_001 DUP	DRINKING WATER	EASTHAM, MA	07/31/14 08:50	07/31/14
L1417182-04	WHIDAH LN_009	DRINKING WATER	EASTHAM, MA	07/31/14 09:35	07/31/14
L1417182-05	WHIDAH LN_009 DUP	DRINKING WATER	EASTHAM, MA	07/31/14 09:40	07/31/14
L1417182-06	OLD ORCHARD RD_080	DRINKING WATER	EASTHAM, MA	07/31/14 11:45	07/31/14
L1417182-07	OLD ORCHARD RD_080 DUP	DRINKING WATER	EASTHAM, MA	07/31/14 11:50	07/31/14
L1417182-08	ALSTON AVE_215	DRINKING WATER	EASTHAM, MA	07/31/14 13:30	07/31/14
L1417182-09	ALSTON AVE_215 DUP	DRINKING WATER	EASTHAM, MA	07/31/14 13:35	07/31/14
L1417182-10	OLD ORCHARD RD_100	DRINKING WATER	EASTHAM, MA	07/31/14 14:50	07/31/14
L1417182-11	OLD ORCHARD RD_100 DUP	DRINKING WATER	EASTHAM, MA	07/31/14 14:55	07/31/14

Project Name: EASTHAM DW

Lab Number: L1417182

Project Number: 2013-027

Report Date: 08/04/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417182
Report Date: 08/04/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417182
Report Date: 08/04/14

Case Narrative (continued)

Report Submission

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

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/04/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**SAMPLE RESULTS**

Lab ID: L1417182-01
 Client ID: TRIP BLANK
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/03/14 19:38
 Analyst: CM

Date Collected: 07/31/14 00:00
 Date Received: 07/31/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/01/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.150	0.0750	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**SAMPLE RESULTS**

Lab ID: L1417182-02
 Client ID: WHIDAH LN_001
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/03/14 20:27
 Analyst: CM

Date Collected: 07/31/14 08:45
 Date Received: 07/31/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/01/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**SAMPLE RESULTS**

Lab ID: L1417182-04
 Client ID: WHIDAH LN_009
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/03/14 21:15
 Analyst: CM

Date Collected: 07/31/14 09:35
 Date Received: 07/31/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/01/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	26		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**SAMPLE RESULTS**

Lab ID: L1417182-06
 Client ID: OLD ORCHARD RD_080
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/03/14 22:04
 Analyst: CM

Date Collected: 07/31/14 11:45
 Date Received: 07/31/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/01/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**SAMPLE RESULTS**

Lab ID: L1417182-08
Client ID: ALSTON AVE_215
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/03/14 22:52
Analyst: CM

Date Collected: 07/31/14 13:30
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/01/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**SAMPLE RESULTS**

Lab ID: L1417182-10
 Client ID: OLD ORCHARD RD_100
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/03/14 23:41
 Analyst: CM

Date Collected: 07/31/14 14:50
 Date Received: 07/31/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/01/14 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417182**Project Number:** 2013-027**Report Date:** 08/04/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/03/14 13:53**Extraction Date:** 08/01/14 16:00**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-02,04,06,08,10 Batch: WG710633-1					
1,4-Dioxane	0.133	J	ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	32		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417182

Report Date: 08/04/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01-02,04,06,08,10 Batch: WG710633-2 WG710633-3								
1,4-Dioxane	102		103		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	33		32		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417182

Report Date: 08/04/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417182-01A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-01B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-01C	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-01D	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-02A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-02B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-03A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	HOLD(14)
L1417182-03B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	HOLD(14)
L1417182-04A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-04B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-05A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	HOLD(14)
L1417182-05B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	HOLD(14)
L1417182-06A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-06B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-07A	Amber 500ml unpreserved	A	7	4.8	Y	Absent	HOLD(14)
L1417182-07B	Amber 500ml unpreserved	A	7	4.8	Y	Absent	HOLD(14)
L1417182-08A	Amber 500ml unpreserved	B	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-08B	Amber 500ml unpreserved	B	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-09A	Amber 500ml unpreserved	B	7	4.2	Y	Absent	HOLD(14)
L1417182-09B	Amber 500ml unpreserved	B	7	4.2	Y	Absent	HOLD(14)
L1417182-10A	Amber 500ml unpreserved	B	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-10B	Amber 500ml unpreserved	B	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417182-11A	Amber 500ml unpreserved	B	7	4.2	Y	Absent	HOLD(14)
L1417182-11B	Amber 500ml unpreserved	B	7	4.2	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417182
Report Date: 08/04/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417182
Report Date: 08/04/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417182
Report Date: 08/04/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1417320	8/1/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Meetinghouse Rd_385	8/1/2014	L1417320-1	DW	8270	Bayview Ave_005 Dup	8/1/2014	L1417320-8	DW	Not Analyzed
Meetinghouse Rd_385 Dup	8/1/2014	L1417320-2	DW	Not Analyzed	Deepwood Dr_075	8/1/2014	L1417320-9	DW	8270
Old Orchard Rd_350	8/1/2014	L1417320-3	DW	8270	Deepwood Dr_075 Dup	8/1/2014	L1417320-10	DW	Not Analyzed
Old Orchard Rd_350 Dup	8/1/2014	L1417320-4	DW	Not Analyzed	Trip Blank	8/1/2014	L1417320-11	DW	8270
Meetinghouse Rd_275	8/1/2014	L1417320-5	DW	8270	Starlight Ln_013	8/1/2014	L1417320-12	DW	8270
Meetinghouse Rd_275 Dup	8/1/2014	L1417320-6	DW	Not Analyzed	Starlight Ln_013 Dup	8/1/2014	L1417320-13	DW	Not Analyzed
Bayview Ave_005	8/1/2014	L1417320-7	DW	8270					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

The method blank (WG711100-1) associated with samples L1417320-01, -03, -05, -07, -09, -11 and -12 has 1,4-Dioxane detected above the reporting limit. All associated samples did not have detections of 1,4-Dioxane therefore the results were released without qualification.

This report was deemed usable by Angela Boyd on 8/7/14.



ANALYTICAL REPORT

Lab Number:	L1417320
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/06/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417320

Report Date: 08/06/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417320-01	MEETINGHOUSE RD_385	DRINKING WATER	EASTHAM, MA	08/01/14 08:45	08/01/14
L1417320-02	MEETINGHOUSE RD_385 DUP	DRINKING WATER	EASTHAM, MA	08/01/14 08:50	08/01/14
L1417320-03	OLD ORCHARD RD_350	DRINKING WATER	EASTHAM, MA	08/01/14 10:00	08/01/14
L1417320-04	OLD ORCHARD RD_350 DUP	DRINKING WATER	EASTHAM, MA	08/01/14 10:05	08/01/14
L1417320-05	MEETINGHOUSE RD_275	DRINKING WATER	EASTHAM, MA	08/01/14 11:30	08/01/14
L1417320-06	MEETINGHOUSE RD_275 DUP	DRINKING WATER	EASTHAM, MA	08/01/14 11:35	08/01/14
L1417320-07	BAYVIEW AVE_005	DRINKING WATER	EASTHAM, MA	08/01/14 13:40	08/01/14
L1417320-08	BAYVIEW AVE_005 DUP	DRINKING WATER	EASTHAM, MA	08/01/14 13:45	08/01/14
L1417320-09	DEEPWOOD DR_075	DRINKING WATER	EASTHAM, MA	08/01/14 15:00	08/01/14
L1417320-10	DEEPWOOD DR_075 DUP	DRINKING WATER	EASTHAM, MA	08/01/14 15:05	08/01/14
L1417320-11	TRIP BLANK	DRINKING WATER	EASTHAM, MA	08/01/14 00:00	08/01/14
L1417320-12	STARLIGHT LN_013	DRINKING WATER	EASTHAM, MA	08/01/14 12:45	08/01/14
L1417320-13	STARLIGHT LN_013 DUP	DRINKING WATER	EASTHAM, MA	08/01/14 12:50	08/01/14

Project Name: EASTHAM DW

Lab Number: L1417320

Project Number: 2013-027

Report Date: 08/06/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

Case Narrative (continued)

Report Submission

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

Semivolatile Organics by SIM

The method blank (WG711100-1) associated with samples L1417320-01, -03, -05, -07, -09, -11 and -12 has, 1,4-Dioxane detected above the reporting limit. All associated samples did not have detections of 1,4-Dioxane therefore the results were released without qualification.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

Case Narrative (continued)

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

Case Narrative (continued)

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:  Elizabeth Porta

Title: Technical Director/Representative

Date: 08/06/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**SAMPLE RESULTS**

Lab ID: L1417320-01
Client ID: MEETINGHOUSE RD_385
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 13:17
Analyst: CM

Date Collected: 08/01/14 08:45
Date Received: 08/01/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	25		15-110

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**SAMPLE RESULTS**

Lab ID: L1417320-03

Date Collected: 08/01/14 10:00

Client ID: OLD ORCHARD RD_350

Date Received: 08/01/14

Sample Location: EASTHAM, MA

Field Prep: Not Specified

Matrix: Drinking Water

Extraction Method: EPA 3510C

Analytical Method: 97,8270D-SIM

Extraction Date: 08/04/14 17:45

Analytical Date: 08/05/14 14:05

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	27		15-110

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**SAMPLE RESULTS**

Lab ID: L1417320-05
Client ID: MEETINGHOUSE RD_275
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 14:54
Analyst: CM

Date Collected: 08/01/14 11:30
Date Received: 08/01/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**SAMPLE RESULTS**

Lab ID: L1417320-07
Client ID: BAYVIEW AVE_005
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 15:44
Analyst: CM

Date Collected: 08/01/14 13:40
Date Received: 08/01/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	30		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**SAMPLE RESULTS**

Lab ID: L1417320-09
Client ID: DEEPWOOD DR_075
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 17:21
Analyst: CM

Date Collected: 08/01/14 15:00
Date Received: 08/01/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	34		15-110			

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417320

Report Date: 08/06/14

SAMPLE RESULTS

Lab ID: L1417320-11
 Client ID: TRIP BLANK
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/05/14 18:10
 Analyst: CM

Date Collected: 08/01/14 00:00
 Date Received: 08/01/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.153	0.0765	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	26		15-110

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**SAMPLE RESULTS**

Lab ID: L1417320-12
Client ID: STARLIGHT LN_013
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 18:58
Analyst: CM

Date Collected: 08/01/14 12:45
Date Received: 08/01/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417320**Project Number:** 2013-027**Report Date:** 08/06/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/05/14 10:51**Extraction Date:** 08/04/14 17:45**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11-12 Batch: WG7111100-1					
1,4-Dioxane	0.166		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	29		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1417320**Report Date:** 08/06/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12 Batch: WG711100-2 WG711100-3								
1,4-Dioxane	104		106		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	31		35		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417320

Report Date: 08/06/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417320-01A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-01B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-02A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	HOLD(14)
L1417320-02B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	HOLD(14)
L1417320-03A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-03B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-04A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	HOLD(14)
L1417320-04B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	HOLD(14)
L1417320-05A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-05B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-06A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	HOLD(14)
L1417320-06B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	HOLD(14)
L1417320-07A	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-07B	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-08A	Amber 500ml unpreserved	B	7	3.6	Y	Absent	HOLD(14)
L1417320-08B	Amber 500ml unpreserved	B	7	3.6	Y	Absent	HOLD(14)
L1417320-09A	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-09B	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-10A	Amber 500ml unpreserved	B	7	3.6	Y	Absent	HOLD(14)
L1417320-10B	Amber 500ml unpreserved	B	7	3.6	Y	Absent	HOLD(14)
L1417320-11A	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-11B	Amber 500ml unpreserved	A	7	4.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-11C	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-11D	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-12A	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417320-12B	Amber 500ml unpreserved	B	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1417320**Report Date:** 08/06/14**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417320-13A	Amber 500ml unpreserved	B	7	3.6	Y	Absent	HOLD(14)
L1417320-13B	Amber 500ml unpreserved	B	7	3.6	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417320
Report Date: 08/06/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

CHAIN OF CUSTODY

PAGE 1 OF 2



Project Information

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Project Name: Eastham DW

Client Information

Project Location: Eastham MA

Client: Environmental Strategies & Managemen

Project #: 2013-027

Address: 273 West Main Street

Project Manager: Lisa Flynn

Norton, MA 02703

ALPHA Quote #:

Phone: 508-226-1800

Turn-Around Time

Fax: 508-226-1811

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Email: lflynn@esm-inc.com

☐ These samples have been Previously analyzed by Alpha

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

email results to lflynn@esm-inc.com and aboyd@esm-inc.com

PLEASE BILL EASTHAM BOARD OF HEALTH

Date Rec'd in Lab:

ALPHA Job #: L1417320

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

8270 - MCP

0.15 ug/l for 1,4 dioxane, GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

1,4 DIOXANE BY 8270

SAMPLE HANDLING

Filtration

☐ Done
☐ Not Needed
☐ Lab to do

Preservation

☐ Lab to do
 (Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials													
		Date	Time															
17320 01	MEETINGHOUSE RD_385	8/1/14	0845	W	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
02	MEETINGHOUSE RD_385 dup	8/1/14	0850	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
03	OLD ORCHARD RD_350	8/1/14	1000	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
04	OLD ORCHARD RD_350 dup	8/1/14	1005	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
05	MEETINGHOUSE RD_275	8/1/14	1130	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
06	MEETINGHOUSE RD_275 dup	8/1/14	1135	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
07	BAYVIEW AVE_005	8/1/14	1340	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
08	BAYVIEW AVE_005 dup	8/1/14	1345	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
09	DEEPWOOD DR_075	8/1/14	1500	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
10	DEEPWOOD DR_075 dup	8/1/14	1505	w	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

A

-

-

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Preservative

A

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IS YOUR PROJECT
 MA MCP or CT RCP?

FORM NO. 01-01 (I)
 (rev. 5-JAN-12)

Relinquished By:

Date/Time

8/1/14 1715

Received By:

Date/Time

8/1/14 17:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1417359	8/4/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Starlight Ln_010	8/4/2014	L1417359-01	DW	8270	Alston Ave_270 Dup	8/4/2014	L1417359-08	DW	Not Analyzed
Starlight Ln_010 Dup	8/4/2014	L1417359-02	DW	Not Analyzed	Trip Blank	8/4/2014	L1417359-09	DW	8270
Eldia Way_004	8/4/2014	L1417359-03	DW	8270	Schoolhouse Rd_200	8/4/2014	L1417359-10	DW	8270
Eldia Way_004 Dup	8/4/2014	L1417359-04	DW	Not Analyzed	Schoolhouse Rd_200 Dup	8/4/2014	L1417359-11	DW	Not Analyzed
Eldia Way_002	8/4/2014	L1417359-05	DW	8270	Glacier Hills Rd_070	8/4/2014	L1417359-12	DW	8270
Eldia Way_002 Dup	8/4/2014	L1417359-06	DW	Not Analyzed	Glacier Hills Rd_070 Dup	8/4/2014	L1417359-13	DW	Not Analyzed
Alston Ave_270	8/4/2014	L1417359-07	DW	8270					

The method blank WG711100-1 associated with samples L1417359-01,-03,-05,-07,-09, and -12 has 1,4-Dioxane detected above the reporting limit. All associated samples did not have detections of 1,4-Dioxane therefore the results were released without qualification.

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/12/14.



ANALYTICAL REPORT

Lab Number:	L1417359
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/11/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417359

Report Date: 08/11/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417359-01	STARLIGHT LN_010	DRINKING WATER	EASTHAM, MA	08/04/14 08:15	08/04/14
L1417359-02	STARLIGHT LN_010 DUP	DRINKING WATER	EASTHAM, MA	08/04/14 08:20	08/04/14
L1417359-03	ELDIA WAY_004	DRINKING WATER	EASTHAM, MA	08/04/14 10:00	08/04/14
L1417359-04	ELDIA WAY_004 DUP	DRINKING WATER	EASTHAM, MA	08/04/14 10:05	08/04/14
L1417359-05	ELDIA WAY_002	DRINKING WATER	EASTHAM, MA	08/04/14 11:40	08/04/14
L1417359-06	ELDIA WAY_002 DUP	DRINKING WATER	EASTHAM, MA	08/04/14 11:45	08/04/14
L1417359-07	ALSTON AVE_270	DRINKING WATER	EASTHAM, MA	08/04/14 13:25	08/04/14
L1417359-08	ALSTON AVE_270 DUP	DRINKING WATER	EASTHAM, MA	08/04/14 13:30	08/04/14
L1417359-09	TRIP BLANK	DRINKING WATER	EASTHAM, MA	08/04/14 00:00	08/04/14
L1417359-10	SCHOOLHOUSE RD_200	DRINKING WATER	EASTHAM, MA	08/04/14 14:40	08/04/14
L1417359-11	SCHOOLHOUSE RD_200 DUP	DRINKING WATER	EASTHAM, MA	08/04/14 14:45	08/04/14
L1417359-12	GLACIER HILLS RD_070	DRINKING WATER	EASTHAM, MA	08/04/14 14:10	08/04/14
L1417359-13	GLACIER HILLS RD_070 DUP	DRINKING WATER	EASTHAM, MA	08/04/14 14:15	08/04/14

Project Name: EASTHAM DW

Lab Number: L1417359

Project Number: 2013-027

Report Date: 08/11/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417359
Report Date: 08/11/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417359
Report Date: 08/11/14

Case Narrative (continued)

Report Submission

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

1,4-Dioxane by 8270D-SIM

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

The method blank WG711100-1 associated with samples L1417359-01,-03,-05,-07,-09, and -12 has 1,4-Dioxane detected above the reporting limit. All associated samples did not have detections of 1,4-Dioxane therefore the results were released without qualification.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/11/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW

Lab Number: L1417359

Project Number: 2013-027

Report Date: 08/11/14

SAMPLE RESULTS

Lab ID: L1417359-01
 Client ID: STARLIGHT LN_010
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/05/14 21:31
 Analyst: CM

Date Collected: 08/04/14 08:15
 Date Received: 08/04/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	26		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417359**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417359-03
Client ID: ELDIA WAY_004
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 22:20
Analyst: CM

Date Collected: 08/04/14 10:00
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417359**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417359-05
Client ID: ELDIA WAY_002
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 23:08
Analyst: CM

Date Collected: 08/04/14 11:40
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417359**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417359-07
Client ID: ALSTON AVE_270
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/05/14 23:57
Analyst: CM

Date Collected: 08/04/14 13:25
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW

Lab Number: L1417359

Project Number: 2013-027

Report Date: 08/11/14

SAMPLE RESULTS

Lab ID: L1417359-09
 Client ID: TRIP BLANK
 Sample Location: EASTHAM, MA
 Matrix: Drinking Water
 Analytical Method: 97,8270D-SIM
 Analytical Date: 08/06/14 00:46
 Analyst: CM

Date Collected: 08/04/14 00:00
 Date Received: 08/04/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 08/04/14 17:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.156	0.0781	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	31		15-110

Project Name: EASTHAM DW**Lab Number:** L1417359**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417359-10
Client ID: SCHOOLHOUSE RD_200
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/08/14 15:40
Analyst: CM

Date Collected: 08/04/14 14:40
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/07/14 19:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.0822	J	ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	23		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417359**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417359-12

Date Collected: 08/04/14 14:10

Client ID: GLACIER HILLS RD_070

Date Received: 08/04/14

Sample Location: EASTHAM, MA

Field Prep: Not Specified

Matrix: Drinking Water

Extraction Method: EPA 3510C

Analytical Method: 97,8270D-SIM

Extraction Date: 08/04/14 17:45

Analytical Date: 08/06/14 02:24

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Project Name: EASTHAM DW

Lab Number: L1417359

Project Number: 2013-027

Report Date: 08/11/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 08/05/14 10:51

Extraction Date: 08/04/14 17:45

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09,12 Batch: WG7111100-1					
1,4-Dioxane	0.166		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	29		15-110

Project Name: EASTHAM DW**Lab Number:** L1417359**Project Number:** 2013-027**Report Date:** 08/11/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/08/14 13:15**Extraction Date:** 08/07/14 19:45**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 10 Batch: WG712083-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	38		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417359

Report Date: 08/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,12 Batch: WG711100-2 WG711100-3								
1,4-Dioxane	104		106		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	31		35		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417359

Report Date: 08/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 10 Batch: WG712083-2 WG712083-3								
1,4-Dioxane	98		100		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	36		35		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417359

Report Date: 08/11/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417359-01A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-01B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-02A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-02B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-03A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-03B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-04A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-04B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-05A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-05B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-06A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-06B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-07A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-07B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-08A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-08B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-09A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-09B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-09C	Amber 1000ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-09D	Amber 1000ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-10A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-10B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-11A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-11B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)
L1417359-12A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-12B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417359-13A	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1417359**Report Date:** 08/11/14**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417359-13B	Amber 500ml unpreserved	A	7	4.2	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417359
Report Date: 08/11/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417359
Report Date: 08/11/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417359
Report Date: 08/11/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

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ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1417368	8/3/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
PTC-16_255 Alston Eff	8/3/2014	L1417368-1	DW	8270
PTC-16_255 Alston Eff Mid	8/3/2014	L1417368-2	DW	8270
PTC-16_255 Alston Eff Inf	8/3/2014	L1417368-3	DW	8270
Trip Blank	8/3/2014	L1417368-4	DW	8270
PTC-17_255 Alston Eff	8/3/2014	L1417368-5	DW	8270
PTC-17_255 Alston Mid	8/3/2014	L1417368-6	DW	8270

The Method Blank WG711252-1 associated with L1417368-01 and -04 through -06, has concentrations above the reporting limits for 1,4-Dioxane. Since the associated sample(s) were non-detect for these target analytes, no further actions were taken.

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/12/14.



ANALYTICAL REPORT

Lab Number:	L1417368
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/11/14

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417368
Report Date: 08/11/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417368-01	PTC-16_255 ALSTON EFF	DRINKING WATER	EASTHAM, MA	08/03/14 10:09	08/04/14
L1417368-02	PTC-16_255 ALSTON MID	DRINKING WATER	EASTHAM, MA	08/03/14 10:15	08/04/14
L1417368-03	PTC-16_255 ALSTON INF	DRINKING WATER	EASTHAM, MA	08/03/14 10:20	08/04/14
L1417368-04	TRIP BLANK	DRINKING WATER	EASTHAM, MA	08/03/14 00:00	08/04/14
L1417368-05	PTC-17_255 ALSTON EFF	DRINKING WATER	EASTHAM, MA	08/03/14 12:05	08/04/14
L1417368-06	PTC-17_255 ALSTON MID	DRINKING WATER	EASTHAM, MA	08/03/14 12:10	08/04/14

Project Name: EASTHAM DW

Lab Number: L1417368

Project Number: 2013-027

Report Date: 08/11/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417368
Report Date: 08/11/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417368
Report Date: 08/11/14

Case Narrative (continued)

Report Submission

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

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

Semivolatile Organics by SIM

The Method Blank WG711252-1 associated with L1417368-01 and -04 through -06, has concentrations above the reporting limits for 1,4-Dioxane. Since the associated sample(s) were non-detect for these target analytes, no further actions were taken.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/11/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417368-01
Client ID: PTC-16_255 ALSTON EFF
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/06/14 08:10
Analyst: CM

Date Collected: 08/03/14 10:09
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/05/14 10:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	18		15-110

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417368-02
Client ID: PTC-16_255 ALSTON MID
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/08/14 16:29
Analyst: CM

Date Collected: 08/03/14 10:15
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/07/14 19:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.210		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	26		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417368-03
Client ID: PTC-16_255 ALSTON INF
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/08/14 17:18
Analyst: CM

Date Collected: 08/03/14 10:20
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/07/14 19:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	2.03		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	25		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417368-04
Client ID: TRIP BLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/06/14 10:36
Analyst: CM

Date Collected: 08/03/14 00:00
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/05/14 10:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.150	0.0750	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	16		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417368-05
Client ID: PTC-17_255 ALSTON EFF
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/06/14 11:25
Analyst: CM

Date Collected: 08/03/14 12:05
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/05/14 10:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	17		15-110

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417368-06
Client ID: PTC-17_255 ALSTON MID
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/06/14 12:14
Analyst: CM

Date Collected: 08/03/14 12:10
Date Received: 08/04/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/05/14 10:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	19		15-110			

Project Name: EASTHAM DW

Lab Number: L1417368

Project Number: 2013-027

Report Date: 08/11/14

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 08/06/14 04:56

Extraction Date: 08/05/14 10:03

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,04-06 Batch: WG711252-1					
1,4-Dioxane	0.184		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	22		15-110

Project Name: EASTHAM DW**Lab Number:** L1417368**Project Number:** 2013-027**Report Date:** 08/11/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/08/14 13:15**Extraction Date:** 08/07/14 19:45**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 02-03 Batch: WG712083-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	38		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417368

Report Date: 08/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,04-06 Batch: WG711252-2 WG711252-3								
1,4-Dioxane	100		101		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	26		19		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417368

Report Date: 08/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 02-03 Batch: WG712083-2 WG712083-3								
1,4-Dioxane	98		100		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	36		35		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417368

Report Date: 08/11/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417368-01A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-01B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-02A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-02B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-03A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-03B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-04A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-04B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-05A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-05B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-06A	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417368-06B	Amber 500ml unpreserved	A	7	2.5	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417368
Report Date: 08/11/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417368
Report Date: 08/11/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417368
Report Date: 08/11/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



CHAIN OF CUSTODY

PAGE 1 OF 1

Project Information

Westborough, MA Mansfield, MA
TEL: 508-898-9220 TEL: 508-822-9300
FAX: 508-898-9193 FAX: 508-822-3288

Project Name: Eastham DW

Client Information

Client: Environmental Strategies & Management

Project Location: Eastham MA

Address: 273 West Main Street

Project #: 2013-027

Norton, MA 02703

Project Manager: Lisa Flynn

Phone: 508-226-1800

ALPHA Quote #:

Fax: 508-226-1811

Turn-Around Time

Email: lflyn@esm-inc.com

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

☐ These samples have been Previously analyzed by Alpha

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

email results to lflyn@esm-inc.com and aboyd@esm-inc.com

Please invoice Town of Eastham

Date Rec'd in Lab:

ALPHA Job #: **C1417368**

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:
Town of Eastham

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

8270 - MCP

0.15 ug/l for 1,4 dioxane, GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

1,4-Dioxane BY 8270

SAMPLE HANDLING

Filtration
☐ Done
☐ Not Needed
☐ Lab to do
 Preservation
☐ Lab to do
 (Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials																
		Date	Time																		
17368-01	PTC-16_255 ALSTON EFF	8/3/14	10:09	DW	TES	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
02	PTC-16_255 ALSTON MID	8/3/14	10:15	DW	TES	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
03	PTC-16_255 ALSTON INF	8/3/14	10:20	DW	TES	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
04	Tripblank			Lab		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
05	PTC-17_255 Alston EFF	8/3/14	12:05	DW	TES	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
06	PTC-17_255 Alston MID	8/3/14	12:10	DW	TES	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

A

Preservative

A

IS YOUR PROJECT
MA MCP or CT RCP?

FORM NO: 01-01(1)
(rev. 5-JAN-12)

Relinquished By:

Date/Time

Received By:

Date/Time

Thomas J. Flynn
Lisa Flynn
454

8/3/14
 8/4/14 10:45
 8/4/14 12:18

W. J. Flynn
W. J. Flynn
W. J. Flynn

8/4/14 12:18
 8/4/14 12:18
 8/4/14 12:18

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1417468	8/5/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Alston Ave_235	8/5/2014	L1417468-01	DW	8270
Alston Ave_235 Dup	8/5/2014	L1417468-02	DW	Not Analyzed
Schoolhouse Rd_415	8/5/2014	L1417468-03	DW	8270
Schoolhouse Rd_415 Dup	8/5/2014	L1417468-04	DW	Not Analyzed
Glacier Hills Rd_200	8/5/2014	L1417468-05	DW	8270
Glacier Hills Rd_200 Dup	8/5/2014	L1417468-06	DW	Not Analyzed
Trip Blank	8/5/2014	L1417468-07	DW	8270

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/12/14.



ANALYTICAL REPORT

Lab Number:	L1417468
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/11/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417468
Report Date: 08/11/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417468-01	ALSTON AVE_235	DRINKING WATER	EASTHAM, MA	08/05/14 08:40	08/05/14
L1417468-02	ALSTON AVE_235 DUP	DRINKING WATER	EASTHAM, MA	08/05/14 08:45	08/05/14
L1417468-03	SCHOOLHOUSE RD_415	DRINKING WATER	EASTHAM, MA	08/05/14 10:15	08/05/14
L1417468-04	SCHOOLHOUSE RD_415 DUP	DRINKING WATER	EASTHAM, MA	08/05/14 10:20	08/05/14
L1417468-05	GLACIER HILLS RD_200	DRINKING WATER	EASTHAM, MA	08/05/14 11:30	08/05/14
L1417468-06	GLACIER HILLS RD_200 DUP	DRINKING WATER	EASTHAM, MA	08/05/14 11:35	08/05/14
L1417468-07	TRIP BLANK	DRINKING WATER	EASTHAM, MA	08/05/14 00:00	08/05/14

Project Name: EASTHAM DW

Lab Number: L1417468

Project Number: 2013-027

Report Date: 08/11/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417468
Report Date: 08/11/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417468
Report Date: 08/11/14

Case Narrative (continued)

Report Submission

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

1,4 Dioxane by 8270D-SIM

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/11/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1417468**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417468-01
Client ID: ALSTON AVE_235
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/08/14 18:07
Analyst: CM

Date Collected: 08/05/14 08:40
Date Received: 08/05/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/07/14 19:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417468**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417468-03
Client ID: SCHOOLHOUSE RD_415
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/08/14 18:56
Analyst: CM

Date Collected: 08/05/14 10:15
Date Received: 08/05/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/07/14 19:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.0895	J	ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	26		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417468**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417468-05

Date Collected: 08/05/14 11:30

Client ID: GLACIER HILLS RD_200

Date Received: 08/05/14

Sample Location: EASTHAM, MA

Field Prep: Not Specified

Matrix: Drinking Water

Extraction Method: EPA 3510C

Analytical Method: 97,8270D-SIM

Extraction Date: 08/07/14 19:45

Analytical Date: 08/08/14 19:44

Analyst: CM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	26		15-110

Project Name: EASTHAM DW**Lab Number:** L1417468**Project Number:** 2013-027**Report Date:** 08/11/14**SAMPLE RESULTS**

Lab ID: L1417468-07
Client ID: TRIP BLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/08/14 20:33
Analyst: CM

Date Collected: 08/05/14 00:00
Date Received: 08/05/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/07/14 19:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	27		15-110			

Project Name: EASTHAM DW**Lab Number:** L1417468**Project Number:** 2013-027**Report Date:** 08/11/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/08/14 13:15**Extraction Date:** 08/07/14 19:45**Analyst:** CM

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07 Batch: WG712083-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	38		15-110

Lab Control Sample Analysis**Batch Quality Control****Project Name:** EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1417468**Report Date:** 08/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07 Batch: WG712083-2 WG712083-3								
1,4-Dioxane	98		100		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	36		35		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1417468

Report Date: 08/11/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417468-01A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-01B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-02A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	HOLD(14)
L1417468-02B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	HOLD(14)
L1417468-03A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-03B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-04A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	HOLD(14)
L1417468-04B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	HOLD(14)
L1417468-05A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-05B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-06A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	HOLD(14)
L1417468-06B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	HOLD(14)
L1417468-07A	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1417468-07B	Amber 500ml unpreserved	A	7	4.3	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417468
Report Date: 08/11/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417468
Report Date: 08/11/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1417468
Report Date: 08/11/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1418206	8/12/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
NSS_Nauset Rd_005	8/12/2014	L1418206-01	DW	8270	NSS_Nauset Rd_600 Dup	8/12/2014	L1418206-10	DW	Not Analyzed
NSS_Nauset Rd_005 Dup	8/12/2014	L1418206-02	DW	Not Analyzed	NSS_Macpherson Wy_025	8/12/2014	L1418206-11	DW	8270
NSS_Doane Picnic	8/12/2014	L1418206-03	DW	8270	NSS_Macpherson Wy_025 Dup	8/12/2014	L1418206-12	DW	Not Analyzed
NSS_Doane Picnic Dup	8/12/2014	L1418206-04	DW	Not Analyzed	NSS_Nauset Rd_850	8/12/2014	L1418206-13	DW	8270
NSS_CG BCH	8/12/2014	L1418206-05	DW	8270	NSS_Nauset Rd_850 Dup	8/12/2014	L1418206-14	DW	Not Analyzed
NSS_CG BCH Dup	8/12/2014	L1418206-06	DW	Not Analyzed	NSS_Nauset Rd_1050	8/12/2014	L1418206-15	DW	8270
NSS_Nausett Light BCH	8/12/2014	L1418206-07	DW	8270	NSS_Nauset Rd_1050 Dup	8/12/2014	L1418206-16	DW	Not Analyzed
NSS_Nausett Light BCH Dup	8/12/2014	L1418206-08	DW	Not Analyzed	Trip Blank	8/12/2014	L1418206-17	DW	8270
NSS_Nauset Rd_600	8/12/2014	L1418206-09	DW	8270					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/22/14.



ANALYTICAL REPORT

Lab Number:	L1418206
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/19/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418206

Report Date: 08/19/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1418206-01	NSS_NAUSSET RD_005	DRINKING WATER	EASTHAM, MA	08/12/14 08:35	08/12/14
L1418206-02	NSS_NAUSSET RD_005 DUP	DRINKING WATER	EASTHAM, MA	08/12/14 08:40	08/12/14
L1418206-03	NSS_DOANE PICNIC	DRINKING WATER	EASTHAM, MA	08/12/14 09:20	08/12/14
L1418206-04	NSS_DOANE PICNIC DUP	DRINKING WATER	EASTHAM, MA	08/12/14 09:25	08/12/14
L1418206-05	NSS_CG BCH	DRINKING WATER	EASTHAM, MA	08/12/14 10:00	08/12/14
L1418206-06	NSS_CG BCH DUP	DRINKING WATER	EASTHAM, MA	08/12/14 10:05	08/12/14
L1418206-07	NSS_NAUSSET LIGHT BCH	DRINKING WATER	EASTHAM, MA	08/12/14 10:35	08/12/14
L1418206-08	NSS_NAUSSET LIGHT BCH DUP	DRINKING WATER	EASTHAM, MA	08/12/14 10:40	08/12/14
L1418206-09	NSS_NAUSSET RD_600	DRINKING WATER	EASTHAM, MA	08/12/14 12:55	08/12/14
L1418206-10	NSS_NAUSSET RD_600 DUP	DRINKING WATER	EASTHAM, MA	08/12/14 13:00	08/12/14
L1418206-11	NSS_MACPHERSON WY_025	DRINKING WATER	EASTHAM, MA	08/12/14 11:55	08/12/14
L1418206-12	NSS_MACPHERSON WY_025 DUP	DRINKING WATER	EASTHAM, MA	08/12/14 12:00	08/12/14
L1418206-13	NSS_NAUSSET RD_850	DRINKING WATER	EASTHAM, MA	08/12/14 12:25	08/12/14
L1418206-14	NSS_NAUSSET RD_850 DUP	DRINKING WATER	EASTHAM, MA	08/12/14 12:30	08/12/14
L1418206-15	NSS_NAUSSET RD_1050	DRINKING WATER	EASTHAM, MA	08/12/14 11:25	08/12/14
L1418206-16	NSS_NAUSSET RD_1050 DUP	DRINKING WATER	EASTHAM, MA	08/12/14 11:30	08/12/14
L1418206-17	TRIPBLANK	DRINKING WATER	EASTHAM, MA	08/12/14 00:00	08/12/14

Project Name: EASTHAM DW

Lab Number: L1418206

Project Number: 2013-027

Report Date: 08/19/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418206
Report Date: 08/19/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418206
Report Date: 08/19/14

Case Narrative (continued)

Report Submission

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

Semivolatiles

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/19/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-01
Client ID: NSS_NAUSET RD_005
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/15/14 15:06
Analyst: JT

Date Collected: 08/12/14 08:35
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	17		15-110

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-03
Client ID: NSS_DOANE PICNIC
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/18/14 21:27
Analyst: JT

Date Collected: 08/12/14 09:20
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	0.116	J	ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	24		15-110

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-05
Client ID: NSS_CG BCH
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/18/14 22:16
Analyst: JT

Date Collected: 08/12/14 10:00
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	21		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-07
Client ID: NSS_NAUSET LIGHT BCH
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/18/14 23:05
Analyst: JT

Date Collected: 08/12/14 10:35
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	21		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-09
Client ID: NSS_NAUSET RD_600
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/15/14 18:21
Analyst: JT

Date Collected: 08/12/14 12:55
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	15		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-11
Client ID: NSS_MACPHERSON WY_025
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/15/14 19:10
Analyst: JT

Date Collected: 08/12/14 11:55
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	19		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-13
Client ID: NSS_NAUSET RD_850
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/15/14 19:59
Analyst: JT

Date Collected: 08/12/14 12:25
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	16		15-110

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-15
Client ID: NSS_NAUSET RD_1050
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/18/14 23:54
Analyst: JT

Date Collected: 08/12/14 11:25
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	24		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**SAMPLE RESULTS**

Lab ID: L1418206-17
Client ID: TRIPBLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/15/14 21:37
Analyst: JT

Date Collected: 08/12/14 00:00
Date Received: 08/12/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.150	0.0750	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	17		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/15/14 10:56**Extraction Date:** 08/14/14 09:12**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,09,11,13,17 Batch: WG713812-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	20		15-110

Project Name: EASTHAM DW**Lab Number:** L1418206**Project Number:** 2013-027**Report Date:** 08/19/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/18/14 18:59**Extraction Date:** 08/18/14 13:31**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 03,05,07,15 Batch: WG714709-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418206

Report Date: 08/19/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,09,11,13,17 Batch: WG713812-2 WG713812-3								
1,4-Dioxane	98		99		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	19		21		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418206

Report Date: 08/19/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 03,05,07,15 Batch: WG714709-2 WG714709-3								
1,4-Dioxane	98		100		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	25		27		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418206

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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1418206-01A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-01B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-02A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-02B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-03A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-03B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-04A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-04B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-05A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-05B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-06A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-06B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-07A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-07B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-08A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-08B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	HOLD(14)
L1418206-09A	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-09B	Amber 500ml unpreserved	A	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-10A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-10B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-11A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-11B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-12A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-12B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-13A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-13B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418206**Report Date:** 08/19/14**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1418206-14A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-14B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-15A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-15B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-16A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-16B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	HOLD(14)
L1418206-17A	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-17B	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-17C	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418206-17D	Amber 500ml unpreserved	B	7	3.4	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418206
Report Date: 08/19/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418206
Report Date: 08/19/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418206
Report Date: 08/19/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

PAGE 2 OF 2

Westborough, MA	Mansfield, MA
TEL: 508-898-9220	TEL: 508-822-9300
FAX: 508-898-9193	FAX: 508-822-3288

Project Name: Eastham DW

Client: Environmental Strategies & Management

Project Location: Eastham MA

Address: 273 West Main Street

Project Manager: Lisa Flynn

Norton, MA 02703

ALPHA Quote #:

Phone: 508-226-1800

Turn-Around Time

Fax: 508-226-1811

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Email: lflynn@esm-inc.com

☐ These samples have been Previously analyzed by Alpha

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

email results to lflynn@esm-inc.com and aboyd@esm-inc.com

invoice Eastham BOH

[illegible]

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

Preservative

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01(I)
(rev. 5 JAN-12)

Relinquished By:

Date/Time

Received By:

Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1418335	8/13/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
NSS_Tomahawk Tr_022	8/13/2014	L1418335-01	DW	8270	NSS Ocean View Dr_040	8/13/2014	L1418335-09	DW	8270
NSS_Tomahawk Tr_022 Dup	8/13/2014	L1418335-02	DW	Not Analyzed	NSS Ocean View Dr_040 Dup	8/13/2014	L1418335-10	DW	Not Analyzed
NSS_Tomahawk Tr_028	8/13/2014	L1418335-03	DW	8270	NSS_Cable Rd_880	8/13/2014	L1418335-11	DW	8270
NSS_Tomahawk Tr_028 Dup	8/13/2014	L1418335-04	DW	Not Analyzed	NSS_Cable Rd_880 Dup	8/13/2014	L1418335-12	DW	Not Analyzed
NSS_Tomahawk Tr_030	8/13/2014	L1418335-05	DW	8270	NSS_Brownell Rd_105	8/13/2014	L1418335-13	DW	8270
NSS_Tomahawk Tr_030 Dup	8/13/2014	L1418335-06	DW	Not Analyzed	NSS_Brownell Rd_105 Dup	8/13/2014	L1418335-14	DW	Not Analyzed
NSS_Doane Rd Rear_585	8/13/2014	L1418335-07	DW	8270	Trip Blank	8/13/2014	L1418335-15	DW	8270
NSS_Doane Rd Rear_585 Dup	8/13/2014	L1418335-08	DW	Not Analyzed					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 8/22/14.



ANALYTICAL REPORT

Lab Number:	L1418335
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/18/14

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418335

Report Date: 08/18/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1418335-01	NSS_TOMAHAWK TR_022	DRINKING WATER	EASTHAM, MA	08/13/14 09:35	08/13/14
L1418335-02	NSS_TOMAHAWK TR_022 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 09:40	08/13/14
L1418335-03	NSS_TOMAHAWK TR_028	DRINKING WATER	EASTHAM, MA	08/13/14 08:35	08/13/14
L1418335-04	NSS_TOMAHAWK TR_028 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 08:40	08/13/14
L1418335-05	NSS_TOMAHAWK TR_030	DRINKING WATER	EASTHAM, MA	08/13/14 09:05	08/13/14
L1418335-06	NSS_TOMAHAWK TR_030 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 09:10	08/13/14
L1418335-07	NSS_DOANE RD REAR_585	DRINKING WATER	EASTHAM, MA	08/13/14 10:10	08/13/14
L1418335-08	NSS_DOANE RD REAR_585 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 10:15	08/13/14
L1418335-09	NSS_OCEAN VIEW DR_040	DRINKING WATER	EASTHAM, MA	08/13/14 10:40	08/13/14
L1418335-10	NSS_OCEAN VIEW DR_040 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 10:45	08/13/14
L1418335-11	NSS_CABLE RD_880	DRINKING WATER	EASTHAM, MA	08/13/14 11:50	08/13/14
L1418335-12	NSS_CABLE RD_880 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 11:55	08/13/14
L1418335-13	NSS_BROWNELL RD_105	DRINKING WATER	EASTHAM, MA	08/13/14 11:15	08/13/14
L1418335-14	NSS_BROWNELL RD_105 DUP	DRINKING WATER	EASTHAM, MA	08/13/14 11:20	08/13/14
L1418335-15	TRIPBLANK	DRINKING WATER	EASTHAM, MA	08/13/14 00:00	08/13/14

Project Name: EASTHAM DW

Lab Number: L1418335

Project Number: 2013-027

Report Date: 08/18/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418335
Report Date: 08/18/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418335
Report Date: 08/18/14

Case Narrative (continued)

Report Submission

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

MCP Related Narratives In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/18/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1418335**Project Number:** 2013-027**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-01
Client ID: NSS_TOMAHAWK TR_022
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 01:46
Analyst: JT

Date Collected: 08/13/14 09:35
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	15		15-110

Project Name: EASTHAM DW**Lab Number:** L1418335**Project Number:** 2013-027**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-03
Client ID: NSS_TOMAHAWK TR_028
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 02:35
Analyst: JT

Date Collected: 08/13/14 08:35
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	15		15-110			

Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418335**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-05
Client ID: NSS_TOMAHAWK TR_030
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 03:24
Analyst: JT

Date Collected: 08/13/14 09:05
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	16		15-110			

Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418335**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-07
Client ID: NSS_DOANE RD REAR_585
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 04:13
Analyst: JT

Date Collected: 08/13/14 10:10
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	17		15-110

Project Name: EASTHAM DW**Lab Number:** L1418335**Project Number:** 2013-027**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-09
Client ID: NSS_OCEAN VIEW DR_040
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 05:01
Analyst: JT

Date Collected: 08/13/14 10:40
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	18		15-110

Project Name: EASTHAM DW**Lab Number:** L1418335**Project Number:** 2013-027**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-11
Client ID: NSS_CABLE RD_880
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 05:50
Analyst: JT

Date Collected: 08/13/14 11:50
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	18		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418335**Project Number:** 2013-027**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-13
Client ID: NSS_BROWNELL RD_105
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 06:39
Analyst: JT

Date Collected: 08/13/14 11:15
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	18		15-110

Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418335**Report Date:** 08/18/14**SAMPLE RESULTS**

Lab ID: L1418335-15
Client ID: TRIPBLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/16/14 07:27
Analyst: JT

Date Collected: 08/13/14 00:00
Date Received: 08/13/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/14/14 09:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	17		15-110

Project Name: EASTHAM DW**Lab Number:** L1418335**Project Number:** 2013-027**Report Date:** 08/18/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/15/14 10:56**Extraction Date:** 08/14/14 09:12**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11,13,15 Batch: WG713812-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	20		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418335

Report Date: 08/18/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11,13,15 Batch: WG713812-2 WG713812-3								
1,4-Dioxane	98		99		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	19		21		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418335

Report Date: 08/18/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1418335-01A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-01B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-02A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-02B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-03A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-03B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-04A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-04B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-05A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-05B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-06A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-06B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-07A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-07B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-08A	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-08B	Amber 500ml unpreserved	A	7	3.6	Y	Absent	HOLD(14)
L1418335-09A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-09B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-10A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	HOLD(14)
L1418335-10B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	HOLD(14)
L1418335-11A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-11B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-12A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	HOLD(14)
L1418335-12B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	HOLD(14)
L1418335-13A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-13B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days



Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418335**Report Date:** 08/18/14**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1418335-14A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	HOLD(14)
L1418335-14B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	HOLD(14)
L1418335-15A	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-15B	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-15C	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418335-15D	Amber 500ml unpreserved	B	7	2.9	Y	Absent	A2-MCP-14DX-SIM-PPB(7)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418335
Report Date: 08/18/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418335
Report Date: 08/18/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418335
Report Date: 08/18/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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



CHAIN OF CUSTODY

PAGE 1 OF 2

Project Information

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Project Name: Eastham DW

Client Information

Client: Environmental Strategies & Management

Project Location: Eastham MA

Address: 273 West Main Street

Project #: 2013-027

Norton, MA 02703

Project Manager: Lisa Flynn

Phone: 508-226-1800

ALPHA Quote #:

Fax: 508-226-1811

Turn-Around Time

Email: lflyn@esm-inc.com

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

☐ These samples have been Previously analyzed by Alpha

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

email results to lflyn@esm-inc.com and aboyd@esm-inc.com

invoice Eastham BOH

Date Rec'd in Lab:

ALPHA Job #: 11418335

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

8270 - MCP

0.15 ug/l for 1,4 dioxane, GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

1,4 dioxane by 8270

SAMPLE HANDLING

Filtration
☐ Done
☐ Not Needed
☐ Lab to do
 Preservation
☐ Lab to do
 (Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials													
		Date	Time															
18335-01	NSS_TOMAHAWK TR_022	8/13/14	0935	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
02	NSS_TOMAHAWK TR_022 DUP	8/13/14	0940	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
03	NSS_TOMAHAWK TR_028	8/13/14	0835	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
04	NSS_TOMAHAWK TR_028 DUP	8/13/14	0840	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
05	NSS_TOMAHAWK TR_030	8/13/14	0905	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
06	NSS_TOMAHAWK TR_030 DUP	8/13/14	0910	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
07	NSS_DOANE RD REAR_585	8/13/14	1010	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
08	NSS_DOANE RD REAR_585 DU	8/13/14	1015	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
09	NSS_OCEAN VIEW DR_040	8/13/14	1040	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2
10	NSS_OCEAN VIEW DR_040DUP	8/13/14	1045	dw	EC	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

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Preservative

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IS YOUR PROJECT
 MA MCP or CT RCP?

 FORM NO: 01-01(I)
 (rev. 5-JAN-12)

Relinquished By:

Date/Time

8/13/14 1340

Received By:

Date/Time

8/13/14 1340

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
Alpha	L1418598	8/15/2014	drinking water	Yes	Yes	Yes	Yes	No	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
Meetinghouse Rd_155	8/15/2014	L1418598-1	DW	8270	Fairview Ave_004 Dup	8/15/2014	L1418598-6	DW	Not Analyzed
Meetinghouse Rd_155 Dup	8/15/2014	L1418598-2	DW	8270	Trip Blank	NA	L1418598-7	DW	8270
Old Orchard Rd_075	8/15/2014	L1418598-3	DW	8270	Meetinghouse Rd_170	8/15/2014	L1418598-8	DW	8270
Old Orchard Rd_075 Dup	8/15/2014	L1418598-4	DW	Not Analyzed	Meetinghouse Rd_170 Dup	8/15/2014	L1418598-9	DW	Not Analyzed
Fairview Ave_004	8/15/2014	L1418598-5	DW	8270					

All QAQC data, including surrogate, trip blank, method blank, laboratory control sample (LCS) and LCS duplicate results were reviewed.

This report was deemed usable by Angela Boyd on 9/4/14.



ANALYTICAL REPORT

Lab Number:	L1418598
Client:	Environmental Strategies & Mgmt. 273 West Main Street Norton, MA 02766
ATTN:	Lisa Flynn
Phone:	(508) 226-1800
Project Name:	EASTHAM DW
Project Number:	2013-027
Report Date:	08/25/14

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418598
Report Date: 08/25/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1418598-01	MEETINGHOUSE RD_155	DRINKING WATER	EASTHAM, MA	08/15/14 10:10	08/15/14
L1418598-02	MEETINGHOUSE RD_155 DUP	DRINKING WATER	EASTHAM, MA	08/15/14 10:15	08/15/14
L1418598-03	OLD ORCHARD RD_075	DRINKING WATER	EASTHAM, MA	08/15/14 11:35	08/15/14
L1418598-04	OLD ORCHARD RD_075 DUP	DRINKING WATER	EASTHAM, MA	08/15/14 11:40	08/15/14
L1418598-05	FAIRVIEW AVE_004	DRINKING WATER	EASTHAM, MA	08/15/14 13:20	08/15/14
L1418598-06	FAIRVIEW AVE_004 DUP	DRINKING WATER	EASTHAM, MA	08/15/14 13:25	08/15/14
L1418598-07	TRIP BLANK	DRINKING WATER	EASTHAM, MA	08/15/14 00:00	08/15/14
L1418598-08	MEETINGHOUSE RD_170	DRINKING WATER	EASTHAM, MA	08/15/14 12:15	08/15/14
L1418598-09	MEETINGHOUSE RD_170 DUP	DRINKING WATER	EASTHAM, MA	08/15/14 12:20	08/15/14

Project Name: EASTHAM DW

Lab Number: L1418598

Project Number: 2013-027

Report Date: 08/25/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418598
Report Date: 08/25/14

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418598
Report Date: 08/25/14

Case Narrative (continued)

Report Submission

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

MCP Related Narratives

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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:



Elizabeth Porta

Title: Technical Director/Representative

Date: 08/25/14

ORGANICS

SEMIVOLATILES

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**SAMPLE RESULTS**

Lab ID: L1418598-01
Client ID: MEETINGHOUSE RD_155
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/19/14 00:44
Analyst: JT

Date Collected: 08/15/14 10:10
Date Received: 08/15/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.379		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	17		15-110			

Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418598**Report Date:** 08/25/14**SAMPLE RESULTS**

Lab ID: L1418598-02
Client ID: MEETINGHOUSE RD_155 DUP
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/24/14 17:24
Analyst: JT

Date Collected: 08/15/14 10:15
Date Received: 08/15/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/22/14 14:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	0.360		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	24		15-110

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**SAMPLE RESULTS**

Lab ID: L1418598-03

Date Collected: 08/15/14 11:35

Client ID: OLD ORCHARD RD_075

Date Received: 08/15/14

Sample Location: EASTHAM, MA

Field Prep: Not Specified

Matrix: Drinking Water

Extraction Method: EPA 3510C

Analytical Method: 97,8270D-SIM

Extraction Date: 08/20/14 21:00

Analytical Date: 08/21/14 14:14

Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane	ND		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	31		15-110

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**SAMPLE RESULTS**

Lab ID: L1418598-05
Client ID: FAIRVIEW AVE_004
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/19/14 02:22
Analyst: JT

Date Collected: 08/15/14 13:20
Date Received: 08/15/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	19		15-110			

Project Name: EASTHAM DW**Project Number:** 2013-027**Lab Number:** L1418598**Report Date:** 08/25/14**SAMPLE RESULTS**

Lab ID: L1418598-07
Client ID: TRIP BLANK
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/19/14 03:11
Analyst: JT

Date Collected: 08/15/14 00:00
Date Received: 08/15/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.163	0.0815	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	16		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**SAMPLE RESULTS**

Lab ID: L1418598-08
Client ID: MEETINGHOUSE RD_170
Sample Location: EASTHAM, MA
Matrix: Drinking Water
Analytical Method: 97,8270D-SIM
Analytical Date: 08/19/14 04:01
Analyst: JT

Date Collected: 08/15/14 12:15
Date Received: 08/15/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 08/18/14 13:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	16		15-110			

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/18/14 18:59**Extraction Date:** 08/18/14 13:31**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,05,07-08 Batch: WG714709-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	28		15-110

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/21/14 11:48**Extraction Date:** 08/20/14 21:00**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 03 Batch: WG715592-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	39		15-110

Project Name: EASTHAM DW**Lab Number:** L1418598**Project Number:** 2013-027**Report Date:** 08/25/14**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 97,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 08/24/14 14:58**Extraction Date:** 08/22/14 14:22**Analyst:** JT

Parameter	Result	Qualifier	Units	RL	MDL
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 02 Batch: WG716181-1					
1,4-Dioxane	ND		ug/l	0.150	0.0750

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	27		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418598

Report Date: 08/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,05,07-08 Batch: WG714709-2 WG714709-3								
1,4-Dioxane	98		100		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	25		27		15-110

Lab Control Sample Analysis Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418598

Report Date: 08/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 03 Batch: WG715592-2 WG715592-3								
1,4-Dioxane	98		97		40-140	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	36		38		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418598

Report Date: 08/25/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP 1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 02 Batch: WG716181-2 WG716181-3								
1,4-Dioxane	98		98		40-140	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	26		26		15-110

Project Name: EASTHAM DW

Project Number: 2013-027

Lab Number: L1418598

Report Date: 08/25/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1418598-01A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-01B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-02A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-02B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-03A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-03B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-04A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	HOLD(14)
L1418598-04B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	HOLD(14)
L1418598-05A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-05B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-06A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	HOLD(14)
L1418598-06B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	HOLD(14)
L1418598-07A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-07B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-08A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-08B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	A2-MCP-14DX-SIM-PPB(7)
L1418598-09A	Amber 500ml unpreserved	A	7	3.1	Y	Absent	HOLD(14)
L1418598-09B	Amber 500ml unpreserved	A	7	3.1	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418598
Report Date: 08/25/14

GLOSSARY

Acronyms

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).
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.
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.
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.
NI	- Not Ignitable.
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.

Footnotes

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

Terms

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.

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.

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.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418598
Report Date: 08/25/14

Data Qualifiers

- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: EASTHAM DW
Project Number: 2013-027

Lab Number: L1418598
Report Date: 08/25/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

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

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

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

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables); **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

PAGE 1 OF 2

Page 25 of 26



Barnstable County Health Laboratory

ANALYTICAL REPORT FOR

Environmental Strategies & Manage, Inc. (Landf

Report Prepared for:

Environmental Strategies & Management, Inc.
Lisa Flynn, Re: Eastham Landfill
273 West Main Street
Norton, MA 02766

Order #: G1483246
No. of Samples: 4
Date Received: 09/03/2014



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Page: 1 of 3

Report Prepared For:

Report Dated: 09/22/2014

Lisa Flyn, Re: Eastham Landfill
Environmental Strategies & Management, Inc.
273 West Main Street
Norton, MA 02766

Order No.: G1483246**Laboratory ID #: 1483246-01**

Description: Water - Monitoring Well

Sample #:

Sample Location: MW 31

Collected: 09/03/2014

Collected by: LKM

Received: 09/03/2014

Test Parameters

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
COD	16	mg/L	5.0		HACH 8000	LAP	09/08/2014	
Cyanide, Total	ND	mg/L	0.010		SM4500-CN-E	LAP	09/09/2014	

Landfill Metals_Dissolved

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
Arsenic	0.043	mg/L	0.0030	0.01	EPA 6020A	KK	09/16/2014	
Barium	0.010	mg/L	0.0030	2.0	EPA 6020A	KK	09/16/2014	
Cadmium	ND	mg/L	0.0030	0.005	EPA 6020A	KK	09/16/2014	
Chromium	ND	mg/L	0.0030	0.1	EPA 6020A	KK	09/16/2014	
Copper	ND	mg/L	0.0030		EPA 6020A	KK	09/16/2014	
Iron	69	mg/L	0.10		EPA 6020A	KK	09/16/2014	
Lead	ND	mg/L	0.0030	0.015	EPA 6020A	KK	09/16/2014	
Manganese	1.1	mg/L	0.0030		EPA 6020A	KK	09/16/2014	
Mercury	ND	mg/L	0.00030	0.002	EPA 6020A	KK	09/16/2014	
Selenium	ND	mg/L	0.015	0.05	EPA 6020A	KK	09/16/2014	
Silver	ND	mg/L	0.002		EPA 200.7	LAP	09/09/2014	
Zinc	ND	mg/L	0.060		EPA 6020A	KK	09/16/2014	

Landfill Inorganics_01

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
Nitrate as Nitrogen	ND	mg/L	0.10	10	EPA 300.0	DCB	09/03/2014	
Alkalinity	200	mg/L as CaCO ₃	2.0		SM 2320B	DCB	09/03/2014	
Chloride	20	mg/L	1.0		EPA 300.0	DCB	09/03/2014	
Sulfate	30	mg/L	1.0		EPA 300.0	DCB	09/03/2014	
Total Dissolved Solids	300	mg/L	7.0		SM 2540C	DCB	09/03/2014	

ND = None Detected

RL = Reporting Limit

MCL = Maximum Contaminant Level

Superior Court House, PO. Box 427, Barnstable, MA 02630 Ph: 508-375-6605



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Page: 2 of 3

Report Prepared For:

Report Dated: 09/22/2014

Lisa Flynn, Re: Eastham Landfill
Environmental Strategies & Management, Inc.
273 West Main Street
Norton, MA 02766

Order No.: G1483246

Laboratory ID #: 1483246-02

Description: Water - Monitoring Well

Sample #:

Sample Location: MW 3D

Collected: 09/03/2014

Collected by: LKM

Received: 09/03/2014

Test Parameters

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
COD	50	mg/L	5.0		HACH 8000	LAP	09/08/2014	
Cyanide, Total	ND	mg/L	0.010		SM4500-CN-E	LAP	09/09/2014	

Landfill Metals_Dissolved

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
Arsenic	0.073	mg/L	0.0030	0.01	EPA 6020A	KK	09/16/2014	
Barium	0.086	mg/L	0.0030	2.0	EPA 6020A	KK	09/16/2014	
Cadmium	ND	mg/L	0.0030	0.005	EPA 6020A	KK	09/16/2014	
Chromium	0.0060	mg/L	0.0030	0.1	EPA 6020A	KK	09/16/2014	
Copper	ND	mg/L	0.0030		EPA 6020A	KK	09/16/2014	
Iron	35	mg/L	0.10		EPA 6020A	KK	09/16/2014	
Lead	ND	mg/L	0.0030	0.015	EPA 6020A	KK	09/16/2014	
Manganese	1.4	mg/L	0.0030		EPA 6020A	KK	09/16/2014	
Mercury	ND	mg/L	0.00030	0.002	EPA 6020A	KK	09/16/2014	
Selenium	Nd	mg/L	0.015	0.05	EPA 6020A	KK	09/16/2014	
Silver	ND	mg/L	0.002		EPA 200.7	LAP	09/09/2014	
Zinc	ND	mg/L	0.060		EPA 6020A	KK	09/16/2014	

Landfill Inorganics_01

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
Nitrate as Nitrogen	ND	mg/L	0.10	10	EPA 300.0	DCB	09/03/2014	
Alkalinity	780	mg/L as CaCO	2.0		SM 2320B	DCB	09/03/2014	
Chloride	85	mg/L	1.0		EPA 300.0	DCB	09/03/2014	
Sulfate	54	mg/L	1.0		EPA 300.0	DCB	09/03/2014	
Total Dissolved Solids	1,200	mg/L	7.0		SM 2540C	DCB	09/03/2014	

ND = None Detected

RL = Reporting Limit

MCL = Maximum Contaminant Level

Superior Court House, PO. Box 427, Barnstable, MA 02630 Ph: 508-375-6605



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Page: 3 of 3

Report Prepared For:

Report Dated: 09/22/2014

Lisa Flynn, Re: Eastham Landfill
Environmental Strategies & Management, Inc.
273 West Main Street
Norton, MA 02766

Order No.: G1483246

Laboratory ID #: 1483246-03

Description: Water - Monitoring Well

Sample #:

Sample Location: BCH #13

Collected: 09/03/2014

Collected by: LKM

Received: 09/03/2014

Test Parameters

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
COD	51	mg/L	5.0		HACH 8000	LAP	09/08/2014	
Cyanide, Total	ND	mg/L	0.010		SM4500-CN-E	LAP	09/09/2014	

Landfill Metals_Dissolved

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
Arsenic	0.067	mg/L	0.0030	0.01	EPA 6020A	KK	09/16/2014	
Barium	0.082	mg/L	0.0030	2.0	EPA 6020A	KK	09/16/2014	
Cadmium	ND	mg/L	0.0030	0.005	EPA 6020A	KK	09/16/2014	
Chromium	0.0050	mg/L	0.0030	0.1	EPA 6020A	KK	09/16/2014	
Copper	ND	mg/L	0.0030		EPA 6020A	KK	09/16/2014	
Iron	35	mg/L	0.10		EPA 6020A	KK	09/16/2014	
Lead	ND	mg/L	0.0030	0.015	EPA 6020A	KK	09/16/2014	
Manganese	1.4	mg/L	0.0030		EPA 6020A	KK	09/16/2014	
Mercury	ND	mg/L	0.00030	0.002	EPA 6020A	KK	09/16/2014	
Selenium	ND	mg/L	0.015	0.05	EPA 6020A	KK	09/16/2014	
Silver	ND	mg/L	0.002		EPA 200.7	LAP	09/09/2014	
Zinc	ND	mg/L	0.060		EPA 6020A	KK	09/16/2014	

Landfill Inorganics_01

ITEM	RESULT	UNITS	RL	MCL	METHOD #	ANALYST	TESTED	NOTE
Nitrate as Nitrogen	ND	mg/L	0.10	10	EPA 300.0	DCB	09/03/2014	
Alkalinity	780	mg/L as CaCO ₃	2.0		SM 2320B	DCB	09/03/2014	
Chloride	85	mg/L	1.0		EPA 300.0	DCB	09/03/2014	
Sulfate	53	mg/L	1.0		EPA 300.0	DCB	09/03/2014	
Total Dissolved Solids	1,200	mg/L	7.0		SM 2540C	DCB	09/03/2014	

Attached please find the laboratory certified parameter list.

Approved By: *Jongmin Lei*
(Lab Manager)

9/22/2014

ND = None Detected

RL = Reporting Limit

MCL = Maximum Contaminant Level

Superior Court House, PO. Box 427, Barnstable, MA 02630 Ph: 508-375-6605



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Recipient: Lisa Flynn, Re: Eastham Landfill
Environmental Strategies & Management, Inc.
273 West Main Street
Norton, MA 02766

Order#: G1483246
Lab ID: 1483246-01
Sample #:
Method: 8260B
Comment:

Matrix: Water - Monitoring Well
Sampled: 09/03/2014 11:30
Received: 09/03/2014 13:50
Collection Address: MW 3I
Sample Location:
Description: Landfill
Date Analyzed: 09/08/2014 @ 15:20
Analyst: yn
Dilution Factor: 1

EPA 8260 - Volatile Organics by GC/MS + Ketones +

Parameter	Result ug/L	MCL ug/L	MDL ug/L	Parameter	Result ug/L	MCL ug/L	MDL ug/L
1,1,1,2-Tetrachloroethane	ND		5.0	Chlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0	Chloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0	Chloroform	ND		5.0
1,1,2-Trichloroethane	ND		5.0	Chloromethane	ND		5.0
1,1-Dichloroethane	ND		5.0	cis-1,2-Dichloroethene	ND		5.0
1,1-Dichloroethene	ND		5.0	cis-1,3-Dichloropropene	ND		5.0
1,1-Dichloropropene	ND		5.0	Dibromochloromethane	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0	Dibromomethane	ND		5.0
1,2,3-Trichloropropene	ND		5.0	Dichlorodifluoromethane	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0	Ethylbenzene	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0	Hexachlorobutadiene	ND		5.0
1,2-Dibromo-3-chloropropane	ND		5.0	Isopropylbenzene	ND		5.0
1,2-Dibromoethane (EDB)	ND		5.0	Methylene chloride	ND		5.0
1,2-Dichlorobenzene	ND		5.0	Methyl-tert-butyl ether	ND		5.0
1,2-Dichloroethane	ND		5.0	Naphthalene	ND		5.0
1,2-Dichloropropane	ND		5.0	n-Butylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0	n-Propylbenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0	p-Isopropyltoluene	ND		5.0
1,3-Dichloropropane	ND		5.0	sec-Butylbenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0	Styrene	ND		5.0
1,4-Dioxane	ND		500	tert-Butylbenzene	ND		5.0
2,2-Dichloropropane	ND		5.0	Tetrachloroethene	ND		5.0
2-Butanone	ND		5.0	Toluene	ND		5.0
2-Chlorotoluene	ND		5.0	Total xylenes	ND		5.0
2-Hexanone	ND		5.0	trans-1,2-Dichloroethene	ND		5.0
4-Chlorotoluene	ND		5.0	trans-1,3-Dichloropropene	ND		5.0
4-Methyl-2-pentanone	ND		5.0	Trichloroethene	ND		5.0
Acetone	ND		5.0	Trichlorofluoromethane	ND		5.0
Benzene	ND		5.0	Vinyl chloride	ND		5.0
Bromobenzene	ND		5.0				
Bromochloromethane	ND		5.0				
Bromodichloromethane	ND		5.0				
Bromoform	ND		5.0				
Bromomethane	ND		5.0				
Carbon tetrachloride	ND		5.0				

Attached please find the laboratory certified parameter list.

ND = None Detected

RL = Reporting Limit

Approved By: *Benjamin Lei*
(Lab Director) 9/22/14

MCL = Maximum Contaminant Level



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Recipient:	Lisa Flynn, Re: Eastham Landfill Environmental Strategies & Management, Inc. 273 West Main Street Norton, MA 02766	Matrix:	Water - Monitoring Well
Order#:	G1483246	Sampled:	09/03/2014 11:30
Lab ID:	1483246-02	Received:	09/03/2014 13:50
Sample #:		Collection Address:	MW 3D
Method:	8260B	Sample Location:	
Comment:		Description:	Landfill
		Date Analyzed:	09/09/2014 @ 15:20
		Analyst:	yn
		Dilution Factor:	1

EPA 8260 - Volatile Organics by GC/MS + Ketones +

Parameter	Result ug/L	MCL ug/L	MDL ug/L	Parameter	Result ug/L	MCL ug/L	MDL ug/L
1,1,1,2-Tetrachloroethane	ND		5.0	Chlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0	Chloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0	Chloroform	ND		5.0
1,1,2-Trichloroethane	ND		5.0	Chloromethane	ND		5.0
1,1-Dichloroethane	ND		5.0	cis-1,2-Dichloroethene	ND		5.0
1,1-Dichloroethene	ND		5.0	cis-1,3-Dichloropropene	ND		5.0
1,1-Dichloropropene	ND		5.0	Dibromochloromethane	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0	Dibromomethane	ND		5.0
1,2,3-Trichloropropene	ND		5.0	Dichlorodifluoromethane	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0	Ethylbenzene	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0	Hexachlorobutadiene	ND		5.0
1,2-Dibromo-3-chloropropane	ND		5.0	Isopropylbenzene	ND		5.0
1,2-Dibromoethane (EDB)	ND		5.0	Methylene chloride	ND		5.0
1,2-Dichlorobenzene	ND		5.0	Methyl-tert-butyl ether	ND		5.0
1,2-Dichloroethane	ND		5.0	Naphthalene	ND		5.0
1,2-Dichloropropane	ND		5.0	n-Butylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0	n-Propylbenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0	p-Isopropyltoluene	ND		5.0
1,3-Dichloropropane	ND		5.0	sec-Butylbenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0	Styrene	ND		5.0
1,4-Dioxane	ND		500	tert-Butylbenzene	ND		5.0
2,2-Dichloropropane	ND		5.0	Tetrachloroethene	ND		5.0
2-Butanone	ND		5.0	Toluene	ND		5.0
2-Chlorotoluene	ND		5.0	Total xylenes	ND		5.0
2-Hexanone	ND		5.0	trans-1,2-Dichloroethene	ND		5.0
4-Chlorotoluene	ND		5.0	trans-1,3-Dichloropropene	ND		5.0
4-Methyl-2-pentanone	ND		5.0	Trichloroethene	ND		5.0
Acetone	ND		5.0	Trichlorofluoromethane	ND		5.0
Benzene	ND		5.0	Vinyl chloride	ND		5.0
Bromobenzene	ND		5.0				
Bromochloromethane	ND		5.0				
Bromodichloromethane	ND		5.0				
Bromoform	ND		5.0				
Bromomethane	ND		5.0				
Carbon tetrachloride	ND		5.0				

Attached please find the laboratory certified parameter list.

ND = None Detected

RL = Reporting Limit

Approved By: *Gongmin Lei*
(Lab Director)

MCL = Maximum Contaminant Level

Superior Court House, PO. Box 427, Barnstable, MA 02630 Ph: 508-375-6605

Page 2 of 4



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Recipient: Lisa Flynn, Re: Eastham Landfill
Environmental Strategies & Management, Inc.
273 West Main Street
Norton, MA 02766

Order#: G1483246

Lab ID: 1483246-03

Sample #:

Method: 8260B

Comment:

Matrix: Water - Monitoring Well

Sampled: 09/03/2014 11:30

Received: 09/03/2014 13:50

Collection Address: BCH #13

Sample Location:

Description: Landfill

Date Analyzed: 09/09/2014 @ 15:20

Analyst: yn

Dilution Factor: 1

EPA 8260 - Volatile Organics by GC/MS + Ketones +

Parameter	Result ug/L	MCL ug/L	MDL ug/L	Parameter	Result ug/L	MCL ug/L	MDL ug/L
1,1,1,2-Tetrachloroethane	ND		5.0	Chlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0	Chloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0	Chloroform	ND		5.0
1,1,2-Trichloroethane	ND		5.0	Chloromethane	ND		5.0
1,1-Dichloroethane	ND		5.0	cis-1,2-Dichloroethene	ND		5.0
1,1-Dichloroethene	ND		5.0	cis-1,3-Dichloropropene	ND		5.0
1,1-Dichloropropene	ND		5.0	Dibromochloromethane	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0	Dibromomethane	ND		5.0
1,2,3-Trichloropropane	ND		5.0	Dichlorodifluoromethane	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0	Ethylbenzene	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0	Hexachlorobutadiene	ND		5.0
1,2-Dibromo-3-chloropropane	ND		5.0	Isopropylbenzene	ND		5.0
1,2-Dibromoethane (EDB)	ND		5.0	Methylene chloride	ND		5.0
1,2-Dichlorobenzene	ND		5.0	Methyl-tert-butyl ether	ND		5.0
1,2-Dichloroethane	ND		5.0	Naphthalene	ND		5.0
1,2-Dichloropropane	ND		5.0	n-Butylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0	n-Propylbenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0	p-Isopropyltoluene	ND		5.0
1,3-Dichloropropane	ND		5.0	sec-Butylbenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0	Styrene	ND		5.0
1,4-Dioxane	ND		500	tert-Butylbenzene	ND		5.0
2,2-Dichloropropane	ND		5.0	Tetrachloroethene	ND		5.0
2-Butanone	ND		5.0	Toluene	ND		5.0
2-Chlorotoluene	ND		5.0	Total xylenes	ND		5.0
2-Hexanone	ND		5.0	trans-1,2-Dichloroethene	ND		5.0
4-Chlorotoluene	ND		5.0	trans-1,3-Dichloropropene	ND		5.0
4-Methyl-2-pentanone	ND		5.0	Trichloroethene	ND		5.0
Acetone	ND		5.0	Trichlorofluoromethane	ND		5.0
Benzene	ND		5.0	Vinyl chloride	ND		5.0
Bromobenzene	ND		5.0				
Bromochloromethane	ND		5.0				
Bromodichloromethane	ND		5.0				
Bromoform	ND		5.0				
Bromomethane	ND		5.0				
Carbon tetrachloride	ND		5.0				

Attached please find the laboratory certified parameter list.

ND = None Detected

RL = Reporting Limit

Approved By: *Jonathan Sei*
(Lab Director)

MCL = Maximum Contaminant Level

Superior Court House, PO. Box 427, Barnstable, MA 02630 Ph: 508-375-6605

Page 3 of 4



CERTIFICATE OF ANALYSIS

Barnstable County Health Laboratory (M-MA009)

Recipient:	Lisa Flynn, Re: Eastham Landfill Environmental Strategies & Management, Inc. 273 West Main Street Norton, MA 02766	Matrix:	Water - Monitoring Well
Order#:	G1483246	Sampled:	09/03/2014 9:00
Lab ID:	1483246-04	Received:	09/03/2014 13:50
Sample #:		Collection Address:	TRIP BLANK
Method:	8260B	Sample Location:	
Comment:		Description:	Landfill
		Date Analyzed:	09/09/2014 @ 15:20
		Analyst:	yn
		Dilution Factor:	1

EPA 8260 - Volatile Organics by GC/MS + Ketones +

Parameter	Result ug/L	MCL ug/L	MDL ug/L	Parameter	Result ug/L	MCL ug/L	MDL ug/L
1,1,1,2-Tetrachloroethane	ND		5.0	Chlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0	Chloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0	Chloroform	ND		5.0
1,1,2-Trichloroethane	ND		5.0	Chloromethane	ND		5.0
1,1-Dichloroethane	ND		5.0	cis-1,2-Dichloroethene	ND		5.0
1,1-Dichloroethene	ND		5.0	cis-1,3-Dichloropropene	ND		5.0
1,1-Dichloropropene	ND		5.0	Dibromochloromethane	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0	Dibromomethane	ND		5.0
1,2,3-Trichloropropane	ND		5.0	Dichlorodifluoromethane	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0	Ethylbenzene	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0	Hexachlorobutadiene	ND		5.0
1,2-Dibromo-3-chloropropane	ND		5.0	Isopropylbenzene	ND		5.0
1,2-Dibromoethane (EDB)	ND		5.0	Methylene chloride	ND		5.0
1,2-Dichlorobenzene	ND		5.0	Methyl-tert-butyl ether	ND		5.0
1,2-Dichloroethane	ND		5.0	Naphthalene	ND		5.0
1,2-Dichloropropane	ND		5.0	n-Butylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0	n-Propylbenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0	p-Isopropyltoluene	ND		5.0
1,3-Dichloropropane	ND		5.0	sec-Butylbenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0	Styrene	ND		5.0
1,4-Dioxane	ND		500	tert-Butylbenzene	ND		5.0
2,2-Dichloropropane	ND		5.0	Tetrachloroethene	ND		5.0
2-Butanone	ND		5.0	Toluene	ND		5.0
2-Chlorotoluene	ND		5.0	Total xylenes	ND		5.0
2-Hexanone	ND		5.0	trans-1,2-Dichloroethene	ND		5.0
4-Chlorotoluene	ND		5.0	trans-1,3-Dichloropropene	ND		5.0
4-Methyl-2-pentanone	ND		5.0	Trichloroethene	ND		5.0
Acetone	ND		5.0	Trichlorofluoromethane	ND		5.0
Benzene	ND		5.0	Vinyl chloride	ND		5.0
Bromobenzene	ND		5.0				
Bromochloromethane	ND		5.0				
Bromodichloromethane	ND		5.0				
Bromoform	ND		5.0				
Bromomethane	ND		5.0				
Carbon tetrachloride	ND		5.0				

Attached please find the laboratory certified parameter list.

ND = None Detected

RL = Reporting Limit

Approved By: *Benjamin Lei*
(Lab Director)

MCL = Maximum Contaminant Level

Superior Court House, PO. Box 427, Barnstable, MA 02630 Ph: 508-375-6605

Page 4 of 4

Superior Court House
P. O. Box 427
Barnstable, MA 02630
(508) 375-6605;6612

pg 1072

Eastham UF

PROJECT NUMBER:

SAMPLER: LK Hulke

1)

2

now doing - 0451 @ 41-41-6 (ppl) HX3
only 3 vials each sample

<i>X. Mulka</i>	9/3/14	<i>V. Tull</i>	9/3/14 1350

9-3-14 per GML all (Ag) Silver to ENV Hg stays here
all cyanide to Premier { per LKM 9/4/14 only 3 vials for
all COD'S to ENV * { 1-4 Dioxane and 8260 keytones +
Shewants both done

no bottles for 1-4 Droxane - ELN called LKM 9-3-14 left message @ 15:35

**Barnstable County Department of
Health and the Environment**

Superior Court House
P. O. Box 427
Barnstable, MA 02630
(508) 375-6605;6612

83246 (03-04)

CHAIN OF CUSTODY

pg 2072

CLIENT NAME: Eastham UF

ADDRESS: _____

PROJECT NAME: _____ **PROJECT NUMBER:** _____

PROJECT SITE: _____ **SAMPLER:** LK Mulhern

DATE/ TIME:	SAMPLE NUMBER	SAMPLE LOCATION	NO. OF SAMPLES	ANALYSES REQUIRED	COMMENTS
3 9/3/14 1130	216 ✓	BCH #13	1	NITRATE TDS SD & U-	
	217 ✓		↓	Fem Cu Pb Zn Cd Cr As Ag Se Ba	FFH
	218 ✓		↓	COD	E
	219, 220, 221		3	8260+ Ketones (1,4-Dioxane)	
	222 ✓		1	TW	TOPPRM
	223 ✓		↓	Hg	FFH
4 ↓ 900	Sat 1, 2, 3	TRIP BLANK	3	8260+ Ketones (1,4-Dioxane)	

RELINGUISHED BY: _____ DATE/TIME: _____ RECEIVED BY: _____ DATE/TIME: _____

LK Mulhern 9/3/14 V. James 9/3/14 1350

RELINGUISHED BY: _____ DATE/TIME: _____ RECEIVED BY: _____ DATE/TIME: _____

per LKM 9/4/14 only 3 vials for
1,4 Dioxane and 8260 Ketones
* Shewants both done

No bottles for 1,4 Dioxane - E2H called LKM 9-3-14 left message
@ 15:35

E2H called 9/17/14 @ 1540 - w/ voice mail
only 3 vials each
low level 1,4 Dioxane low level 1,4 Dioxane sample

July 11, 2014

273 West Main Street, Norton, MA 02766 • Tel: (508) 226-1800 • Fax: (508) 226-1811

Paul and Nancy Underhill
255 Alston Avenue
Eastham, MA 02642

Subject: Environmental Sampling Results

Dear Paul and Nancy;

This letter transmits to you the laboratory results for the water samples collected from your property on June 19, 2014 for laboratory analysis of 1,4 dioxane.

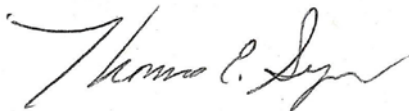
The laboratory results continue to indicate the effectiveness of the carbon treatment system. The influent (untreated) sample result had a 1,4 dioxane concentration of 2.12 µg/l (micrograms per liter or parts per billion), the mid-point samples had an estimated concentration of 0.0706, and 1,4 dioxane was not detected in the effluent (treated) sample.

ES&M will continue to maintain the carbon system and the Board of Health recommends that you continue to rely on bottled water provided by the Town for drinking and food preparation. Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4-dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Thomas E. Sylvia
Principal Chemical Engineer

cc. Jane Crowley, Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Paul H & Nancy J Underhill
2. Street Address: 255 Alston Ave
City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 255 Alston Avenue
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the “disposal site”.)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/dep/cleanup/oview.htm>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://mass.gov/dep/about/region/schedule.htm> if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

July 11, 2014

Beverly L Fry
1322 Virginia Ave
St Cloud, FL 34769

**Subject: Environmental Sampling Results
40 Chipman Street, Eastham, MA**

Dear Ms. Fry,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **40 Chipman Street** property on June 26, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Beverly L Fry

2. Street Address: 1322 Virginia Ave

City/Town: St Cloud, FL Zip Code: 34769

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 40 Chipman Street

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Beverly L Fry
1322 Virginia Ave
St Cloud, FL 34769

**Subject: Environmental Sampling Results
40 Chipman Street, Eastham, MA**

Dear Ms. Fry,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **40 Chipman Street** property on June 26, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Beverly L Fry

2. Street Address: 1322 Virginia Ave

City/Town: St Cloud, FL Zip Code: 34769

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 40 Chipman Street

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Blair A Maddy & France Wilcox
277 Lark St
Albany, NY 12210

**Subject: Environmental Sampling Results
75 Glacier Hills Road, Eastham, MA,**

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **75 Glacier Hills Road** property on June 17, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Blair A Maddy & France Wilcox

2. Street Address: 277 Lark St

City/Town: Albany, NY Zip Code: 12210

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 75 Glacier Hills Road

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Steven G & Diane P Douglas
PO Box 398
N. Eastham, MA 02651

**Subject: Environmental Sampling Results
70 Knowles Street, Eastham, MA,**

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **70 Knowles Street** property on June 16, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Steven G & Diane P Douglas
2. Street Address: PO Box 398
City/Town: North Eastham, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 70 Knowles Street
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Michele Burnat & Lesa Milas
396 Old Colchester Rd
Amston, CT 06231

**Subject: Environmental Sampling Results
50 Knowles St, Eastham, MA**

Dear Ms. Burnat and Ms. Milas,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a drinking water sample collected from your **50 Knowles St** property on June 19, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at an estimated concentration of 0.0910 micrograms per liter or µg/L. This concentration is below the Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L.

A sample of grey water (i.e., water from your septic system after the solids tank) was also collected for laboratory analysis of 1,4-dioxane. The compound was detected at a concentration of 0.887 µg/L, which is almost ten times the level in your well water. This indicates that your well water is being affected by consumer products that are being used in your home (or your neighbors' home) that contain 1,4 dioxane. The 1,4 dioxane found in most consumer products is not intentionally added; rather, it is a byproduct of the manufacture of certain ingredients. These ingredients, and the possible presence of 1,4 dioxane, are most commonly found in dishwashing soap, hand soap, shampoos and conditioners (including products specifically labeled for use on babies and children), body washes, hand and face lotions, sunscreens and deodorants. The internet displays many resources offering more information on this subject, including lists of products that contain (or don't contain) significant levels of 1,4 dioxane. One such source is www.organicconsumers.org, which has reportedly performed laboratory testing of a wide variety of products. ES&M has not independently verified any information published by this group.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, and a sample laboratory report diagram. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Michele Burnat & Lesa Milas
2. Street Address: 396 Old Colchester Rd
City/Town: Amston, CT Zip Code: 06231

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 50 Knowles Street
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the “disposal site”.)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/dep/cleanup/oview.htm>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://mass.gov/dep/about/region/schedule.htm> if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO

July 11, 2014

John R & Barbara McDonald
PO Box 1172
Orleans, MA 02653

**Subject: Environmental Sampling Results
75 Knowles St, Eastham, MA**

Dear Mr. and Mrs. McDonald,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a grey water sample collected from the distribution box of the septic system at your **75 Knowles St** property on June 17, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at a concentration of 0.596 micrograms per liter or µg/L, which is significantly higher than the levels found in your well water (1,4-dioxane was not detected in the sample collected on May 8, 2014, and at a very low estimated concentration of 0.075 µg/L in the sample collected on April 30, 2013).

The elevated concentration of 1,4-dioxane in your septic water likely indicate that consumer products used in your home contain 1,4 dioxane. The 1,4 dioxane found in most consumer products is not intentionally added; rather, it is a byproduct of the manufacture of certain ingredients. These ingredients, and the possible presence of 1,4 dioxane, are most commonly found in dishwashing soap, hand soap, shampoos and conditioners (including products specifically labeled for use on babies and children), body washes, hand and face lotions, sunscreens and deodorants. The internet displays many resources offering more information on this subject, including lists of products that contain (or don't contain) significant levels of 1,4 dioxane. One such source is www.organicconsumers.org, which has reportedly performed laboratory testing of a wide variety of products. ES&M has not independently verified any information published by this group.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Blair A Maddy & France Wilcox
2. Street Address: 277 Lark St
City/Town: Albany, NY Zip Code: 12210

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 75 Glacier Hills Road
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Jacquelin & Devon R O'Rourke
P.O. Box 863
No. Eastham, MA 02651
devon.orourke@gmail.com

**Subject: Environmental Sampling Results
65 Knowles St, Eastham, MA**

Dear Mr. and Mrs. O'Rourke,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a drinking water sample collected from your **65 Knowles St** property on June 16, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at a concentration of 0.209 micrograms per liter or $\mu\text{g/L}$ in the primary sample and 0.217 $\mu\text{g/L}$ in the duplicate sample. The detected concentrations are below the Massachusetts drinking water guideline and the bottle water action limit of 0.3 $\mu\text{g/L}$, and are more consistent with the results of the initial sample collected from your well in July 2013. As you are aware, the well water sample collected in March 2014 showed an elevated concentration of 1,4 dioxane of over 5 $\mu\text{g/L}$, which was almost 50 times higher than the original sample result. As discussed in the following paragraph, we believe that this elevated sample result is associated with local septic discharges and not the landfill.

A sample of grey water (i.e., water from your septic system after the solids tank) was also collected for laboratory analysis of 1,4-dioxane. The compound was detected at a concentration of 3.7 $\mu\text{g/L}$, which is close to 20 times the level in your well water. This indicates that your well water is being affected by consumer products that are being used in your home (or your neighbor's home) that contain 1,4 dioxane. The 1,4 dioxane found in most consumer products is not intentionally added; rather, it is a byproduct of the manufacture of certain ingredients. These ingredients, and the possible presence of 1,4 dioxane, are most commonly found in dishwashing soap, hand soap, shampoos and conditioners (including products specifically labeled for use on babies and children), body washes, hand and face lotions, sunscreens and deodorants. The internet displays many resources offering more information on this subject, including lists of products that contain (or don't contain) significant levels of 1,4 dioxane. One such source is www.organicconsumers.org, which has reportedly performed laboratory testing of a wide variety of products. ES&M has not independently verified any information published by this group.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, and a sample laboratory report diagram. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Jacquelin & Devon R O'Rourke
2. Street Address: P.O. Box 863
City/Town: No Eastham, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 65 Knowles Street
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Donald E & Harriet F Emond Tte
Emond Family Nominee Trust
90 Schoolhouse Rd
Eastham, MA 02642

**Subject: Environmental Sampling Results
90 Schoolhouse Rd, Eastham, MA,**

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **90 Schoolhouse Rd** property on June 23, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Donald E & Harriet F Emond -Emond Family Nom. 
2. Street Address: 90 Schoolhouse Rd
City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 90 Schoolhouse Road
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Erich Weyerich & Barbara Hayes
175 Tarringford St
Winsted, CT 06098

**Subject: Environmental Sampling Results
600 Schoolhouse Road, Eastham, MA**

Dear Mr. Weyerich and Ms. Hayes,

On behalf of the Town of Eastham, this letter transmits to you the testing results of water samples collected from your **600 Schoolhouse Road** property on June 26, 2014, for laboratory analysis of 1,4-dioxane. This compound was detected at a concentration of 0.226 micrograms per liter or µg/L in the primary sample and 0.206 µg/L in the duplicate sample. The detected concentrations are below Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4-dioxane information sheet.

Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Erich Weyerich & Barbara Hayes

2. Street Address: 175 Tarringford St

City/Town: Winsted, CT Zip Code: 06098

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 600 Schoolhouse Road

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Mary M. Sullivan
390 Palisado Ave
Windsor, CT 06095

**Subject: Environmental Sampling Results
35 Sharon Circle, Eastham, MA**

Dear Ms. Sullivan,

On behalf of the Town of Eastham, this letter transmits to you the testing results of water samples collected from your **35 Sharon Circle** property on June 19, 2014, for laboratory analysis of 1,4-dioxane. This compound was detected at a concentration of 0.143 micrograms per liter or µg/L in the primary sample and of 0.154 µg/L in the duplicate sample. The detected concentrations are below Massachusetts drinking water standard and the bottle water action limit of 0.3 µg/L.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4-dioxane information sheet.

Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Mary M Sullivan
2. Street Address: 390 Palisado Ave
City/Town: Windsor, CT Zip Code: 06095

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 35 Sharon Circle
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Byron L & Delores S Higgins
30 Starlight Ln
Eastham, MA 02642

**Subject: Environmental Sampling Results
30 Starlight Lane, Eastham, MA**

Dear Mr. and Mrs. Higgins:

On behalf of the Town of Eastham, this letter transmits to you the testing results for the water samples collected from your **30 Starlight Lane** property on June 26, 2014, for laboratory analysis of 1,4 dioxane. This compound was detected at a concentration of 0.279 micrograms per liter or µg/L in the primary sample, and 0.302 µg/L in the duplicate sample. The concentration found in the duplicate sample exceeds the Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L; therefore, we have informed the Town that bottled water should be made available to you for consumptive purposes.

Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, Southeast Regional Office



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Byron L & Delores S Higgins
2. Street Address: 30 Starlight Ln
City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 30 Starlight Lane
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

Elsa Auerbach
33 Sedgwick St
Jamaica Plain, MA 02130

**Subject: Environmental Sampling Results
40 Starlight Lane, Eastham, MA**

Dear Ms. Auerbach:

On behalf of the Town of Eastham, this letter transmits to you the testing results of water samples collected from your **40 Starlight Lane** property on June 26, 2014, for laboratory analysis of 1,4 dioxane. This compound was detected at a concentration of 0.874 micrograms per liter or µg/L in the primary sample and 0.936 µg/L in the duplicate sample. These concentrations exceed the Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L, and are consistent with the initial sample testing result from July 2013. Therefore, continued use of bottled water for consumptive purposes is advised.

Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4-dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, Southeast Regional Office



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Elsa Auerbach
2. Street Address: 33 Sedgwick St
City/Town: Jamaica Plain, MA Zip Code: 02130

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 40 Starlight Lane
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

July 11, 2014

John C, Sally A, & Pat Delphia
24 White St
Barre, VT 05641

**Subject: Environmental Sampling Results
30 Wild Goose Lane, Eastham, MA,**

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **30 Wild Goose Lane** property on June 23, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at an estimated concentration of 0.109 micrograms per liter or µg/L, which is below the Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: John C, Sally A, & Pat Delphia
2. Street Address: 24 White St
City/Town: Barre, VT Zip Code: 05641

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 30 Wild Goose Lane
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Thomas D & Bethann S Steiner
31 French Ave
Braintree, MA 02184

**Subject: Environmental Sampling Results
265 Schoolhouse Road, Eastham, MA**

Dear Mr. and Mrs. Steiner,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a drinking water sample collected from your **265 Schoolhouse Road** property on July 23, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at an estimated concentration of 0.0945 micrograms per liter or µg/L. This concentration is below the Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, and a sample laboratory report diagram. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: THOMAS & BETHANN STEINER
2. Street Address: 31 FRENCH AVE
City/Town: BRAINTREE, MA Zip Code: 02184

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: SCHOOLHOUSE RD_265
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Nada Milohnic
68 Dahlia Dr
Mahopac, NY 10541

Subject: 275 Alston Ave, Eastham, MA

Dear Ms. Milohnic:

On behalf of the Town of Eastham, this letter transmits to you the laboratory results for the water samples collected from your property on July 17, 2014, for 1,4 dioxane laboratory analysis by Environmental Strategies & Management. This compound was detected at a concentration of 1.28 micrograms per liter or $\mu\text{g/L}$ in the primary sample. Since the sampling protocol for this study includes the analysis of duplicate samples when 1,4 dioxane is detected above the laboratory detection limit ($0.142 \mu\text{g/L}$), the duplicate sample was also analyzed. The concentration detected in this sample was $1.35 \mu\text{g/L}$. Both concentrations are above the Massachusetts drinking water standard and the bottle water action limit of $0.3 \mu\text{g/L}$. Please continue to use bottled water for consumptive purposes.

Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and the Massachusetts drinking water standards.

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, Southeast Regional Office



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: NADA MILOHNIC (LT)

2. Street Address: 68 DAHLIA DR

City/Town: MAHOPAC, NY Zip Code: 10541

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: ALSTON AVE_275

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Mel Senator
PO Box 1366
No Eastham, MA 02651

**Subject: Environmental Sampling Results
75 Candlewood Drive, Eastham, MA,**

Dear Mr. Senator:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **75 Candlewood Drive** property on July 17, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: SENATOR MEL
2. Street Address: PO BOX 1366
City/Town: NO EASTHAM, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: CANDLEWOOD DR_075
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Jim Spillane, et al
13 Black Brook Rd
So Easton, MA 02375

**Subject: Environmental Sampling Results
200 Meetinghouse Road, Eastham, MA,**

Dear Mr. Spillane,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **200 Meetinghouse Road** property on July 23, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: JIM SPILLANE
2. Street Address: 13 BLACK BROOK RD
City/Town: SO EASTON, MA Zip Code: 02375

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: MEETINGHOUSE RD_200
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Paul T Delaney, et al
251A Weston Rd
Wellesley, MA 02482

**Subject: Environmental Sampling Results
210 Old Orchard Road, Eastham, MA,**

Dear Mr. Delaney,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **210 Old Orchard Road** property on July 23, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Paul T Delaney, et al
2. Street Address: 251A Weston Rd
City/Town: Wellesley, MA Zip Code: 02482

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 210 Old Orchard Road,
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: DOUGLAS HEELY

Street Address: 273 WEST MAIN ST

City/Town: NORTON, MA Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Nancy Fuller
4 Preservation Way
Eastham, MA 02642

Subject: 4 Preservation Way, Eastham, MA

Dear Ms. Fuller:

On behalf of the Town of Eastham, this letter transmits to you the laboratory results for the water samples collected from your property on July 17, 2014, for 1,4 dioxane laboratory analysis by Environmental Strategies & Management. This compound was detected at a concentration of 0.192 micrograms per liter or $\mu\text{g/L}$ in the primary sample. Since the sampling protocol for this study includes the analysis of duplicate samples when 1,4 dioxane is detected above the laboratory detection limit (0.142 $\mu\text{g/L}$), the duplicate sample was also analyzed. The concentration detected in this sample was 0.217 $\mu\text{g/L}$. Both concentrations are below the (proposed) Massachusetts drinking water standard and the bottle water action limit of 0.3 $\mu\text{g/L}$.

Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and the Massachusetts drinking water standards.

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, Southeast Regional Office



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: NANCY FULLER
2. Street Address: 4 PRESERVATION WAY
City/Town: EASTHAM, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 4 PRESERVATION WAY
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 8, 2014

Helen Bauer
9949 Shore Rd Apt 402
Brooklyn, NY 11209

**Subject: Environmental Sampling Results
1000 Schoolhouse Road, Eastham, MA,**

Dear Ms. Bauer,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **1000 Schoolhouse Road** property on July 23, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: HELEN BAUER
2. Street Address: 9949 SHORE RD APT 402
City/Town: BROOKLYN, NY Zip Code: 11209

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: SCHOOLHOUSE RD_1000
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Christopher W Horton
PO Box 1241
No Eastham, MA 02651

**Subject: Environmental Sampling Results
215 Alston Avenue, Eastham, MA**

Dear Mr. Horton:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **215 Alston Avenue** property on July 31, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Christopher W Horton
2. Street Address: PO Box 1241
City/Town: No Eastham, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 215 Alston Avenue
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Wendy Gamba Kaplan
145 Lowin Ave
New Haven, CT 06515

**Subject: Environmental Sampling Results
5 Bayview Avenue, Eastham, MA**

Dear Ms. Kaplan:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **5 Bayview Avenue** property on August 1, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Wendy Gamba Kaplan

2. Street Address: 145 Lowin Ave

City/Town: New Haven, CT Zip Code: 06515

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 5 Bayview Avenue

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Sandra Larsen
PO Box 464
Eastham, MA 02642

**Subject: Environmental Sampling Results
75 Deepwood Drive, Eastham, MA**

Dear Ms. Larsen:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **75 Deepwood Drive** property on August 1, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Sandra Larsen
2. Street Address: PO Box 464
City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 75 Deepwood Drive
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Allen S & Virginia L Corbett
275 Meetinghouse Rd
Eastham, MA 02642

**Subject: Environmental Sampling Results
275 Meetinghouse Road, Eastham, MA**

Dear Mr. & Ms. Corbett:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **275 Meetinghouse Road** property on August 1, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Allen S & Virginia L Corbett

2. Street Address: 275 Meetinghouse Road

City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 275 Meetinghouse Road

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Doris J Kozlowski Ttee
385 Meetinghouse Rd
Eastham, MA 02642

**Subject: Environmental Sampling Results
385 Meetinghouse Road, Eastham, MA**

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **385 Meetinghouse Road** property on August 1, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Doris J Kozlowski
2. Street Address: 385 Meetinghouse Road
City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 385 Meetinghouse Road
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

David E & Amanda M Young
100 Old Orchard Rd
Eastham, MA 02642

**Subject: Environmental Sampling Results
100 Old Orchard Road, Eastham, MA**

Dear Mr. and Ms. Young:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **100 Old Orchard Road** property on July 31, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: David E & Amanda M Young
2. Street Address: 100 Old Orchard Road
City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 100 Old Orchard Road
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Ann Marie Hoyt
350 Old Orchard Rd
Eastham, MA 02642

**Subject: Environmental Sampling Results
350 Old Orchard Road, Eastham, MA**

Dear Ms. Hoyt,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **350 Old Orchard Road** property on August 1, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Ann Marie Hoyt

2. Street Address: 350 Old Orchard Road

City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 350 Old Orchard Road

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Deborah A King & Susan Jhirad
80 Old Orchard Rd
Eastham, MA 02642

**Subject: Environmental Sampling Results
80 Old Orchard Road, Eastham, MA**

Dear Ms. King and Ms. Jhirad:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **80 Old Orchard Road** property on July 31, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Deborah A King & Susan Jhirad

2. Street Address: 80 Old Orchard Rd

City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 80 Old Orchard Rd

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Walter P & Marie Y Watson
26 Talbot St
Lowell, MA 01852

**Subject: Environmental Sampling Results
13 Starlight Lane, Eastham, MA**

Dear Mr. & Ms. Watson,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **13 Starlight Lane** property on August 1, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Walter P & Marie Y Watson
2. Street Address: 26 Talbot St
City/Town: Lowell, MA Zip Code: 01852

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 13 Starlight Lane
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 12, 2014

Maria L Gilman Trust
14 Century Way
Gardner, MA 01440

**Subject: Environmental Sampling Results
1 Whidah Lane, Eastham, MA**

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **1 Whidah Lane** property on July 31, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road
City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Maria L Gilman Trust
2. Street Address: 14 Century Way
City/Town: Gardner, MA Zip Code: 01440

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 1 Whidah Lane
City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com



August 12, 2014

Judith D Cooney
9 Whidah Lane
Eastham, MA 02642

**Subject: Environmental Sampling Results
9 Whidah Lane, Eastham, MA**

Dear Ms. Cooney:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **9 Whidah Lane** property on July 31, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.

Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Judith D Cooney

2. Street Address: 9 Whidah Lane

City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 9 Whidah Lane

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

August 15, 2014

William & Ethel Brown
2 Jonathan Way
Washington Crossing, PA 18977

**Subject: Environmental Sampling Results
235 Alston Avenue, Eastham, MA,**

Dear Mr. & Ms. Brown:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **235 Alston Avenue** property on August 5, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: WILLIAM C & ETHEL K BROWN
2. Street Address: 2 JONATHAN WAY
City/Town: WASHINGTON CRSNG, PA Zip Code: 18977

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 235 ALSTON AVE
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 15, 2014

Paul and Nancy Underhill
255 Alston Avenue
Eastham, MA 02642

Subject: Environmental Sampling Results

Dear Paul and Nancy;

This letter transmits to you the laboratory results for the water samples collected from your property on August 3, 2014 for laboratory analysis of 1,4 dioxane.

The laboratory results continue to indicate the effectiveness of the carbon treatment system. The influent (untreated) sample result had a 1,4 dioxane concentration of 2.03 µg/l (micrograms per liter or parts per billion), the mid-point sample had an estimated concentration of 0.21, and 1,4 dioxane was not detected in the effluent (treated) sample.

ES&M will continue to maintain the carbon system and the Board of Health recommends that you continue to rely on bottled water provided by the Town for drinking and food preparation. Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and a 1,4-dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Thomas E. Sylvia
Principal Chemical Engineer

cc. Jane Crowley, Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: PAUL H & NANCY J UNDERHILL
2. Street Address: 255 ALSTON AVE
City/Town: EASTHAM, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 255 ALSTON AVE
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 15, 2014

Kenneth & Pamela Bostwick
270 Alston Ave
Eastham, MA 02642

**Subject: Environmental Sampling Results
270 Alston Ave, Eastham, MA,**

Dear Mr. & Ms Bostwick:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **270 Alston Avenue** property on August 4, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD

City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: KENNETH J & PAMELA S BOSTWICK

2. Street Address: 270 ALSTON AVE

City/Town: EASTHAM, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 270 ALSTON AVE

City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____



August 15, 2014

Mary Maloney
320 Forest Park Ave
Springfield, MA 01108

**Subject: Environmental Sampling Results
2 Eldia Way, Eastham, MA,**

Dear Ms. Maloney,

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **2 Eldia Way** property on August 4, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.

Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD

City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: MARY MALONEY

2. Street Address: 320 FOREST PARK AVE

City/Town: SPRINGFIELD, MA Zip Code: 01108

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 2 ELDIA WAY

City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 15, 2014

Albert Hottelmann
PO BOX 415
No Eastham, MA 2651

**Subject: Environmental Sampling Results
4 Eldia Way, Eastham, MA,**

Dear Mr. Hottelmann:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **4 Eldia Way** property on August 8, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: ALBERT HOTTELMANN
2. Street Address: PO BOX 415
City/Town: NORTH EASTHAM, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 4 ELDIA WAY
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 15, 2014

Nancy C. Correia, Ttee.
P.O Box 686
N. Eastham, MA 02642

**Subject: Environmental Sampling Results
200 Glacier Hills Road, Eastham, MA,**

Dear Ms. Correia:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **200 Glacier Hills Road** property on August 5, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: NANCY C CORREIA TTEE
2. Street Address: PO BOX 686
City/Town: N. EASTHAM, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 200 GLACIER HILLS ROAD
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 15, 2014

Randall Gill
PO Box 252
Orleans, MA 02653

**Subject: Environmental Sampling Results
70 Glacier Hills Road, Eastham, MA,**

Dear Mr. Gill:

On behalf of the Town of Eastham, this letter transmits to you the testing results of the water sample collected from your **70 Glacier Hills Road** property on August 4, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: RANDALL E GILL
2. Street Address: PO BOX 252
City/Town: ORLEANS, MA Zip Code: 02653

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 70 GLACIER HILLS ROAD
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 16, 2014

Linda Burt
Head Custodian
Eastham Elementary School
200 Schoolhouse Road
Eastham, MA 02642

**Subject: Environmental Sampling Results
200 Schoolhouse Road**

Dear Ms. Burt,

On behalf of the Town of Eastham, this letter transmits to you the testing results from the drinking water sample collected from **200 Schoolhouse Road** on August 4, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at an estimated concentration of 0.0822 micrograms per liter or µg/L. This concentration is below the Massachusetts drinking water standard and the bottle water action limit of 0.3 µg/L.

A summary of all laboratory results from water samples collected at this property is attached. In addition, the MassDEP-required form BWSC-123 form, pages from the laboratory report with these results, and a sample laboratory report diagram are attached. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: Eastham Landfill, 255 Old Orchard Road

City/Town: Eastham Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: Town of Eastham

2. Street Address: 2500 State Highway

City/Town: Eastham, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 200 Schoolhouse Road

City/Town: Eastham Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☒ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: Douglas Heely

Street Address: 273 West Main Street

City/Town: Norton Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

1,4 Dioxane Analytical Results

Eastham Elementary School 200 Schoolhouse Road

(reported in ug/L)

Sample Date	Sample Collection Point	Lab Report Sample ID Logged	Lab ID	1,4-Dioxane
8/4/2014	Influent Side (before) pH Treatment Vessels	SCHOOLHOUSE RD_200	L1417359-10	0.0822J
05/06/2014	Influent Side (before) pH Treatment Vessels	SCHOOLHOUSE RD_200	L1409598-05	0.105J
02/14/2014	Influent Side (before) pH Treatment Vessels	EES-PRE2	200-20946-1	0.083 J
	Duplicate (influent)	EES-151	200-20946-3	0.076 J
	Effluent Side (after) pH Treatment Vessels	EES-POST2	200-20946-2	0.094 J
02/11/2014	Influent Side (before) pH Treatment Vessels	ESS-PRE	200-20885-1	0.081 J
	Duplicate (influent)	ESS-150	200-20885-3	0.086 J
	Effluent Side (after) pH Treatment Vessels	ESS-POST	200-20885-2	0.096 J
02/12/2013	Raw Water Tap	200 Schoolhouse Rd.	480-32875-4	< 0.20

Current Drinking Water Standard 0.3

Notes:

- (a) The Sample collected on August 4, 2014, by Environmental Strategies & Management, was analyzed by Alpha Analytical using MassDEP CAM-compliant EPA Method 8270. The Method Detection Limit (MDL) was 0.0708 ug/L and the Reporting Limit (RL) was 0.142 ug/L. The analytical result was greater than the MDL, but less than the RL, and is therefore estimated and flagged as a "J" value.

The Sample collected on May 6, 2014, also by Environmental Strategies & Management, was analyzed by Alpha Analytical using MassDEP CAM-compliant EPA Method 8270. The Method Detection Limit (MDL) was 0.0721 ug/L and the Reporting Limit (RL) was 0.144 ug/L. The analytical result was greater than the MDL, but less than the RL, and is therefore estimated and flagged as a "J" value.

These samples were collected from the sample port located after the pressure tank and before the pH treatment vessel. This sample location is before any water lines leading to faucets and fountains. Prior to collecting each sample, 30 gallons of water was purged from the system over a period of approximately 25 minutes using the faucet nearest to the sample location.

- (b) Samples collected on February 11 and 14, 2014, by Environmental Partners Group, were analyzed by TestAmerica Laboratories using EPA Method 522 Mod. with a Method Detection Limit (MDL) of 0.040 ppb and a Reporting Limit (RL) of 0.20 ppb. The analytical results were greater than the MDL, but less than the RL, and therefore were estimated and flagged as a "J" value.

At this time, samples were collected from the ports before and after treatment vessels that provide pH treatment to the water. The taps from which the samples were collected were allowed to run a minimum of 15 minutes before sample collection. There are no drinking water fountains or bathroom faucets ahead of these taps.

- (c) Samples collected on February 12, 2013, by Bennett Associates were analyzed using EPA Method 522 Mod by TestAmerica Laboratories. This sample was a raw water sample.

August 15, 2014

Kim Tracy and Debra Palmer
C/O Ronald Dewyea
425 Schoolhouse Road
Eastham, MA 02642

**Subject: Environmental Sampling Results
415 Schoolhouse Road, Eastham, MA,**

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **415 Schoolhouse Road** property on August 5, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was detected at an estimated concentration of 0.0895 micrograms per liter or µg/L, which is below the Massachusetts drinking water guideline and the bottle water action limit of 0.3 µg/L.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD

City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: TRACY, KIM & DEBRA PALMER

2. Street Address: 415 SCHOOLHOUSE ROAD

City/Town: EASTHAM, MA Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 415 SCHOOLHOUSE ROAD

City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

August 15, 2014

Steven & Diane Douglas
PO Box 398
N. Eastham, MA 02651

**Subject: Environmental Sampling Results
10 Starlight Lane, Eastham, MA,**

Dear Mr. & Ms. Douglas,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **10 Starlight Lane** property on August 4, 2014. The water sample was submitted for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: STEVEN G & DIANE P DOUGLAS
2. Street Address: PO BOX 398
City/Town: NORTH EASTHAM, MA Zip Code: 02651

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 10 STARLIGHT LANE
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☒ commercial ☒ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____

Street Address: _____

City/Town: _____ Zip Code: _____

Telephone: _____ Email: _____

September 15, 2014

Philip J Bauer
214 Slice Dr
Stamford, CT 06907

**Subject: Environmental Sampling Results
55 Deepwood Drive, Eastham, MA,**

Dear Mr. Bauer,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **55 Deepwood Drive** property on August 25, 2014, by Environmental Strategies & Management. The water sample was submitted to Alpha Analytical for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: BAUER, PHILIP J
2. Street Address: 214 SLICE DR
City/Town: STAMFORD, CT Zip Code: 06907

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 55 DEEPWOOD DRIVE
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: DOUGLAS HEELY
Street Address: 273 WEST MAIN ST
City/Town: NORTON, MA Zip Code: 02766
Telephone: (508) 226-1800 Email: dheely@esm-inc.com

September 15, 2014

Edward & Nina Goldman
95 Highcrest Ln
Mt Kisco, NY 10549

**Subject: Environmental Sampling Results
180 Glacier Hills Rd, Eastham, MA,**

Dear Mr. & Ms. Goldman,

On behalf of the Town of Eastham, this letter transmits to you the testing results of a water sample collected from your **180 Glacier Hills Rd** property on August 25, 2014 by Environmental Strategies & Management. The water sample was submitted to Alpha Analytical for laboratory analysis of 1,4-dioxane. This compound was not detected in the sample above the laboratory reporting limit.

Pages from the laboratory report with these results are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram and a 1,4 dioxane information sheet. Status reports describing activities related to the Eastham landfill are available at the Eastham Town Hall and library, and are also available on line at:

<http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=4-0024301>

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, SERO



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: EDWARD & NINA GOLDMAN
2. Street Address: 95 HIGHCREST LN
City/Town: MT KISCO, NY Zip Code: 10549

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 180 GLACIER HILLS ROAD
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: DOUGLAS HEELY
Street Address: 273 WEST MAIN ST
City/Town: NORTON, MA Zip Code: 02766
Telephone: (508) 226-1800 Email: dheely@esm-inc.com

September 15, 2014

Eliza Fitts
1 Preservation Way
Eastham, MA 02642

Subject: 1 Preservation Way, Eastham, MA

Dear Ms. Fitz:

On behalf of the Town of Eastham, this letter transmits to you the laboratory results for the water samples collected from your property on August 25, 2014, by Environmental Strategies & Management. The sample was submitted to Alpha Analytical for 1,4 dioxane laboratory analysis. This compound was detected at a concentration of 0.174 micrograms per liter or $\mu\text{g/L}$ in the primary sample. Since the sampling protocol for this study includes the analysis of duplicate samples when 1,4 dioxane is detected above the laboratory detection limit (0.144 $\mu\text{g/L}$), the duplicate sample was also analyzed. The concentration detected in this sample was 0.199 $\mu\text{g/L}$. Both concentrations are below the Massachusetts drinking water standard and the bottle water action limit of 0.3 $\mu\text{g/L}$.

Pages from the laboratory report with the results for your water sample are attached for your review, along with MassDEP-required form BWSC-123, a sample laboratory report diagram, and the Massachusetts drinking water standards.

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, PG, LSP
Principal Geologist

Copy: Ms. Jane Crowley, Town of Eastham Board of Health
MassDEP, Southeast Regional Office



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to
Release Tracking Number

4

24301

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: EASTHAM LANDFILL, 255 OLD ORCHARD ROAD
City/Town: EASTHAM Zip Code: 02642

B. This notice is being provided to the following party:

1. Name: FITTS ELIZA
2. Street Address: 1 PRESERVATION WAY
City/Town: EASTHAM Zip Code: 02642

C. This notice is being given to inform its recipient (the party listed in Section B):

- ☒ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- ☒ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- ☒ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 1 PRESERVATION WAY
City/Town: EASTHAM, MA Zip Code: 02642

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☐ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Class C Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____
- (specify)

3. Description of property where sampling will be/has been conducted:

☒ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____

(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Private well drinking water.

E. Contact information related to the party providing this notice:

Contact Name: DOUGLAS HEELY

Street Address: 273 WEST MAIN ST

City/Town: NORTON, MA Zip Code: 02766

Telephone: (508) 226-1800 Email: dheely@esm-inc.com

September 30, 2014

Town of Eastham Board of Health
2500 State Highway
Eastham, MA 02642-2544

Eastham Board of Selectmen
Eastham Town Hall
2500 State Highway
Eastham MA 02643-2544

Subject: Immediate Response Action Status Report
Town of Eastham Landfill
255 Old Orchard Road, Eastham MA
RTN 4-24301

As required by the Massachusetts Contingency Plan (MCP), notice is hereby given that the above referenced document has been submitted electronically to the Massachusetts Department of Environmental Protection (MassDEP).

The objective of the Immediate Response Action program is to identify private water wells in the vicinity of the Eastham Landfill that have been impacted by 1,4 dioxane, and to provide alternative safe drinking water to affected residents. In addition, the IRA program includes implementation of appropriate and feasible mitigating measures to remove 1,4 dioxane and other VOCs related to the Eastham landfill from drinking water. This IRA Status report (and the incorporated Landfill Monitoring Plan report) discusses activities completed during the between June 1 and August 31, 2014).

The submitted documents can be viewed on line or at the MassDEP Southeast regional office. For more information about these options, please visit
<http://www.mass.gov/eea/agencies/massdep/>

If you have any questions, please contact our office at 508-226-1800.

Sincerely,
Environmental Strategies & Management, Inc.



Douglas Heely, LSP

Copy: MassDEP Southeast Region