



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker  
Governor

Matthew A. Beaton  
Secretary

Karyn E. Polito  
Lieutenant Governor

Martin Suuberg  
Commissioner

November 30, 2018

Mr. Nicholas Condon  
68 Birch Drive  
Hanover, Massachusetts 02339

RE: **HANOVER**  
Release Tracking Number 4-0000090  
Former National Fireworks Facility, King St.  
**ANALYTICAL RESULTS**  
**68 BIRCH DRIVE**

Dear Mr. Condon,

The Massachusetts Department of Environmental Protection (MassDEP or the Department) Bureau of Waste Site Cleanup is tasked with ensuring the cleanup of oil and hazardous material releases pursuant to the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (M.G.L. Chapter 21E). This law is implemented through regulations known as the Massachusetts Contingency Plan (310 CMR 40.0000 et seq. – the MCP). Both M.G.L. c. 21E and the MCP require the performance of response actions to provide for the protection of harm to health, safety, public welfare and the environment which may result from releases and/or threats of releases of oil and/or hazardous material (OHM) at disposal sites.

As you are aware, MassDEP is currently overseeing the assessment of the Former National Fireworks Site located on King Street in Hanover, Massachusetts where various contaminants including trichloroethylene (TCE), lead, mercury, and other metals and organic compounds were released to the soil and groundwater. The Site was assigned Release Tracking Number (RTN) 4-0000090 under the MassDEP's Waste Site Cleanup program. Remedial investigation and cleanup activities are currently ongoing at the Site.

On August 28, 2018, MassDEP issued a letter to you requesting access to your property located at 68 Birch Drive in Hanover, Massachusetts to conduct groundwater sampling at the irrigation well located on your property. Since your parcel of land is in close proximity to the Former National Fireworks Site and you have requested information pertinent to your irrigation well, MassDEP performed the sampling to evaluate whether the release of various contaminants from the Former National Fireworks Site has resulted in an impact to your well used to water your property.

This information is available in alternate format. Call the MassDEP Diversity Office at 617-556-1139. TTY# MassRelay Service 1-800-439-2370

MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

Printed on Recycled Paper

HANOVER, Former National Fireworks Facility  
RTN 4-0000090

On October 18, 2018, MassDEP collected a groundwater sample from the irrigation well at your property at 68 Birch Drive. The sample was transported to a MassDEP certified laboratory and analyzed for volatile organic compounds (VOCs) using Environmental Protection Agency (EPA) Method 8260 and MCP 14 total metals using EPA Methods 6010 and 7470.

#### ANALYTICAL RESULTS

The laboratory results indicate that no VOCs were detected in the groundwater sample collected from your irrigation well located on your property. It should be noted that laboratory analysis did detect the metal barium at a concentration of 0.033 milligrams per liter (mg/l) (or 33 micrograms per liter [ug/l]) in the groundwater sample collected from your irrigation well located on your property.

MassDEP has established standards for areas in which groundwater is or may be used for drinking water purposes. These are known as Groundwater Category GW-1 Standards. The concentration of the barium detected in the groundwater sample collected from your irrigation well was below the GW-1 Standard of 2,000 ug/l.

As required by the MCP, MassDEP is providing you, the owner of the property where the sampling was conducted, with the results of the analysis performed on the sample. The analytical results are attached to this letter.

If you have any questions regarding the enclosed analytical results, please contact Kendall Walker at the letterhead address, by telephone at (508) 946-2846, or by email at [kendall.walker@mass.gov](mailto:kendall.walker@mass.gov). Please reference RTN 4-0000090 in any written correspondence regarding the Site.

Sincerely,



Deborah A. Marshall-Hewlitt  
Chief, Audit Section  
Bureau of Waste Site Cleanup

DMH/KW

Enclosed: Analytical Results for 68 Birch Drive, Hanover, Massachusetts

Ec: Hanover Chief Municipal Officer  
Hanover Board of Health

DEP-SERO

Attn: Gerard M. R. Martin, Deputy Regional Engineer, BWSC  
Attn: Andrew Fowler, Regional Counsel

**Project Name:** FIREWORKS SITE  
**Project Number:** 101900.00

**Lab Number:** L1842519  
**Report Date:** 10/29/18

**SAMPLE RESULTS**

Lab ID: L1842519-01  
 Client ID: 68BIRCH-GW-1  
 Sample Location: HANOVER, MA

Date Collected: 10/18/18 11:55  
 Date Received: 10/18/18  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 97,8260C  
 Analytical Date: 10/28/18 18:12  
 Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: FIREWORKS SITE

Lab Number: L1842519

Project Number: 101900.00

Report Date: 10/29/18

## SAMPLE RESULTS

Lab ID: L1842519-01  
 Client ID: 68BIRCH-GW-1  
 Sample Location: HANOVER, MA

Date Collected: 10/18/18 11:55  
 Date Received: 10/18/18  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

**Project Name:** FIREWORKS SITE  
**Project Number:** 101900.00

**Lab Number:** L1842519  
**Report Date:** 10/29/18

**SAMPLE RESULTS**

Lab ID: L1842519-01  
 Client ID: 68BIRCH-GW-1  
 Sample Location: HANOVER, MA

Date Collected: 10/18/18 11:55  
 Date Received: 10/18/18  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	105		70-130

Project Name: FIREWORKS SITE

Lab Number: L1842519

Project Number: 101900.00

Report Date: 10/29/18

## SAMPLE RESULTS

Lab ID: L1842519-01  
 Client ID: 68BIRCH-GW-1  
 Sample Location: HANOVER, MA

Date Collected: 10/18/18 11:55  
 Date Received: 10/18/18  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.050	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Arsenic, Total	ND		mg/l	0.0050	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Barium, Total	0.033		mg/l	0.010	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Beryllium, Total	ND		mg/l	0.005	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Cadmium, Total	ND		mg/l	0.004	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Chromium, Total	ND		mg/l	0.010	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Lead, Total	ND		mg/l	0.010	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Mercury, Total	ND		mg/l	0.0002	--	1	10/24/18 16:43	10/24/18 19:34	EPA 7470A	97,7470A	MG
Nickel, Total	ND		mg/l	0.025	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Selenium, Total	ND		mg/l	0.010	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Silver, Total	ND		mg/l	0.007	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Thallium, Total	ND		mg/l	0.020	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Vanadium, Total	ND		mg/l	0.010	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB
Zinc, Total	ND		mg/l	0.050	--	1	10/20/18 10:25	10/24/18 15:19	EPA 3005A	97,6010D	AB



