02-May-2017

Scott Smith
Water Defense
PO Box 204
Livingston Manor, NY 12758

Tel: (508) 345-6520
Fax:

Re: Flint [redacted] House Work Order: **1704554**

Dear Scott,

ALS Environmental received 4 samples on 17-Apr-2017 for the analyses presented in the following report.

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

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 27.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

ALS Environmental

Date: 02-May-17

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Work Order: **1704554**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1704554-01	1- Shower Grab	Water		4/14/2017	4/17/2017	☐
1704554-02	2- Shower WaterBug Grab	Bulk		4/14/2017	4/17/2017	☐
1704554-03	3- Meter Grab	Water		4/14/2017	4/17/2017	☐
1704554-04	4-Meter WaterBug Grab	Bulk		4/14/2017	4/17/2017	☐

ALS Environmental *Date: 02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Work Order: 1704554

Case Narrative

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

Results relate only to the items tested and are not blank corrected unless indicated.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

EPA-R5-2017-008527_0000360

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Sample ID: 1- Shower Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **MRJ**
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,1-Dichloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,1-Dichloroethene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,1-Dichloropropene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2-Dibromoethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2-Dichloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,2-Dichloropropane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,3-Dichloropropane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
2,2-Dichloropropane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
2-Butanone	ND		50	µg/L	1	4/20/2017 05:33 PM
2-Chlorotoluene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
2-Hexanone	ND		5.0	µg/L	1	4/20/2017 05:33 PM
4-Chlorotoluene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Acetone	ND		50	µg/L	1	4/20/2017 05:33 PM
Benzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Bromobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Bromochloromethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Bromodichloromethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Bromoform	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Bromomethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Carbon disulfide	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Carbon tetrachloride	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Chlorobenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Chloroethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Chloroform	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Chloromethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM

Note:

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Sample ID: 1- Shower Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Dibromochloromethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Dibromomethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Dichlorodifluoromethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Ethylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Isopropylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
m,p-Xylene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Methyl tert-butyl ether	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Methylene chloride	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Naphthalene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
n-Butylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
n-Propylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
o-Xylene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
p-Isopropyltoluene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
sec-Butylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Styrene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
tert-Butylbenzene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Tetrachloroethene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Toluene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Trichloroethene	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Trichlorofluoromethane	ND		5.0	µg/L	1	4/20/2017 05:33 PM
Vinyl chloride	ND		2.0	µg/L	1	4/20/2017 05:33 PM
Xylenes, Total	ND		10	µg/L	1	4/20/2017 05:33 PM
Surr: 4-Bromofluorobenzene	*91.9*		*61-131*	*%REC*	1	4/20/2017 05:33 PM
Surr: Dibromofluoromethane	*113*		*87-126*	*%REC*	1	4/20/2017 05:33 PM
Surr: Toluene-d8	*103*		*84-111*	*%REC*	1	4/20/2017 05:33 PM

Note:

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Sample ID: 2- Shower WaterBug Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-02
Matrix: BULK

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **LAK**
1,1,1,2-Tetrachloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,1,1-Trichloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,1,2,2-Tetrachloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,1,2-Trichloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,1-Dichloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,1-Dichloroethene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,1-Dichloropropene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2,3-Trichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2,3-Trichloropropane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2,4-Trichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2,4-Trimethylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2-Dibromo-3-chloropropane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2-Dibromoethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2-Dichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2-Dichloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,2-Dichloropropane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,3,5-Trimethylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,3-Dichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,3-Dichloropropane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
1,4-Dichlorobenzene	**340**		**25**	**µg/Kg**	5	4/26/2017 12:12 PM
2,2-Dichloropropane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
2-Butanone	ND		250	µg/Kg	5	4/26/2017 12:12 PM
2-Chlorotoluene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
2-Hexanone	ND		25	µg/Kg	5	4/26/2017 12:12 PM
4-Chlorotoluene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
4-Methyl-2-pentanone	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Acetone	ND		250	µg/Kg	5	4/26/2017 12:12 PM
Benzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Bromobenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Bromochloromethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Bromodichloromethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Bromoform	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Bromomethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Carbon disulfide	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Carbon tetrachloride	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Chlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Chloroethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Chloroform	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Chloromethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM

Note:

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Sample ID: 2- Shower WaterBug Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-02
Matrix: BULK

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
cis-1,3-Dichloropropene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Dibromochloromethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Dibromomethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Dichlorodifluoromethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Ethylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Hexachlorobutadiene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Isopropylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
m,p-Xylene	**82**		**25**	**µg/Kg**	5	4/26/2017 12:12 PM
Methyl tert-butyl ether	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Methylene chloride	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Naphthalene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
n-Butylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
n-Propylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
o-Xylene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
p-Isopropyltoluene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
sec-Butylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Styrene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
tert-Butylbenzene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Tetrachloroethene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Toluene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
trans-1,2-Dichloroethene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
trans-1,3-Dichloropropene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Trichloroethene	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Trichlorofluoromethane	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Vinyl chloride	ND		25	µg/Kg	5	4/26/2017 12:12 PM
Xylenes, Total	ND		50	µg/Kg	5	4/26/2017 12:12 PM
Surr: 4-Bromofluorobenzene	*119*		*62.7-159*	*%REC*	5	4/26/2017 12:12 PM
Surr: Dibromofluoromethane	*103*		*67.3-136*	*%REC*	5	4/26/2017 12:12 PM
Surr: Toluene-d8	*99.8*		*83-124*	*%REC*	5	4/26/2017 12:12 PM

Note:

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Sample ID: 3- Meter Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP			**SW6010B**		Prep Date: **4/20/2017**	Analyst: **SRL**
Aluminum	ND		0.20	mg/L	1	4/20/2017 01:27 PM
Arsenic	ND		0.010	mg/L	1	4/20/2017 01:27 PM
Barium	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Beryllium	ND		0.00040	mg/L	1	4/20/2017 01:27 PM
Cadmium	ND		0.0050	mg/L	1	4/20/2017 01:27 PM
Calcium	**28**		**0.20**	**mg/L**	1	4/20/2017 01:27 PM
Chromium	ND		0.020	mg/L	1	4/20/2017 01:27 PM
Cobalt	ND		0.0040	mg/L	1	4/20/2017 01:27 PM
Copper	**0.081**		**0.025**	**mg/L**	1	4/20/2017 01:27 PM
Gadolinium	ND		0.10	mg/L	1	5/1/2017 04:05 PM
Iron	ND		0.20	mg/L	1	4/20/2017 01:27 PM
Lead	ND		0.015	mg/L	1	4/20/2017 01:27 PM
Lithium	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Magnesium	**8.1**		**0.20**	**mg/L**	1	4/20/2017 01:27 PM
Manganese	ND		0.050	mg/L	1	4/20/2017 01:27 PM
Molybdenum	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Nickel	ND		0.050	mg/L	1	4/20/2017 01:27 PM
Phosphorus	**1.2**		**0.10**	**mg/L**	1	4/20/2017 01:27 PM
Platinum	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Selenium	ND		0.030	mg/L	1	4/20/2017 01:27 PM
Silver	ND		0.010	mg/L	1	4/20/2017 01:27 PM
Sodium	**7.1**		**0.20**	**mg/L**	1	4/20/2017 01:27 PM
Tellurium	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Thallium	ND		0.0050	mg/L	1	4/20/2017 01:27 PM
Tin	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Titanium	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Tungsten	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Vanadium	ND		0.050	mg/L	1	4/20/2017 01:27 PM
Yttrium	ND		0.10	mg/L	1	4/20/2017 01:27 PM
Zinc	ND		0.050	mg/L	1	4/20/2017 01:27 PM
Zirconium	ND		0.10	mg/L	1	4/20/2017 01:27 PM

Note:

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
Sample ID: 4-Meter Water Bug Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-04
Matrix: BULK

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **LAK**
1,1,1,2-Tetrachloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,1,1-Trichloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,1,2,2-Tetrachloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,1,2-Trichloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,1-Dichloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,1-Dichloroethene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,1-Dichloropropene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2,3-Trichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2,3-Trichloropropane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2,4-Trichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2,4-Trimethylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2-Dibromo-3-chloropropane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2-Dibromoethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2-Dichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2-Dichloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,2-Dichloropropane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,3,5-Trimethylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,3-Dichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,3-Dichloropropane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
1,4-Dichlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
2,2-Dichloropropane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
2-Butanone	ND		250	µg/Kg	5	4/26/2017 12:36 PM
2-Chlorotoluene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
2-Hexanone	ND		25	µg/Kg	5	4/26/2017 12:36 PM
4-Chlorotoluene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
4-Methyl-2-pentanone	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Acetone	ND		250	µg/Kg	5	4/26/2017 12:36 PM
Benzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Bromobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Bromochloromethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Bromodichloromethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Bromoform	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Bromomethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Carbon disulfide	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Carbon tetrachloride	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Chlorobenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Chloroethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Chloroform	**32**		**25**	**µg/Kg**	5	4/26/2017 12:36 PM
Chloromethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM

Note:

ALS Environmental

Date: *02-May-17*

Client: Water Defense
Project: Flint [redacted] House
Sample ID: 4-Meter Water Bug Grab
Collection Date: 4/14/2017

Work Order: 1704554
Lab ID: 1704554-04
Matrix: BULK

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
cis-1,3-Dichloropropene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Dibromochloromethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Dibromomethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Dichlorodifluoromethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Ethylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Hexachlorobutadiene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Isopropylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
m,p-Xylene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Methyl tert-butyl ether	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Methylene chloride	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Naphthalene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
n-Butylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
n-Propylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
o-Xylene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
p-Isopropyltoluene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
sec-Butylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Styrene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
tert-Butylbenzene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Tetrachloroethene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Toluene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
trans-1,2-Dichloroethene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
trans-1,3-Dichloropropene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Trichloroethene	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Trichlorofluoromethane	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Vinyl chloride	ND		25	µg/Kg	5	4/26/2017 12:36 PM
Xylenes, Total	ND		50	µg/Kg	5	4/26/2017 12:36 PM
Surr: 4-Bromofluorobenzene	*108*		*62.7-159*	*%REC*	5	4/26/2017 12:36 PM
Surr: Dibromofluoromethane	*109*		*67.3-136*	*%REC*	5	4/26/2017 12:36 PM
Surr: Toluene-d8	*100*		*83-124*	*%REC*	5	4/26/2017 12:36 PM

Note:

ALS Environmental

Date: 02-May-17

Client: Water Defense

Work Order: 1704554

Project: Flint House

QC BATCH REPORT

Batch ID: **42623** Instrument ID: **ICP3** Method: **SW6010B**

MBLK Sample ID: **mblk-42623-42623** Units: **mg/L** Analysis Date: **4/20/2017 01:00 PM**

Client ID: Run ID: **ICP3_170420B** SeqNo: **1484655** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.20								
Arsenic	ND	0.010								
Barium	ND	0.10								
Beryllium	ND	0.00040								
Cadmium	ND	0.0050								
Calcium	ND	0.20								
Chromium	ND	0.020								
Cobalt	ND	0.0040								
Copper	ND	0.025								
Iron	ND	0.20								
Lead	ND	0.015								
Lithium	ND	0.10								
Magnesium	ND	0.20								
Manganese	ND	0.050								
Molybdenum	ND	0.10								
Nickel	ND	0.050								
Phosphorus	ND	0.10								
Platinum	ND	0.10								
Selenium	ND	0.030								
Silver	ND	0.010								
Sodium	ND	0.20								
Tellurium	ND	0.10								
Thallium	ND	0.0050								
Tin	ND	0.10								
Titanium	ND	0.10								
Tungsten	ND	0.10								
Vanadium	ND	0.050								
Yttrium	ND	0.10								
Zinc	ND	0.050								
Zirconium	ND	0.10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **42623** Instrument ID: **ICP3** Method: **SW6010B**

LCS Sample ID: **lcs-42623-42623** Units: **mg/L** Analysis Date: **4/20/2017 01:03 PM**
Client ID: Run ID: **ICP3_170420B** SeqNo: **1484656** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	1.179	0.20	1.1	0	107	87.9-120	0			
Arsenic	1.125	0.010	1.1	0	102	80-120	0			
Barium	1.096	0.10	1.1	0	99.7	80-120	0			
Beryllium	1.112	0.00040	1.1	0	101	80-120	0			
Cadmium	1.114	0.0050	1.1	0	101	80-120	0			
Calcium	1.099	0.20	1.1	0	99.9	80.3-122	0			
Chromium	1.087	0.020	1.1	0	98.8	80-120	0			
Cobalt	1.128	0.0040	1.1	0	102	80-120	0			
Copper	1.086	0.025	1.1	0	98.7	80-120	0			
Lead	1.124	0.015	1.1	0	102	80-120	0			
Magnesium	1.111	0.20	1.1	0	101	80-120	0			
Manganese	1.109	0.050	1.1	0	101	80-120	0			
Molybdenum	1.09	0.10	1.1	0	99.1	80-120	0			
Nickel	1.133	0.050	1.1	0	103	80-120	0			
Selenium	1.107	0.030	1.1	0	101	80-120	0			
Silver	1.091	0.010	1.1	0	99.1	80-120	0			
Sodium	1.093	0.20	1.1	0	99.3	80-120	0			
Thallium	1.083	0.0050	1.1	0	98.4	80-120	0			
Titanium	1.106	0.10	1.1	0	100	80-120	0			
Vanadium	1.109	0.050	1.1	0	101	80-120	0			
Zinc	1.084	0.050	1.1	0	98.5	80-120	0			

LCS Sample ID: **LCS-42623-42623** Units: **mg/L** Analysis Date: **5/1/2017 04:11 PM**
Client ID: Run ID: **ICP3_170501C** SeqNo: **1491852** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gadolinium	1.088	0.10	1.1	0	98.9	80-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint [redacted] House

QC BATCH REPORT

Batch ID: **42623** Instrument ID: **ICP3** Method: **SW6010B**

LCSD Sample ID: **lcsd-42623-42623** Units: **mg/L** Analysis Date: **4/20/2017 01:06 PM**
Client ID: Run ID: **ICP3_170420B** SeqNo: **1484657** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	1.086	0.20	1.1	0	98.7	87.9-120	1.179	8.22	20	
Arsenic	1.11	0.010	1.1	0	101	80-120	1.125	1.38	20	
Barium	1.087	0.10	1.1	0	98.8	80-120	1.096	0.867	20	
Beryllium	1.072	0.00040	1.1	0	97.4	80-120	1.112	3.68	20	
Cadmium	1.104	0.0050	1.1	0	100	80-120	1.114	0.892	20	
Calcium	1.056	0.20	1.1	0	96	80.3-122	1.099	3.96	20	
Chromium	1.057	0.020	1.1	0	96.1	80-120	1.087	2.79	20	
Cobalt	1.119	0.0040	1.1	0	102	80-120	1.128	0.784	20	
Copper	1.054	0.025	1.1	0	95.8	80-120	1.086	3.01	20	
Iron	1.082	0.20	1.1	0	98.3	80-120	1.118	3.28	20	
Lead	1.115	0.015	1.1	0	101	80-120	1.124	0.786	20	
Magnesium	1.112	0.20	1.1	0	101	80-120	1.111	0.099	20	
Manganese	1.066	0.050	1.1	0	96.9	80-120	1.109	3.97	20	
Molybdenum	1.08	0.10	1.1	0	98.2	80-120	1.09	0.943	20	
Nickel	1.125	0.050	1.1	0	102	80-120	1.133	0.682	20	
Selenium	1.088	0.030	1.1	0	99	80-120	1.107	1.65	20	
Silver	1.056	0.010	1.1	0	96	80-120	1.091	3.19	20	
Sodium	1.048	0.20	1.1	0	95.2	80-120	1.093	4.21	20	
Thallium	1.078	0.0050	1.1	0	98	80-120	1.083	0.448	20	
Titanium	1.069	0.10	1.1	0	97.2	80-120	1.106	3.38	20	
Vanadium	1.071	0.050	1.1	0	97.4	80-120	1.109	3.48	20	
Zinc	1.074	0.050	1.1	0	97.6	80-120	1.084	0.897	20	

LCSD Sample ID: **LCSD-42623-42623** Units: **mg/L** Analysis Date: **5/1/2017 04:14 PM**
Client ID: Run ID: **ICP3_170501C** SeqNo: **1491853** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gadolinium	0.9907	0.10	1.1	0	90.1	80-120	1.088	9.4	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **42623** Instrument ID: **ICP3** Method: **SW6010B**

MS Sample ID: **1704554-03a ms** Units: **mg/L** Analysis Date: **4/20/2017 01:30 PM**
Client ID: **3- Meter Grab** Run ID: **ICP3_170420B** SeqNo: **1484663** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.9946	0.20	1.1	-0.1426	103	75-125	0			
Arsenic	1.138	0.010	1.1	-0.002142	104	75-125	0			
Barium	1.115	0.10	1.1	0.01342	100	75-125	0			
Beryllium	1.096	0.00040	1.1	-0.0000649	99.7	75-125	0			
Cadmium	1.12	0.0050	1.1	0.0001562	102	75-125	0			
Calcium	29.08	0.20	1.1	28.34	68	75-125	0			SO
Chromium	1.06	0.020	1.1	0.0009768	96.3	75-125	0			
Cobalt	1.116	0.0040	1.1	0.000341	101	75-125	0			
Copper	1.14	0.025	1.1	0.08081	96.3	75-125	0			
Iron	1.166	0.20	1.1	0.05513	101	75-125	0			
Lead	1.112	0.015	1.1	-0.0003102	101	75-125	0			
Magnesium	9.079	0.20	1.1	8.103	88.8	75-125	0			O
Manganese	1.069	0.050	1.1	0.002378	97	75-125	0			
Molybdenum	1.11	0.10	1.1	0	101	75-125	0			
Nickel	1.122	0.050	1.1	0.001432	102	75-125	0			
Selenium	1.119	0.030	1.1	-0.00106	102	75-125	0			
Silver	1.069	0.010	1.1	-0.0005412	97.3	75-125	0			
Sodium	8.127	0.20	1.1	7.11	92.4	75-125	0			O
Thallium	1.084	0.0050	1.1	-0.002166	98.8	75-125	0			
Titanium	1.097	0.10	1.1	0.00297	99.4	75-125	0			
Vanadium	1.085	0.050	1.1	0.002857	98.3	75-125	0			
Zinc	1.094	0.050	1.1	0.01935	97.7	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint [redacted] House

QC BATCH REPORT

Batch ID: **42623** Instrument ID: **ICP3** Method: **SW6010B**

MSD Sample ID: **1704554-03a msd** Units: **mg/L** Analysis Date: **4/20/2017 01:33 PM**
Client ID: **3- Meter Grab** Run ID: **ICP3_170420B** SeqNo: **1484664** Prep Date: **4/20/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.9731	0.20	1.1	-0.1426	101	75-125	0.9946	2.19	20	
Arsenic	1.14	0.010	1.1	-0.002142	104	75-125	1.138	0.0966	20	
Barium	1.111	0.10	1.1	0.01342	99.8	75-125	1.115	0.395	20	
Beryllium	1.096	0.00040	1.1	-0.0000649	99.6	75-125	1.096	0.0401	20	
Cadmium	1.122	0.0050	1.1	0.0001562	102	75-125	1.12	0.196	20	
Calcium	29.08	0.20	1.1	28.34	68	75-125	29.08	0	20	SO
Chromium	1.073	0.020	1.1	0.0009768	97.5	75-125	1.06	1.29	20	
Cobalt	1.116	0.0040	1.1	0.000341	101	75-125	1.116	0	20	
Copper	1.157	0.025	1.1	0.08081	97.9	75-125	1.14	1.53	20	
Iron	1.163	0.20	1.1	0.05513	101	75-125	1.166	0.283	20	
Lead	1.116	0.015	1.1	-0.0003102	102	75-125	1.112	0.395	20	
Magnesium	9.092	0.20	1.1	8.103	89.9	75-125	9.079	0.133	20	O
Manganese	1.068	0.050	1.1	0.002378	96.9	75-125	1.069	0.0926	20	
Molybdenum	1.11	0.10	1.1	0	101	75-125	1.11	0	20	
Nickel	1.123	0.050	1.1	0.001432	102	75-125	1.122	0.098	20	
Selenium	1.112	0.030	1.1	-0.00106	101	75-125	1.119	0.592	20	
Silver	1.082	0.010	1.1	-0.0005412	98.4	75-125	1.069	1.14	20	
Sodium	8.077	0.20	1.1	7.11	87.9	75-125	8.127	0.611	20	O
Thallium	1.091	0.0050	1.1	-0.002166	99.4	75-125	1.084	0.647	20	
Titanium	1.086	0.10	1.1	0.00297	98.4	75-125	1.097	1.01	20	
Vanadium	1.084	0.050	1.1	0.002857	98.3	75-125	1.085	0.0406	20	
Zinc	1.095	0.050	1.1	0.01935	97.8	75-125	1.094	0.151	20	

The following samples were analyzed in this batch: 1704554-03a

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint [redacted] House

QC BATCH REPORT

Batch ID: **R139602** Instrument ID: **VMS1** Method: **SW8260B**

MBLK Sample ID: **MBLK-R139602** Units: **µg/L** Analysis Date: **4/20/2017 10:42 AM**
Client ID: Run ID: **VMS1_170420A** SeqNo: **1484762** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139602** Instrument ID: **VMS1** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	5.0					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	2.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	45.09	0	*50*	0	*90.2*	*61-131*	0
Surr: Dibromofluoromethane	54.55	0	*50*	0	*109*	*87-126*	0
Surr: Toluene-d8	51.21	0	*50*	0	*102*	*84-111*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139602** Instrument ID: **VMS1** Method: **SW8260B**

LCS Sample ID: **LCS-R139602** Units: **µg/L** Analysis Date: **4/20/2017 10:18 AM**
Client ID: Run ID: **VMS1_170420A** SeqNo: **1484761** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.03	5.0	50	0	96.1	48.4-140	0			
1,1-Dichloroethene	48.18	5.0	50	0	96.4	45.5-150	0			
1,2-Dichloroethane	52.56	5.0	50	0	105	46.5-141	0			
1,3-Dichlorobenzene	34.59	5.0	50	0	69.2	42.5-133	0			
1,4-Dichlorobenzene	33.15	5.0	50	0	66.3	38.9-136	0			
Benzene	44.53	5.0	50	0	89.1	50.7-134	0			
Carbon tetrachloride	47.71	5.0	50	0	95.4	45.5-143	0			
Chlorobenzene	38.87	5.0	50	0	77.7	45-133	0			
Chloroform	49.73	5.0	50	0	99.5	52.4-136	0			
cis-1,2-Dichloroethene	49.01	5.0	50	0	98	49.7-138	0			
Ethylbenzene	37.54	5.0	50	0	75.1	37.8-145	0			
m,p-Xylene	75.05	5.0	100	0	75	25.1-163	0			
Methyl tert-butyl ether	47.31	5.0	50	0	94.6	26.7-174	0			
Styrene	38.62	5.0	50	0	77.2	26.3-172	0			
Tetrachloroethene	38.94	5.0	50	0	77.9	37.3-139	0			
Toluene	43.09	5.0	50	0	86.2	44-135	0			
Trichloroethene	44.39	5.0	50	0	88.8	45.9-140	0			
Xylenes, Total	112.6	10	150	0	75.1	47.3-132	0			
Surr: 4-Bromofluorobenzene	47.21	0	*50*	0	*94.4*	*61-131*	0			
Surr: Dibromofluoromethane	53.79	0	*50*	0	*108*	*87-126*	0			
Surr: Toluene-d8	51.77	0	*50*	0	*104*	*84-111*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139602** Instrument ID: **VMS1** Method: **SW8260B**

MS Sample ID: **1704455-02A MS** Units: **µg/L** Analysis Date: **4/20/2017 12:10 PM**
Client ID: Run ID: **VMS1_170420A** SeqNo: **1484765** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	44.79	5.0	50	0	89.6	40.4-134	0			
1,1-Dichloroethene	46.41	5.0	50	0	92.8	45.3-151	0			
1,2-Dichloroethane	51.91	5.0	50	0	104	37-139	0			
1,3-Dichlorobenzene	28.47	5.0	50	0	56.9	42.9-121	0			
1,4-Dichlorobenzene	26.58	5.0	50	0	53.2	53.4-129	0			S
Benzene	42.02	5.0	50	0	84	37.4-144	0			
Carbon tetrachloride	42.99	5.0	50	0	86	33.8-150	0			
Chlorobenzene	33	5.0	50	0	66	52.4-132	0			
Chloroform	46.6	5.0	50	0	93.2	45.5-135	0			
cis-1,2-Dichloroethene	46.86	5.0	50	0	93.7	35.2-150	0			
Ethylbenzene	30.9	5.0	50	0	61.8	46.5-146	0			
m,p-Xylene	61.59	5.0	100	0	61.6	38.2-167	0			
Styrene	30.72	5.0	50	0	61.4	20.9-184	0			
Tetrachloroethene	34.38	5.0	50	4.5	59.8	55.2-134	0			
Toluene	37.24	5.0	50	0	74.5	32.7-140	0			
Trichloroethene	37.43	5.0	50	0	74.9	29.1-153	0			
Xylenes, Total	93.76	10	150	0	62.5	43.6-148	0			
Surr: 4-Bromofluorobenzene	47.13	0	*50*	0	*94.3*	*61-131*	0			
Surr: Dibromofluoromethane	53.94	0	*50*	0	*108*	*87-126*	0			
Surr: Toluene-d8	51.52	0	*50*	0	*103*	*84-111*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flin Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139602** Instrument ID: **VMS1** Method: **SW8260B**

MSD Sample ID: **1704455-02A MSD** Units: **µg/L** Analysis Date: **4/20/2017 12:36 PM**
Client ID: Run ID: **VMS1_170420A** SeqNo: **1484766** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.73	5.0	50	0	93.5	40.4-134	44.79	4.24	20	
1,1-Dichloroethene	45.67	5.0	50	0	91.3	45.3-151	46.41	1.61	20	
1,2-Dichloroethane	53.41	5.0	50	0	107	37-139	51.91	2.85	20	
1,3-Dichlorobenzene	32.72	5.0	50	0	65.4	42.9-121	28.47	13.9	20	
1,4-Dichlorobenzene	31.24	5.0	50	0	62.5	53.4-129	26.58	16.1	20	
Benzene	43.39	5.0	50	0	86.8	37.4-144	42.02	3.21	20	
Carbon tetrachloride	46.32	5.0	50	0	92.6	33.8-150	42.99	7.46	20	
Chlorobenzene	37.6	5.0	50	0	75.2	52.4-132	33	13	20	
Chloroform	48.64	5.0	50	0	97.3	45.5-135	46.6	4.28	20	
cis-1,2-Dichloroethene	47.59	5.0	50	0	95.2	35.2-150	46.86	1.55	21	
Ethylbenzene	35.72	5.0	50	0	71.4	46.5-146	30.9	14.5	20	
m,p-Xylene	70.7	5.0	100	0	70.7	38.2-167	61.59	13.8	20	
Styrene	34.6	5.0	50	0	69.2	20.9-184	30.72	11.9	20	
Tetrachloroethene	41.01	5.0	50	4.5	73	55.2-134	34.38	17.6	20	
Toluene	41.92	5.0	50	0	83.8	32.7-140	37.24	11.8	20	
Trichloroethene	42.94	5.0	50	0	85.9	29.1-153	37.43	13.7	20	
Xylenes, Total	106.7	10	150	0	71.1	43.6-148	93.76	12.9	20	
Surr: 4-Bromofluorobenzene	46.74	0	*50*	0	*93.5*	*61-131*	47.13	*0.831*		
Surr: Dibromofluoromethane	53.45	0	*50*	0	*107*	*87-126*	53.94	*0.913*		
Surr: Toluene-d8	51.13	0	*50*	0	*102*	*84-111*	51.52	*0.76*		

The following samples were analyzed in this batch: 1704554-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. E - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139815** Instrument ID: **VMS2** Method: **SW8260B**

MBLK Sample ID: **MBLK-R139815** Units: **µg/Kg** Analysis Date: **4/26/2017 07:16 AM**
Client ID: Run ID: **VMS2_170426A** SeqNo: **1489191** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139815** Instrument ID: **VMS2** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	5.0					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	5.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	47.52	0	*50*	0	*95*	*62.7-159*	0
Surr: Dibromofluoromethane	51.55	0	*50*	0	*103*	*67.3-136*	0
Surr: Toluene-d8	51.01	0	*50*	0	*102*	*83-124*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint [redacted] House

QC BATCH REPORT

Batch ID: **R139815** Instrument ID: **VMS2** Method: **SW8260B**

LCS Sample ID: **LCS-R139815** Units: **µg/Kg** Analysis Date: **4/26/2017 07:39 AM**
Client ID: Run ID: **VMS2_170426A** SeqNo: **1489192** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43	5.0	50	0	86	53.6-149	0			
1,1-Dichloroethene	56.5	5.0	50	0	113	38.8-176	0			
1,2-Dichloroethane	47.7	5.0	50	0	95.4	54.4-145	0			
1,3-Dichlorobenzene	45.28	5.0	50	0	90.6	54.2-137	0			
1,4-Dichlorobenzene	44.24	5.0	50	0	88.5	52.8-135	0			
Benzene	48.25	5.0	50	0	96.5	56-148	0			
Carbon tetrachloride	41.62	5.0	50	0	83.2	51.9-151	0			
Chlorobenzene	49.12	5.0	50	0	98.2	55.4-137	0			
Chloroform	58.58	5.0	50	0	117	51.1-147	0			
cis-1,2-Dichloroethene	57.78	5.0	50	0	116	47.6-149	0			
Ethylbenzene	50.32	5.0	50	0	101	55.8-142	0			
m,p-Xylene	109	5.0	100	0	109	57.6-141	0			
Styrene	52.54	5.0	50	0	105	59.6-143	0			
Tetrachloroethene	47	5.0	50	0	94	56.2-160	0			
Toluene	50.49	5.0	50	0	101	56-143	0			
Trichloroethene	44.59	5.0	50	0	89.2	56.5-143	0			
Surr: 4-Bromofluorobenzene	49.74	0	*50*	0	*99.5*	*62.7-159*	0			
Surr: Dibromofluoromethane	54.07	0	*50*	0	*108*	*67.3-136*	0			
Surr: Toluene-d8	54.25	0	*50*	0	*108*	*83-124*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint [redacted] House

QC BATCH REPORT

Batch ID: **R139815** Instrument ID: **VMS2** Method: **SW8260B**

MS Sample ID: **1704531-01A MS** Units: **µg/Kg** Analysis Date: **4/26/2017 08:30 AM**
Client ID: Run ID: **VMS2_170426A** SeqNo: **1489193** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.75	5.0	50	0	93.5	66.9-140	0			
1,1-Dichloroethene	50.96	5.0	50	0	102	41.4-161	0			
1,2-Dichloroethane	48.16	5.0	50	0	96.3	58.9-137	0			
1,3-Dichlorobenzene	45.65	5.0	50	0	91.3	56.3-126	0			
1,4-Dichlorobenzene	46.46	5.0	50	0	92.9	58.3-122	0			
Benzene	51.5	5.0	50	0	103	35.8-162	0			
Carbon tetrachloride	48.27	5.0	50	0	96.5	53.2-137	0			
Chlorobenzene	49.26	5.0	50	0	98.5	65.6-137	0			
Chloroform	51.96	5.0	50	0	104	58-130	0			
cis-1,2-Dichloroethene	51.82	5.0	50	0	104	52.9-138	0			
Ethylbenzene	51.07	5.0	50	1.01	100	57.5-134	0			
m,p-Xylene	110.5	5.0	100	4.41	106	56.4-135	0			
Styrene	53.46	5.0	50	0	107	60.9-135	0			
Tetrachloroethene	48.11	5.0	50	0	96.2	52.1-160	0			
Toluene	44.18	5.0	50	0	88.4	67.7-135	0			
Trichloroethene	49.44	5.0	50	0	98.9	56.5-136	0			
Surr: 4-Bromofluorobenzene	49.69	0	*50*	0	*99.4*	*62.7-159*	0			
Surr: Dibromofluoromethane	49.87	0	*50*	0	*99.7*	*67.3-136*	0			
Surr: Toluene-d8	55.75	0	*50*	0	*112*	*83-124*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Water Defense
Work Order: 1704554
Project: Flint Ex. 6 - Personal Privacy House

QC BATCH REPORT

Batch ID: **R139815** Instrument ID: **VMS2** Method: **SW8260B**

MSD Sample ID: **1704531-01A MSD** Units: **µg/Kg** Analysis Date: **4/26/2017 08:58 AM**
Client ID: Run ID: **VMS2_170426A** SeqNo: **1489194** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.51	5.0	50	0	87	66.9-140	46.75	7.18	31.2	
1,1-Dichloroethene	49.61	5.0	50	0	99.2	41.4-161	50.96	2.68	38.1	
1,2-Dichloroethane	42.8	5.0	50	0	85.6	58.9-137	48.16	11.8	26.2	
1,3-Dichlorobenzene	42.71	5.0	50	0	85.4	56.3-126	45.65	6.65	21	
1,4-Dichlorobenzene	43.44	5.0	50	0	86.9	58.3-122	46.46	6.72	28.7	
Benzene	46.6	5.0	50	0	93.2	35.8-162	51.5	9.99	23.6	
Carbon tetrachloride	43.11	5.0	50	0	86.2	53.2-137	48.27	11.3	32.3	
Chlorobenzene	45.23	5.0	50	0	90.5	65.6-137	49.26	8.53	20	
Chloroform	48.15	5.0	50	0	96.3	58-130	51.96	7.61	28.2	
cis-1,2-Dichloroethene	49.27	5.0	50	0	98.5	52.9-138	51.82	5.05	23.7	
Ethylbenzene	48	5.0	50	1.01	94	57.5-134	51.07	6.2	24.9	
m,p-Xylene	103.1	5.0	100	4.41	98.7	56.4-135	110.5	6.94	25.1	
Styrene	50.35	5.0	50	0	101	60.9-135	53.46	5.99	22.8	
Tetrachloroethene	45.2	5.0	50	0	90.4	52.1-160	48.11	6.24	24.7	
Toluene	47.39	5.0	50	0	94.8	67.7-135	44.18	7.01	20	
Trichloroethene	45.44	5.0	50	0	90.9	56.5-136	49.44	8.43	20	
Surr: 4-Bromofluorobenzene	50.06	0	*50*	0	*100*	*62.7-159*	49.69	*0.742*		
Surr: Dibromofluoromethane	47.39	0	*50*	0	*94.8*	*67.3-136*	49.87	*5.1*		
Surr: Toluene-d8	43.44	0	*50*	0	*86.9*	*83-124*	55.75	*24.8*		

The following samples were analyzed in this batch: 1704554-02A 1704554-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 02-May-17

Client: Water Defense
Project: Flint Ex. 6 - Personal Privacy House
WorkOrder: **1704554**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated MethodBlank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is >4 times amount spiked
P	Dual Column results percent difference >40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory controllimits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/Kg	
µg/L	
mg/L	

ALS Environmental

Sample Receipt Checklist

Client Name: **WATERDEFENSE-HURLEYVUL** Date/Time Received: **17-Apr-17 00:00**

Work Order: **1704554** Received by: **PCD**

Checklist completed by: Robb Nieman (eSignature) 18-Apr-17 (Date) Reviewed by: Robb Nieman (eSignature) 18-Apr-17 (Date)

Matrices:

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☐	No ☑	
Chain of custody signed when relinquished and received?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action: