

Norwalk Housing Authority

WATER SAMPLING REPORT

Washington Village Apartments
Building 200
Norwalk, CT





SUBJECT SITE: Washington Village Apartments
Building 200
Norwalk, CT

CLIENT: Norwalk Housing Authority
Tom Ivers
24 ½ Monroe Street
Norwalk, CT 06854

INPSPECTION DATE: July 18, 2018

BIG EAST PROJECT #: 18369.001

Introduction

Big East Environmental, LLC performed water sampling at the above referenced subject site on July 18, 2018. The subject property is a multi-family, residential apartment structure. The basement of Building 200 had recently become flooded with ground and rain water. Standing water from within the basement was collected for laboratory analysis.

Methods

Big East Project Manager Joseph D’Urso, sampled the standing water via grab sampling methods. Water samples were collected into laboratory supplied glassware. Samples were analyzed for volatile organic compounds (EPA 8260), semi-volatile organic compounds (EPA 8270), extractable total petroleum hydrocarbons, RCRA 8 metals, pesticides (8081), PCBs (8082), and bacteria. All samples were shipped under chain of custody protocol to Phoenix Environmental Laboratories. The laboratory report is attached.

Findings

| ANALYTE | RESULTS mg/L | REGULATORY CRITERIA (CT DEEP GWPC) |
|-------------------------|----------------------|------------------------------------|
| <i>Silver</i> | <0.001 mg/L | 0.036 mg/L |
| <i>Arsenic</i> | <0.004 mg/L | 0.05 mg/L |
| <i>Barium</i> | 0.058 mg/L | 1.0 mg/L |
| <i>Cadmium</i> | <0.001 mg/L | 0.005 mg/L |
| <i>Chromium</i> | 0.002 mg/L | 0.05 mg/L |
| <i>Mercury</i> | <0.0002 mg/L | 0.002 mg/L |
| <i>Lead</i> | 0.006 mg/L | 0.015 mg/L |
| <i>Selenium</i> | <0.010 mg/L | 0.05 mg/L |
| <i>Fecal Coliform</i> | 63 MPN/100mls | 0.0 |
| <i>ETPH</i> | NONE DETECTED | 0.25 |
| <i>PCBs</i> | NONE DETECTED | 0.0005 |
| <i>Volatile Organic</i> | Chloroform – 0.0011 | 0.006 |



| | | |
|---------------------------------------|---|-------|
| Compounds | | |
| Semi-Volatile Organic Compounds | NONE DETECTED | - |
| Semi-Volatile Organic Compounds (SIM) | Bis(2-ethylhexyl) phthalate - 0.0025 | 0.002 |

Mg/L – milligrams per liter / parts per million

CT DEEP GWPC – CT Department of Environmental & Energy Protection Groundwater Protection Criteria.

Conclusions

- Fecal coliform bacteria were present.
- SVOC Bis(2-ethylhexyl) phthalate was found above the CT DEEP's GWPC.

Please feel free to contact us if you have any questions regarding this investigation.

Sincerely,

A handwritten signature in black ink that reads "Steve DiNapoli".

Steve DiNapoli, LEED AP, CMC
Big East Environmental

Disclaimer:

While Big East Environmental strives to conduct a thorough, comprehensive inspection, some exclusions are warranted. For 100% accuracy in the determination of contaminants, sampling of 100 % of all surface/ materials/ areas would be necessary. There is always a possibility that contaminants are present within areas that we could not and did not access. Big East shall not be held liable for abatement costs related to additional contaminants not identified in this report.

203.354.4955 | contact@bigeastlabs.com | www.bigeastlabs.com

Big East Environmental, 68 Water Street, Unit F Norwalk, CT 06854



Wednesday, July 25, 2018

Attn: Mr. Steve Dinapoli
Big East Environmental LLC
68 Water Street, Unit F
Norwalk, CT 06854

Project ID: 18369
Sample ID#s: CA93313

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis/Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 25, 2018

FOR: Attn: Mr. Steve Dinapoli
 Big East Environmental LLC
 68 Water Street, Unit F
 Norwalk, CT 06854

Sample Information

Matrix: GROUND WATER
 Location Code: BIG-EAST
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

07/18/18
 07/18/18

Time

11:28
 16:26

Laboratory Data

SDG ID: GCA93313
 Phoenix ID: CA93313

Project ID: 18369
 Client ID: BW 01

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|-------------------------------|-----------|------------|-------------|----------|----------------|-------|-----------------|
| Silver | < 0.001 | 0.001 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Arsenic | < 0.004 | 0.004 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Barium | 0.058 | 0.002 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Cadmium | < 0.001 | 0.001 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Chromium | 0.002 | 0.001 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Mercury | < 0.0002 | 0.0002 | mg/L | 1 | 07/19/18 | RS | SW7470A |
| Lead | 0.006 | 0.002 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Selenium | < 0.010 | 0.010 | mg/L | 1 | 07/21/18 | CPP | SW6010C |
| Fecal Coliforms MPN | 63 | 10 | MPN/100 mls | 1 | 07/18/18 18:55 | AJ/AJ | Colilert-18 |
| Extraction of CT ETPH | Completed | | | | 07/19/18 | P/R | SW3510C/SW3520C |
| Mercury Digestion | Completed | | | | 07/19/18 | I/I | SW7470A |
| PCB Extraction | Completed | | | | 07/18/18 | N | SW3510C |
| Extraction for Pest (2 Liter) | Completed | | | | 07/18/18 | N | SW3510C |
| Semi-Volatile Extraction | Completed | | | | 07/19/18 | P/R | SW3520C |
| Total Metals Digestion | Completed | | | | 07/19/18 | AG | |

TPH by GC (Extractable Products)

| | | | | | | | |
|------------------------------|----|-------|------|---|----------|-----|--------------|
| Ext. Petroleum H.C. (C9-C36) | ND | 0.066 | mg/L | 1 | 07/20/18 | JRB | CTETPH 8015D |
| Identification | ND | | mg/L | 1 | 07/20/18 | JRB | CTETPH 8015D |

QA/QC Surrogates

| | | | | | | | |
|-----------------|----|--|---|---|----------|-----|------------|
| % n-Pentacosane | 78 | | % | 1 | 07/20/18 | JRB | 50 - 150 % |
|-----------------|----|--|---|---|----------|-----|------------|

Polychlorinated Biphenyls

| | | | | | | | |
|----------|----|-------|------|---|----------|----|---------|
| PCB-1016 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1221 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1232 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1242 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1248 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|--------------------------------|--------|------------|-------|----------|-----------|----|------------|
| PCB-1254 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1260 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1262 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| PCB-1268 | ND | 0.094 | ug/L | 1 | 07/19/18 | AW | SW8082A |
| <u>QA/QC Surrogates</u> | | | | | | | |
| % DCBP | 69 | | % | 1 | 07/19/18 | AW | 30 - 150 % |
| % TCMX | 62 | | % | 1 | 07/19/18 | AW | 30 - 150 % |
| <u>Pesticides</u> | | | | | | | |
| 4,4' -DDD | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| 4,4' -DDE | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| 4,4' -DDT | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| a-BHC | ND | 0.024 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Alachlor | ND | 0.071 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Aldrin | ND | 0.001 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| b-BHC | ND | 0.005 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Chlordane | ND | 0.28 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| d-BHC | ND | 0.024 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Dieldrin | ND | 0.001 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Endosulfan I | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Endosulfan II | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Endosulfan Sulfate | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Endrin | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Endrin Aldehyde | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Endrin ketone | ND | 0.047 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| g-BHC (Lindane) | ND | 0.024 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Heptachlor | ND | 0.024 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Heptachlor epoxide | ND | 0.024 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Methoxychlor | ND | 0.094 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| Toxaphene | ND | 0.94 | ug/L | 1 | 07/19/18 | CW | SW8081B |
| <u>QA/QC Surrogates</u> | | | | | | | |
| %DCBP (Surrogate Rec) | 86 | | % | 1 | 07/19/18 | CW | 30 - 150 % |
| %TCMX (Surrogate Rec) | 72 | | % | 1 | 07/19/18 | CW | 30 - 150 % |
| <u>Volatiles</u> | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,1-Dichloroethene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2,3-Trichlorobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2,4-Trichlorobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2,4-Trimethylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2-Dichlorobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,2-Dichloroethane | ND | 0.60 | ug/L | 1 | 07/19/18 | MH | SW8260C |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|-----------------------------|--------|------------|-------|----------|-----------|----|-----------|
| 1,2-Dichloropropane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,3,5-Trimethylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,3-Dichlorobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,3-Dichloropropane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 2,2-Dichloropropane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 2-Chlorotoluene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 2-Hexanone | ND | 5.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 2-Isopropyltoluene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 4-Chlorotoluene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Acetone | ND | 25 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Acrylonitrile | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Benzene | ND | 0.70 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Bromobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Bromochloromethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Bromodichloromethane | ND | 0.50 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Bromoform | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Bromomethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Carbon Disulfide | ND | 5.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Carbon tetrachloride | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Chlorobenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Chloroethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Chloroform | 1.1 | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Chloromethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| cis-1,3-Dichloropropene | ND | 0.40 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Dibromochloromethane | ND | 0.50 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Dibromomethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Ethylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Hexachlorobutadiene | ND | 0.40 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Isopropylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| m&p-Xylene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Methyl ethyl ketone | ND | 5.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Methyl t-butyl ether (MTBE) | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Methylene chloride | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Naphthalene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| n-Butylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| n-Propylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| o-Xylene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| p-Isopropyltoluene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| sec-Butylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Styrene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| tert-Butylbenzene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Tetrachloroethene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Tetrahydrofuran (THF) | ND | 2.5 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Toluene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Total Xylenes | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|--------------------------------|--------|------------|-------|----------|-----------|-----|------------|
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| trans-1,3-Dichloropropene | ND | 0.40 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| trans-1,4-dichloro-2-butene | ND | 5.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Trichloroethene | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Trichlorofluoromethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Trichlorotrifluoroethane | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| Vinyl chloride | ND | 1.0 | ug/L | 1 | 07/19/18 | MH | SW8260C |
| <u>QA/QC Surrogates</u> | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 98 | | % | 1 | 07/19/18 | MH | 70 - 130 % |
| % Bromofluorobenzene | 89 | | % | 1 | 07/19/18 | MH | 70 - 130 % |
| % Dibromofluoromethane | 93 | | % | 1 | 07/19/18 | MH | 70 - 130 % |
| % Toluene-d8 | 95 | | % | 1 | 07/19/18 | MH | 70 - 130 % |
| <u>Semivolatiles</u> | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 1,2-Dichlorobenzene | ND | 2.4 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 1,2-Diphenylhydrazine | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 1,3-Dichlorobenzene | ND | 2.4 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 1,4-Dichlorobenzene | ND | 2.4 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,4,5-Trichlorophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,4,6-Trichlorophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,4-Dichlorophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,4-Dimethylphenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,4-Dinitrophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,4-Dinitrotoluene | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2,6-Dinitrotoluene | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2-Chloronaphthalene | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2-Chlorophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2-Nitroaniline | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 2-Nitrophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 9.4 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 3-Nitroaniline | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4-Chloro-3-methylphenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4-Chloroaniline | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4-Nitroaniline | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| 4-Nitrophenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Acetophenone | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Aniline | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Benzidine | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Benzoic acid | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Benzyl butyl phthalate | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Bis(2-chloroethyl)ether | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Carbazole | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|-----------------------------------|--------|------------|-------|----------|-----------|-----|------------------|
| Diethyl phthalate | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Dimethylphthalate | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Di-n-butylphthalate | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Di-n-octylphthalate | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Isophorone | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| N-Nitrosodimethylamine | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| N-Nitrosodiphenylamine | ND | 4.7 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| Phenol | ND | 0.94 | ug/L | 1 | 07/24/18 | KCA | SW8270D |
| <u>QA/QC Surrogates</u> | | | | | | | |
| % 2,4,6-Tribromophenol | 105 | | % | 1 | 07/24/18 | KCA | 15 - 110 % |
| % 2-Fluorobiphenyl | 79 | | % | 1 | 07/24/18 | KCA | 30 - 130 % |
| % 2-Fluorophenol | 59 | | % | 1 | 07/24/18 | KCA | 15 - 110 % |
| % Nitrobenzene-d5 | 74 | | % | 1 | 07/24/18 | KCA | 30 - 130 % |
| % Phenol-d5 | 67 | | % | 1 | 07/24/18 | KCA | 15 - 110 % |
| % Terphenyl-d14 | 72 | | % | 1 | 07/24/18 | KCA | 30 - 130 % |
| <u>Semivolatiles (SIM)</u> | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 0.47 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| 2-Methylnaphthalene | ND | 0.94 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Acenaphthene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Acenaphthylene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Anthracene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Benz(a)anthracene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Benzo(a)pyrene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Benzo(b)fluoranthene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Benzo(ghi)perylene | ND | 0.19 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Benzo(k)fluoranthene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Bis(2-ethylhexyl)phthalate | 2.5 | 0.47 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) B* |
| Chrysene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Dibenz(a,h)anthracene | ND | 0.01 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Dibenzofuran | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Fluoranthene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Fluorene | ND | 0.09 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Hexachlorobenzene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Hexachlorobutadiene | ND | 0.47 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Hexachlorocyclopentadiene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Hexachloroethane | ND | 0.47 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Indeno(1,2,3-cd)pyrene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Naphthalene | ND | 0.09 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Nitrobenzene | ND | 0.09 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Pentachloronitrobenzene | ND | 0.09 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Pentachlorophenol | ND | 0.75 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Phenanthrene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Pyrene | ND | 0.05 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| Pyridine | ND | 0.47 | ug/L | 1 | 07/24/18 | HM | SW8270D (SIM) |
| <u>QA/QC Surrogates</u> | | | | | | | |
| % 2,4,6-Tribromophenol | 122 | | % | 1 | 07/24/18 | HM | 15 - 110 % |
| % 2-Fluorobiphenyl | 78 | | % | 1 | 07/24/18 | HM | 30 - 130 % |
| % 2-Fluorophenol | 79 | | % | 1 | 07/24/18 | HM | 15 - 110 % |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|-------------------|--------|------------|-------|----------|-----------|----|------------|
| % Nitrobenzene-d5 | 84 | | % | 1 | 07/24/18 | HM | 30 - 130 % |
| % Phenol-d5 | 82 | | % | 1 | 07/24/18 | HM | 15 - 110 % |
| % Terphenyl-d14 | 96 | | % | 1 | 07/24/18 | HM | 30 - 130 % |

3 = This parameter exceeds laboratory specified limits.
B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

July 25, 2018

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 25, 2018

QA/QC Data

SDG I.D.: GCA93313

| Parameter | Blank | Blk RL | Sample Result | Dup Result | Dup RPD | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|-------|-----------|------------------|---------------|------------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 439512 (mg/L), QC Sample No: CA92577 (CA93313) | | | | | | | | | | | | | |
| Mercury - Water | BRL | 0.0002 | <0.0002 | <0.0002 | NC | 88.3 | | | 78.1 | | | 80 - 120 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 439613 (mg/L), QC Sample No: CA92857 (CA93313) | | | | | | | | | | | | | |
| <u>ICP Metals - Aqueous</u> | | | | | | | | | | | | | |
| Arsenic | BRL | 0.004 | <0.004 | <0.004 | NC | 104 | | | 101 | | | 75 - 125 | 20 |
| Barium | BRL | 0.002 | 0.027 | 0.027 | 0 | 106 | | | 105 | | | 75 - 125 | 20 |
| Cadmium | BRL | 0.001 | <0.001 | <0.001 | NC | 105 | | | 102 | | | 75 - 125 | 20 |
| Chromium | BRL | 0.001 | 0.003 | 0.002 | NC | 103 | | | 99.5 | | | 75 - 125 | 20 |
| Lead | BRL | 0.002 | <0.002 | <0.002 | NC | 106 | | | 102 | | | 75 - 125 | 20 |
| Selenium | BRL | 0.010 | <0.010 | <0.010 | NC | 102 | | | 98.9 | | | 75 - 125 | 20 |
| Silver | BRL | 0.001 | <0.001 | <0.001 | NC | 98.4 | | | 98.6 | | | 75 - 125 | 20 |



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QA/QC Report

July 25, 2018

QA/QC Data

SDG I.D.: GCA93313

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|--|-------|-----------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 439422 (ug/L), QC Sample No: CA92311 (CA93313) | | | | | | | | | | |
| <u>Polychlorinated Biphenyls - Ground Water</u> | | | | | | | | | | |
| PCB-1016 | ND | 0.050 | 113 | 118 | 4.3 | | | | 40 - 140 | 20 |
| PCB-1221 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| PCB-1232 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| PCB-1242 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| PCB-1248 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| PCB-1254 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| PCB-1260 | ND | 0.050 | 130 | 119 | 8.8 | | | | 40 - 140 | 20 |
| PCB-1262 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| PCB-1268 | ND | 0.050 | | | | | | | 40 - 140 | 20 |
| % DCBP (Surrogate Rec) | 93 | % | 120 | 97 | 21.2 | | | | 30 - 150 | 20 |
| % TCMX (Surrogate Rec) | 78 | % | 98 | 101 | 3.0 | | | | 30 - 150 | 20 |

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 439758 (ug/L), QC Sample No: CA92523 (CA93313)

Volatiles - Ground Water

| | | | | | | | | | | |
|-----------------------------|----|------|-----|-----|-----|--|--|--|----------|----|
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | 98 | 93 | 5.2 | | | | 70 - 130 | 30 |
| 1,1,1-Trichloroethane | ND | 1.0 | 97 | 91 | 6.4 | | | | 70 - 130 | 30 |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | 94 | 89 | 5.5 | | | | 70 - 130 | 30 |
| 1,1,2-Trichloroethane | ND | 1.0 | 89 | 85 | 4.6 | | | | 70 - 130 | 30 |
| 1,1-Dichloroethane | ND | 1.0 | 92 | 85 | 7.9 | | | | 70 - 130 | 30 |
| 1,1-Dichloroethene | ND | 1.0 | 99 | 93 | 6.3 | | | | 70 - 130 | 30 |
| 1,1-Dichloropropene | ND | 1.0 | 100 | 96 | 4.1 | | | | 70 - 130 | 30 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | 88 | 89 | 1.1 | | | | 70 - 130 | 30 |
| 1,2,3-Trichloropropane | ND | 1.0 | 90 | 84 | 6.9 | | | | 70 - 130 | 30 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | 92 | 88 | 4.4 | | | | 70 - 130 | 30 |
| 1,2,4-Trimethylbenzene | ND | 1.0 | 100 | 94 | 6.2 | | | | 70 - 130 | 30 |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | 93 | 87 | 6.7 | | | | 70 - 130 | 30 |
| 1,2-Dibromoethane | ND | 1.0 | 91 | 89 | 2.2 | | | | 70 - 130 | 30 |
| 1,2-Dichlorobenzene | ND | 1.0 | 94 | 89 | 5.5 | | | | 70 - 130 | 30 |
| 1,2-Dichloroethane | ND | 1.0 | 92 | 89 | 3.3 | | | | 70 - 130 | 30 |
| 1,2-Dichloropropane | ND | 1.0 | 92 | 88 | 4.4 | | | | 70 - 130 | 30 |
| 1,3,5-Trimethylbenzene | ND | 1.0 | 101 | 95 | 6.1 | | | | 70 - 130 | 30 |
| 1,3-Dichlorobenzene | ND | 1.0 | 96 | 90 | 6.5 | | | | 70 - 130 | 30 |
| 1,3-Dichloropropane | ND | 1.0 | 91 | 87 | 4.5 | | | | 70 - 130 | 30 |
| 1,4-Dichlorobenzene | ND | 1.0 | 94 | 89 | 5.5 | | | | 70 - 130 | 30 |
| 2,2-Dichloropropane | ND | 1.0 | 103 | 96 | 7.0 | | | | 70 - 130 | 30 |
| 2-Chlorotoluene | ND | 1.0 | 98 | 94 | 4.2 | | | | 70 - 130 | 30 |
| 2-Hexanone | ND | 5.0 | 91 | 88 | 3.4 | | | | 70 - 130 | 30 |
| 2-Isopropyltoluene | ND | 1.0 | 106 | 100 | 5.8 | | | | 70 - 130 | 30 |
| 4-Chlorotoluene | ND | 1.0 | 97 | 92 | 5.3 | | | | 70 - 130 | 30 |

QA/QC Data

SDG I.D.: GCA93313

| Parameter | Blk | | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|-----------------------------|-------|------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| | Blank | RL | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 5.0 | 92 | 90 | 2.2 | | | | 70 - 130 | 30 |
| Acetone | ND | 5.0 | 86 | 81 | 6.0 | | | | 70 - 130 | 30 |
| Acrylonitrile | ND | 5.0 | 90 | 84 | 6.9 | | | | 70 - 130 | 30 |
| Benzene | ND | 0.70 | 95 | 90 | 5.4 | | | | 70 - 130 | 30 |
| Bromobenzene | ND | 1.0 | 96 | 91 | 5.3 | | | | 70 - 130 | 30 |
| Bromochloromethane | ND | 1.0 | 91 | 86 | 5.6 | | | | 70 - 130 | 30 |
| Bromodichloromethane | ND | 0.50 | 97 | 91 | 6.4 | | | | 70 - 130 | 30 |
| Bromoform | ND | 1.0 | 101 | 97 | 4.0 | | | | 70 - 130 | 30 |
| Bromomethane | ND | 1.0 | 131 | 122 | 7.1 | | | | 70 - 130 | 30 |
| Carbon Disulfide | ND | 1.0 | 106 | 100 | 5.8 | | | | 70 - 130 | 30 |
| Carbon tetrachloride | ND | 1.0 | 101 | 97 | 4.0 | | | | 70 - 130 | 30 |
| Chlorobenzene | ND | 1.0 | 96 | 90 | 6.5 | | | | 70 - 130 | 30 |
| Chloroethane | ND | 1.0 | 111 | 103 | 7.5 | | | | 70 - 130 | 30 |
| Chloroform | ND | 1.0 | 91 | 86 | 5.6 | | | | 70 - 130 | 30 |
| Chloromethane | ND | 1.0 | 99 | 92 | 7.3 | | | | 70 - 130 | 30 |
| cis-1,2-Dichloroethene | ND | 1.0 | 93 | 87 | 6.7 | | | | 70 - 130 | 30 |
| cis-1,3-Dichloropropene | ND | 0.40 | 95 | 90 | 5.4 | | | | 70 - 130 | 30 |
| Dibromochloromethane | ND | 0.50 | 103 | 98 | 5.0 | | | | 70 - 130 | 30 |
| Dibromomethane | ND | 1.0 | 91 | 87 | 4.5 | | | | 70 - 130 | 30 |
| Dichlorodifluoromethane | ND | 1.0 | 121 | 115 | 5.1 | | | | 70 - 130 | 30 |
| Ethylbenzene | ND | 1.0 | 99 | 94 | 5.2 | | | | 70 - 130 | 30 |
| Hexachlorobutadiene | ND | 0.40 | 103 | 97 | 6.0 | | | | 70 - 130 | 30 |
| Isopropylbenzene | ND | 1.0 | 101 | 96 | 5.1 | | | | 70 - 130 | 30 |
| m&p-Xylene | ND | 1.0 | 99 | 93 | 6.3 | | | | 70 - 130 | 30 |
| Methyl ethyl ketone | ND | 5.0 | 91 | 84 | 8.0 | | | | 70 - 130 | 30 |
| Methyl t-butyl ether (MTBE) | ND | 1.0 | 95 | 87 | 8.8 | | | | 70 - 130 | 30 |
| Methylene chloride | ND | 1.0 | 93 | 86 | 7.8 | | | | 70 - 130 | 30 |
| Naphthalene | ND | 1.0 | 89 | 90 | 1.1 | | | | 70 - 130 | 30 |
| n-Butylbenzene | ND | 1.0 | 103 | 96 | 7.0 | | | | 70 - 130 | 30 |
| n-Propylbenzene | ND | 1.0 | 101 | 95 | 6.1 | | | | 70 - 130 | 30 |
| o-Xylene | ND | 1.0 | 99 | 94 | 5.2 | | | | 70 - 130 | 30 |
| p-Isopropyltoluene | ND | 1.0 | 103 | 96 | 7.0 | | | | 70 - 130 | 30 |
| sec-Butylbenzene | ND | 1.0 | 104 | 98 | 5.9 | | | | 70 - 130 | 30 |
| Styrene | ND | 1.0 | 98 | 93 | 5.2 | | | | 70 - 130 | 30 |
| tert-Butylbenzene | ND | 1.0 | 102 | 95 | 7.1 | | | | 70 - 130 | 30 |
| Tetrachloroethene | ND | 1.0 | 101 | 97 | 4.0 | | | | 70 - 130 | 30 |
| Tetrahydrofuran (THF) | ND | 2.5 | 87 | 80 | 8.4 | | | | 70 - 130 | 30 |
| Toluene | ND | 1.0 | 97 | 91 | 6.4 | | | | 70 - 130 | 30 |
| trans-1,2-Dichloroethene | ND | 1.0 | 100 | 92 | 8.3 | | | | 70 - 130 | 30 |
| trans-1,3-Dichloropropene | ND | 0.40 | 90 | 87 | 3.4 | | | | 70 - 130 | 30 |
| trans-1,4-dichloro-2-butene | ND | 5.0 | 101 | 97 | 4.0 | | | | 70 - 130 | 30 |
| Trichloroethene | ND | 1.0 | 98 | 95 | 3.1 | | | | 70 - 130 | 30 |
| Trichlorofluoromethane | ND | 1.0 | 106 | 99 | 6.8 | | | | 70 - 130 | 30 |
| Trichlorotrifluoroethane | ND | 1.0 | 108 | 101 | 6.7 | | | | 70 - 130 | 30 |
| Vinyl chloride | ND | 1.0 | 108 | 102 | 5.7 | | | | 70 - 130 | 30 |
| % 1,2-dichlorobenzene-d4 | 99 | % | 99 | 97 | 2.0 | | | | 70 - 130 | 30 |
| % Bromofluorobenzene | 90 | % | 97 | 97 | 0.0 | | | | 70 - 130 | 30 |
| % Dibromofluoromethane | 96 | % | 95 | 95 | 0.0 | | | | 70 - 130 | 30 |
| % Toluene-d8 | 97 | % | 97 | 98 | 1.0 | | | | 70 - 130 | 30 |

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Data

SDG I.D.: GCA93313

| Parameter | Blk | | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits | |
|--|-------|------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|--|
| | Blank | RL | | | | | | | | | |
| QA/QC Batch 439618 (ug/L), QC Sample No: CA93064 (CA93313) | | | | | | | | | | | |
| Semivolatiles (SIM) - Ground Water | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 0.50 | 72 | 71 | 1.4 | | | | 30 - 130 | 20 | |
| 2-Methylnaphthalene | ND | 0.02 | 73 | 75 | 2.7 | | | | 30 - 130 | 20 | |
| Acenaphthene | ND | 0.02 | 90 | 95 | 5.4 | | | | 30 - 130 | 20 | |
| Acenaphthylene | ND | 0.02 | 81 | 85 | 4.8 | | | | 30 - 130 | 20 | |
| Anthracene | ND | 0.02 | 85 | 99 | 15.2 | | | | 30 - 130 | 20 | |
| Benz(a)anthracene | ND | 0.02 | 83 | 98 | 16.6 | | | | 30 - 130 | 20 | |
| Benzo(a)pyrene | ND | 0.02 | 87 | 94 | 7.7 | | | | 30 - 130 | 20 | |
| Benzo(b)fluoranthene | ND | 0.02 | 94 | 111 | 16.6 | | | | 30 - 130 | 20 | |
| Benzo(ghi)perylene | ND | 0.02 | 80 | 94 | 16.1 | | | | 30 - 130 | 20 | |
| Benzo(k)fluoranthene | ND | 0.02 | 92 | 107 | 15.1 | | | | 30 - 130 | 20 | |
| Bis(2-ethylhexyl)phthalate | 0.42 | 0.10 | 107 | 114 | 6.3 | | | | 30 - 130 | 20 | |
| Chrysene | ND | 0.02 | 90 | 102 | 12.5 | | | | 30 - 130 | 20 | |
| Dibenz(a,h)anthracene | ND | 0.01 | 92 | 119 | 25.6 | | | | 30 - 130 | 20 r | |
| Dibenzofuran | ND | 0.05 | 84 | 91 | 8.0 | | | | 30 - 130 | 20 | |
| Fluoranthene | ND | 0.02 | 82 | 101 | 20.8 | | | | 30 - 130 | 20 r | |
| Fluorene | ND | 0.02 | 89 | 97 | 8.6 | | | | 30 - 130 | 20 | |
| Hexachlorobenzene | ND | 0.02 | 83 | 97 | 15.6 | | | | 30 - 130 | 20 | |
| Hexachlorobutadiene | ND | 0.05 | 70 | 59 | 17.1 | | | | 30 - 130 | 20 | |
| Hexachlorocyclopentadiene | ND | 0.05 | 51 | 50 | 2.0 | | | | 30 - 130 | 20 | |
| Hexachloroethane | ND | 0.05 | 63 | 53 | 17.2 | | | | 30 - 130 | 20 | |
| Indeno(1,2,3-cd)pyrene | ND | 0.02 | 83 | 106 | 24.3 | | | | 30 - 130 | 20 r | |
| Naphthalene | ND | 0.02 | 69 | 64 | 7.5 | | | | 30 - 130 | 20 | |
| Nitrobenzene | ND | 0.05 | 81 | 73 | 10.4 | | | | 30 - 130 | 20 | |
| Pentachloronitrobenzene | ND | 0.10 | 101 | 114 | 12.1 | | | | 30 - 130 | 20 | |
| Pentachlorophenol | ND | 0.20 | 161 | 186 | 14.4 | | | | 30 - 130 | 20 l | |
| Phenanthrene | ND | 0.02 | 79 | 92 | 15.2 | | | | 30 - 130 | 20 | |
| Pyrene | ND | 0.02 | 88 | 104 | 16.7 | | | | 30 - 130 | 20 | |
| Pyridine | ND | 0.50 | 67 | 48 | 33.0 | | | | 30 - 130 | 20 r | |
| % 2,4,6-Tribromophenol | 110 | % | 116 | 139 | 18.0 | | | | 15 - 110 | 20 l | |
| % 2-Fluorobiphenyl | 82 | % | 82 | 87 | 5.9 | | | | 30 - 130 | 20 | |
| % 2-Fluorophenol | 84 | % | 63 | 50 | 23.0 | | | | 15 - 110 | 20 r | |
| % Nitrobenzene-d5 | 89 | % | 69 | 74 | 7.0 | | | | 30 - 130 | 20 | |
| % Phenol-d5 | 90 | % | 67 | 60 | 11.0 | | | | 15 - 110 | 20 | |
| % Terphenyl-d14 | 95 | % | 83 | 106 | 24.3 | | | | 30 - 130 | 20 r | |

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 439618 (), QC Sample No: CA93064 (CA93313)

Semivolatiles

| | | | | | | | | | | |
|------------------------|-----|-----|------|--|--|--|--|--|----------|------|
| 1,2,4-Trichlorobenzene | 68 | 46 | 38.6 | | | | | | 30 - 130 | 30 r |
| 1,2-Dichlorobenzene | 61 | 39 | 44.0 | | | | | | 30 - 130 | 30 r |
| 1,2-Diphenylhydrazine | 82 | 70 | 15.8 | | | | | | 30 - 130 | 30 |
| 1,3-Dichlorobenzene | 62 | 37 | 50.5 | | | | | | 30 - 130 | 30 r |
| 1,4-Dichlorobenzene | 65 | 37 | 54.9 | | | | | | 30 - 130 | 30 r |
| 2,4,5-Trichlorophenol | 86 | 73 | 16.4 | | | | | | 30 - 130 | 30 |
| 2,4,6-Trichlorophenol | 84 | 66 | 24.0 | | | | | | 30 - 130 | 30 |
| 2,4-Dichlorophenol | 76 | 60 | 23.5 | | | | | | 30 - 130 | 30 |
| 2,4-Dimethylphenol | 77 | 61 | 23.2 | | | | | | 30 - 130 | 30 |
| 2,4-Dinitrophenol | 116 | 103 | 11.9 | | | | | | 30 - 130 | 30 |
| 2,4-Dinitrotoluene | 86 | 74 | 15.0 | | | | | | 30 - 130 | 30 |

QA/QC Data

SDG I.D.: GCA93313

| Parameter | Blk | | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits | |
|-------------------------------|-------|----|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|-----|
| | Blank | RL | | | | | | | | | |
| 2,6-Dinitrotoluene | | | 82 | 68 | 18.7 | | | | 30 - 130 | 30 | |
| 2-Chloronaphthalene | | | 78 | 61 | 24.5 | | | | 30 - 130 | 30 | |
| 2-Chlorophenol | | | 64 | 42 | 41.5 | | | | 30 - 130 | 30 | r |
| 2-Methylphenol (o-cresol) | | | 75 | 55 | 30.8 | | | | 30 - 130 | 30 | r |
| 2-Nitroaniline | | | 110 | 89 | 21.1 | | | | 30 - 130 | 30 | |
| 2-Nitrophenol | | | 89 | 61 | 37.3 | | | | 30 - 130 | 30 | r |
| 3&4-Methylphenol (m&p-cresol) | | | 74 | 55 | 29.5 | | | | 30 - 130 | 30 | |
| 3,3'-Dichlorobenzidine | | | 81 | 57 | 34.8 | | | | 30 - 130 | 30 | r |
| 3-Nitroaniline | | | 92 | 80 | 14.0 | | | | 30 - 130 | 30 | |
| 4,6-Dinitro-2-methylphenol | | | 114 | 100 | 13.1 | | | | 30 - 130 | 30 | |
| 4-Bromophenyl phenyl ether | | | 75 | 63 | 17.4 | | | | 30 - 130 | 30 | |
| 4-Chloro-3-methylphenol | | | 89 | 77 | 14.5 | | | | 30 - 130 | 30 | |
| 4-Chloroaniline | | | 92 | 75 | 20.4 | | | | 30 - 130 | 30 | |
| 4-Chlorophenyl phenyl ether | | | 78 | 62 | 22.9 | | | | 30 - 130 | 30 | |
| 4-Nitroaniline | | | 91 | 76 | 18.0 | | | | 30 - 130 | 30 | |
| 4-Nitrophenol | | | 105 | 92 | 13.2 | | | | 30 - 130 | 30 | |
| Acetophenone | | | 70 | 53 | 27.6 | | | | 30 - 130 | 30 | |
| Aniline | | | 70 | 43 | 47.8 | | | | 30 - 130 | 30 | r |
| Benzidine | | | 119 | <10 | NC | | | | 30 - 130 | 30 | l |
| Benzoic acid | | | 124 | 121 | 2.4 | | | | 30 - 130 | 30 | |
| Benzyl butyl phthalate | | | 82 | 70 | 15.8 | | | | 30 - 130 | 30 | |
| Bis(2-chloroethoxy)methane | | | 81 | 62 | 26.6 | | | | 30 - 130 | 30 | |
| Bis(2-chloroethyl)ether | | | 64 | 41 | 43.8 | | | | 30 - 130 | 30 | r |
| Bis(2-chloroisopropyl)ether | | | 61 | 41 | 39.2 | | | | 30 - 130 | 30 | r |
| Carbazole | | | 84 | 73 | 14.0 | | | | 30 - 130 | 30 | |
| Diethyl phthalate | | | 87 | 73 | 17.5 | | | | 30 - 130 | 30 | |
| Dimethylphthalate | | | 80 | 70 | 13.3 | | | | 30 - 130 | 30 | |
| Di-n-butylphthalate | | | 90 | 76 | 16.9 | | | | 30 - 130 | 30 | |
| Di-n-octylphthalate | | | 94 | 79 | 17.3 | | | | 30 - 130 | 30 | |
| Isophorone | | | 78 | 62 | 22.9 | | | | 30 - 130 | 30 | |
| N-Nitrosodimethylamine | | | 61 | 35 | 54.2 | | | | 30 - 130 | 30 | r |
| N-Nitrosodi-n-propylamine | | | 81 | 65 | 21.9 | | | | 30 - 130 | 30 | |
| N-Nitrosodiphenylamine | | | 74 | 65 | 12.9 | | | | 30 - 130 | 30 | |
| Phenol | | | 63 | 41 | 42.3 | | | | 30 - 130 | 30 | r |
| % 2,4,6-Tribromophenol | | | 102 | 85 | 18.2 | | | | 30 - 130 | 30 | |
| % 2-Fluorobiphenyl | | | 75 | 60 | 22.2 | | | | 30 - 130 | 30 | |
| % 2-Fluorophenol | | | 52 | 29 | 56.8 | | | | 30 - 130 | 30 | l,r |
| % Nitrobenzene-d5 | | | 73 | 51 | 35.5 | | | | 30 - 130 | 30 | r |
| % Phenol-d5 | | | 63 | 40 | 44.7 | | | | 30 - 130 | 30 | r |
| % Terphenyl-d14 | | | 83 | 72 | 14.2 | | | | 30 - 130 | 30 | |

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 439487 (ug/L), QC Sample No: CA93313 (CA93313)

Pesticides - Ground Water

| | | | | | | | | | | | |
|-----------|----|-------|----|----|-----|--|--|--|----------|----|--|
| 4,4' -DDD | ND | 0.003 | 92 | 92 | 0.0 | | | | 40 - 140 | 20 | |
| 4,4' -DDE | ND | 0.003 | 92 | 90 | 2.2 | | | | 40 - 140 | 20 | |
| 4,4' -DDT | ND | 0.003 | 94 | 95 | 1.1 | | | | 40 - 140 | 20 | |
| a-BHC | ND | 0.002 | 82 | 81 | 1.2 | | | | 40 - 140 | 20 | |
| Alachlor | ND | 0.005 | NA | NA | NC | | | | 40 - 140 | 20 | |
| Aldrin | ND | 0.002 | 88 | 86 | 2.3 | | | | 40 - 140 | 20 | |
| b-BHC | ND | 0.002 | 92 | 91 | 1.1 | | | | 40 - 140 | 20 | |

QA/QC Data

SDG I.D.: GCA93313

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|--------------------|-------|-----------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| Chlordane | ND | 0.050 | 91 | 90 | 1.1 | | | | 40 - 140 | 20 |
| d-BHC | ND | 0.005 | 75 | 81 | 7.7 | | | | 40 - 140 | 20 |
| Dieldrin | ND | 0.002 | 91 | 93 | 2.2 | | | | 40 - 140 | 20 |
| Endosulfan I | ND | 0.005 | 102 | 99 | 3.0 | | | | 40 - 140 | 20 |
| Endosulfan II | ND | 0.005 | 98 | 100 | 2.0 | | | | 40 - 140 | 20 |
| Endosulfan sulfate | ND | 0.005 | 127 | 116 | 9.1 | | | | 40 - 140 | 20 |
| Endrin | ND | 0.005 | 102 | 98 | 4.0 | | | | 40 - 140 | 20 |
| Endrin aldehyde | ND | 0.005 | 95 | 96 | 1.0 | | | | 40 - 140 | 20 |
| Endrin ketone | ND | 0.005 | 102 | 105 | 2.9 | | | | 40 - 140 | 20 |
| g-BHC | ND | 0.002 | 85 | 84 | 1.2 | | | | 40 - 140 | 20 |
| Heptachlor | ND | 0.005 | 91 | 91 | 0.0 | | | | 40 - 140 | 20 |
| Heptachlor epoxide | ND | 0.005 | 91 | 91 | 0.0 | | | | 40 - 140 | 20 |
| Methoxychlor | ND | 0.005 | 102 | 102 | 0.0 | | | | 40 - 140 | 20 |
| Toxaphene | ND | 0.20 | NA | NA | NC | | | | 40 - 140 | 20 |
| % DCBP | 97 | % | 99 | 101 | 2.0 | | | | 30 - 150 | 20 |
| % TCMX | 76 | % | 86 | 81 | 6.0 | | | | 30 - 150 | 20 |

Comment:

A LCS and LCS duplicate were performed instead of a MS and MSD. Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS and LCSD

QA/QC Batch 439620 (mg/L), QC Sample No: CA93313 (CA93313)

TPH by GC (Extractable Products) - Ground Water

| | | | | | | | | | | | |
|------------------------------|----|------|----|----|------|--|--|--|----------|----|---|
| Ext. Petroleum H.C. (C9-C36) | ND | 0.10 | 65 | 92 | 34.4 | | | | 60 - 120 | 30 | r |
| % n-Pentacosane | 79 | % | 69 | 93 | 29.6 | | | | 50 - 150 | 20 | r |

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

I = This parameter is outside laboratory LCS/LCSD specified recovery limits.

r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample


LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference


 Phyllis Shiller, Laboratory Director
 July 25, 2018

Wednesday, July 25, 2018

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCA93313 - BIG-EAST

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

July 25, 2018

SDG I.D.: GCA93313

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

SVOA Narration

CHEM28 07/24/18-1: CA93313

The following Initial Calibration compounds did not meet RSD% criteria: 2,4-Dinitrophenol 37% (20%), 4,6-Dinitro-2-methylphenol 36% (20%), Benzidine 24% (20%), Benzoic acid 26% (20%)

The following Initial Calibration compounds did not meet maximum RSD% criteria: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Benzoic acid 92%H (30%)

The following Continuing Calibration compounds did not meet Maximum % deviation criteria: Benzoic acid 92%H (40%)

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

SVOASIM Narration

CHEM04 07/23/18-2: CA93313

The following Initial Calibration compounds did not meet RSD% criteria: % 2,4,6-Tribromophenol 35% (20%), % 2-Fluorophenol 27% (20%), Hexachlorocyclopentadiene 32% (20%), Pentachloronitrobenzene 24% (20%), Pentachlorophenol 53% (20%), Pyridine 33% (20%)

The following Initial Calibration compounds did not meet maximum RSD% criteria: Pentachlorophenol 53% (40%)

The following Initial Calibration compounds did not meet recommended response factors: Hexachloroethane 0.277 (0.3), Pentachlorophenol 0.041 (0.05)

The following Initial Calibration compounds did not meet minimum response factors: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Hexachlorocyclopentadiene 44%H (30%), Pentachlorophenol 46%H (30%), Pyridine 39%L (30%)

The following Continuing Calibration compounds did not meet Maximum % deviation criteria: Hexachlorocyclopentadiene 44%H (40%), Pentachlorophenol 46%H (40%)

The following Continuing Calibration compounds did not meet recommended response factors: Hexachloroethane 0.292 (0.3)

The following Continuing Calibration compounds did not meet minimum response factors: None.

VOA Narration

CHEM02 07/19/18-1: CA93313

The following Initial Calibration compounds did not meet RSD% criteria: Bromomethane 24% (20%), trans-1,4-dichloro-2-butene 23% (20%)

The following Initial Calibration compounds did not meet maximum RSD% criteria: None.

The following Initial Calibration compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.033 (0.05), 2-Hexanone 0.088 (0.1), Acetone 0.039 (0.1), Bromoform 0.080 (0.1), Methyl ethyl ketone 0.075 (0.1)

The following Initial Calibration compounds did not meet minimum response factors: None.

The following Continuing Calibration compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.029 (0.05), Bromoform 0.079 (0.1), Tetrahydrofuran (THF) 0.040 (0.05)

The following Continuing Calibration compounds did not meet minimum response factors: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

