



*P. O. Box 7192 (zip 71137-7192)
1000 Grimmer Dr.
Shreveport, LA 71107
Phone: (318) 222-2424
Fax: (318) 222-2425*

November 26, 2018

Mr. Todd Emmert
Elm Springs, Inc.
P.O. Box 58
Shangaloo, LA 71072-0058

Re: LDNR-Residential Water Well Sampling Project
Paul Davis Well - Serial Number: Not Registered
GPS via hand held (Water Well): 32.08754, -93.89796

Dear Mr. Emmert:

Approach Environmental, LLC (Approach Environmental) was retained by Elm Springs, Inc. (Elm Springs) to conduct a Residential Water Well Sampling Project at the referenced location. On October 24, 2018, Approach Environmental split groundwater samples with ICON Environmental Services, Inc. (ICON) and Hydro-Environmental Technology, Inc. (HET) from the referenced water well to evaluate specific groundwater quality requested by the Louisiana Department of Natural Resources (LDNR). ICON was the lead consultant onsite and was responsible for landowner notifications and scheduling as well as water well purging and sampling procedures.

The residential water well sampling activities included photo documentation of the water well (photos attached), water well purging (if well was not used on a regular basis), obtaining GPS coordinates (via hand-held GPS), groundwater sampling, and preparation of a brief letter report presenting the analytical data, sampling procedures, and well conditions. According to LDNR SONRIS, the Paul Davis water well is unregistered and no data could be collected from this source. The depth to water could not be measured during the sampling event due to an existing pump in the well. The well is constructed of 4-inch diameter PVC piping and was located in a small pump house. The well was equipped with a valve, but the valve had no knob to turn on or off. The sample was collected from the nearest faucet (approximately 50' east of the pump shed). The well was purged of approximately 50 gallons of water since the owner stated this was the well water was used frequently. Once purged, the water sample was collected in laboratory supplied sample

containers by an experienced Environmental Scientist wearing nitrile gloves and immediately placed on ice in an ice chest. Proper chain-of-custody procedures were followed and are documented with the attached laboratory report.

The sample was, then, delivered, via FedEx overnight, to Element Materials Technology, a LELAP Certification No.: 01997, a LDHH Certification No.: LA180028, and a ISDH Certification No.: C-LA-01 located in Lafayette, Louisiana. As requested by the LDNR, the sample was analyzed for Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO), TPH Diesel Range Organics (DRO), TPH Oil Range Organics (ORO) by method SW8015, RCRA Metals by method SW6010/7470A, Inorganic Anions in water by IC method SW9056 (Chlorides), Polynuclear Aromatic Hydrocarbons (PAH) by EPA 8270C, Semi-Volatile Organic Compounds by method SW8270C, Volatile Organic Compounds (VOC) by method SW8260B, Total Dissolved Solids (TDS) by method SM2540C, and Dissolved Methane by EPA RSK-175.

A Google Earth map illustrating the location of the referenced residential water well, photographic documentation, and the analytical laboratory report are attached for review. Based on our review of the analytical data, the following parameters were detected within the respective method detection limits: TPH-GRO was detected at 0.0615 mg/l; TPH-DRO was detected at 0.0122 mg/l; Chlorides was detected at 67.4 mg/l; Barium was detected at 0.0477 mg/l; Selenium was detected at 0.0149 mg/l; Silver was detected at 0.000400 mg/l; Sodium was detected at 169 mg/l; TDS was detected at 358 mg/l and Methane was detected at 6.62 ug/l . No other parameters were detected above the respective method detection limits.

Should you have any questions and/or comments, please do not hesitate to contact me at (318) 222-2424.

Sincerely,



Mark S. Moore
Louisiana Professional Geoscientist (P.G. #490)
Approach Environmental, L.L.C.

Encl./

Attachments Table of Contents

Site Photographs with Maps

Analytical Data Report



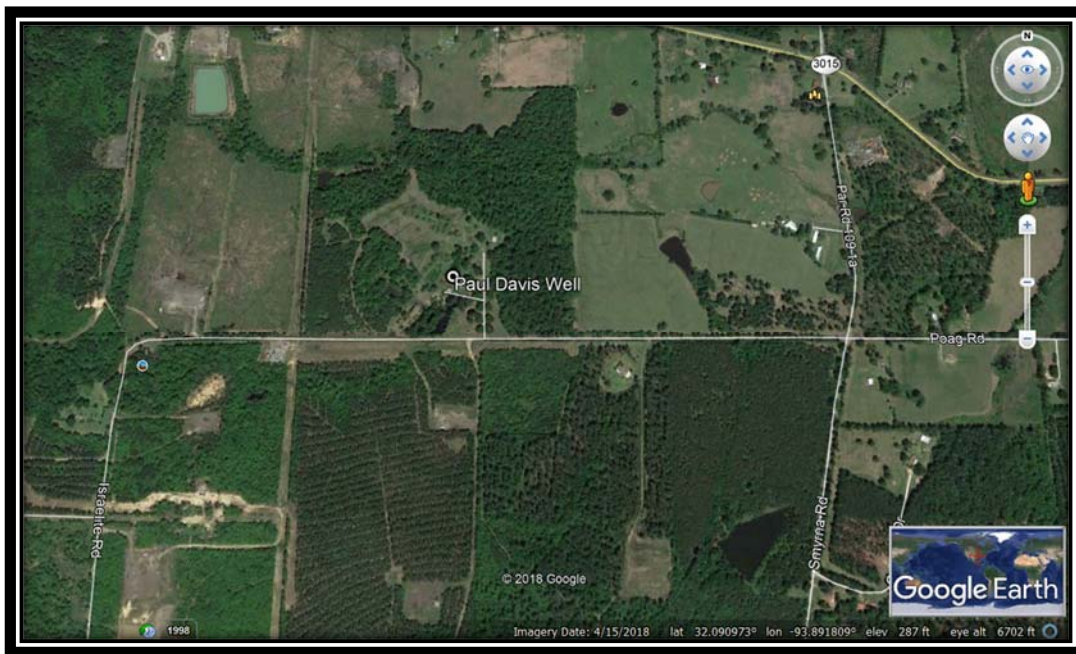
Paul Davis well, Pump Shed and Tank



Purging and sampling point



Zoomed in Google Earth Aerial Map of the Paul Davis water well



Zoomed out Google Earth Aerial Map of the Paul Davis water well



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

November 07, 2018

Mark Moore
Approach Environmental, LLC
151 Freestate Blvd.
Suite B
Shreveport, LA 71107
TEL: (318) 222-2424
FAX

Order No.: 18100941

RE: Approach Environmental - LDNR Residential Water Wells

Dear Mark Moore:

Element Materials Technology Lafayette received 1 sample(s) on 10/25/2018 for the analyses presented in the following report.

In accordance with your instructions Element Lafayette conducted the analysis shown on the following pages on samples submitted by your company. The results related only to the items tested. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet all requirements of TNI. All relevant sampling information is on the attached Chain-of-Custody form.

All soil data, except for 29-B, are on a wet-weight basis unless otherwise indicated in the units field as -dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA180028. ISDH Certification No.: C-LA-01. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation.

Estimated uncertainty is available upon request. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink that reads 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor
2417 W. Pinhook Road
Lafayette, LA 70508-3344



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Case Narrative

WO#: 18100941
Date: 11/7/2018

CLIENT: Approach Environmental, LLC
Project: Approach Environmental - LDNR Residential Water Wells

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).

The Dissolved Methane (RSK175) analysis was subcontracted to Gulf Coast Analytical Laboratories, Inc. Their report is attached in its entirety.



Element Materials Technology Lafayette
 2417 W. Pinhook Road
 Lafayette, LA 70508-3344
 TEL: (337) 235-0483 FAX: (337) 233-6540
 Website: www.element.com

Analytical Report

(consolidated MDL)

WO#: **18100941**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 4:20:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100941-001 **Matrix:** WATER
Client Sample ID PDW

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|--|------------|-----------|----------|------|----------------|---------------|------------------------|
| TPH-D/O IN WATER BY SW8015 | | | | | SW8015B | SW3511 | Analyst: CRM |
| TPH DRO/ORO IN WATER BY SW8015 | | | | | | | |
| TPH (Diesel Range) | 0.0122 | 0.00414 | 0.136 | J | mg/L | 1 | 10/26/2018 1:58:00 PM |
| TPH (Oil Range) | < 0.125 | 0.0494 | 0.125 | | mg/L | 1 | 10/26/2018 1:58:00 PM |
| Surr: 4-Terphenyl-d14 | 86.8 | | 51.4-146 | | %Rec | 1 | 10/26/2018 1:58:00 PM |
| TPH-GRO IN WATER BY SW8015 | | | | | SW8015B | | Analyst: CRM |
| TPH (Gasoline Range) | 0.0615 | 0.0149 | 0.150 | J | mg/L | 1 | 10/26/2018 12:10:00 PM |
| Surr: alpha, alpha, alpha-Trifluorotoluene | 102 | | 70-130 | | %Rec | 1 | 10/26/2018 12:10:00 PM |
| RCRA METALS - SW6010/7470A | | | | | SW7470A | | Analyst: KML |
| MERCURY IN GROUND WATER, TOTAL | | | | | | | |
| Mercury | < 0.000200 | 0.0000540 | 0.000200 | | mg/L | 1 | 10/26/2018 2:50:29 PM |
| INORGANIC ANIONS IN WATER BY IC | | | | | SW9056A | | Analyst: SGP |
| Chloride | 67.4 | 0.332 | 5.00 | | mg/L | 20 | 10/25/2018 1:54:23 PM |
| RCRA METALS - SW6010/7470A | | | | | SW6010B | | Analyst: STS |
| METALS IN WATER BY ICP, TOTALS | | | | | | | |
| Arsenic | < 0.0100 | 0.00895 | 0.0100 | | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Barium | 0.0477 | 0.00103 | 0.0100 | | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Cadmium | < 0.00500 | 0.000781 | 0.00500 | | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Chromium | < 0.0100 | 0.000483 | 0.0100 | | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Lead | < 0.0100 | 0.00488 | 0.0100 | | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Selenium | 0.0149 | 0.00526 | 0.0200 | J | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Silver | 0.000400 | 0.000340 | 0.00500 | J | mg/L | 1 | 10/30/2018 8:53:55 PM |
| Sodium | 169 | 2.32 | 5.00 | | mg/L | 1 | 10/30/2018 8:53:55 PM |
| PAH IN WATER BY EPA 8270C | | | | | SW8270C | SW3511 | Analyst: CRM |
| 2-Methylnaphthalene | < 0.000523 | 0.0000196 | 0.000523 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Acenaphthene | < 0.00105 | 0.0000545 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Acenaphthylene | < 0.00105 | 0.000117 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |

Qualifiers:

| | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| C Value is below Minimum Compound Limit. | DF Dilution Factor |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | M Matrix Interference |
| ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits |



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Analytical Report

(consolidated MDL)

WO#: **18100941**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 4:20:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100941-001 **Matrix:** WATER
Client Sample ID PDW

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------------------------------|------------|------------|----------|------|----------------|---------------|-----------------------|
| PAH IN WATER BY EPA 8270C | | | | | SW8270C | SW3511 | Analyst: CRM |
| Anthracene | < 0.00105 | 0.0000622 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Benzo(a)anthracene | < 0.000523 | 0.0000254 | 0.000523 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Benzo(a)pyrene | < 0.000178 | 0.0000474 | 0.000178 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Benzo(b)fluoranthene | < 0.000523 | 0.0000446 | 0.000523 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Benzo(k)fluoranthene | < 0.000523 | 0.0000641 | 0.000523 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Chrysene | < 0.000523 | 0.0000252 | 0.000523 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Dibenz(a,h)anthracene | < 0.00105 | 0.0000537 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Fluoranthene | < 0.00105 | 0.00000564 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Fluorene | < 0.000627 | 0.0000242 | 0.000627 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Indeno(1,2,3-cd)pyrene | < 0.000523 | 0.000150 | 0.000523 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Naphthalene | < 0.00105 | 0.0000269 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Phenanthrene | < 0.00105 | 0.00000311 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Pyrene | < 0.00105 | 0.00000121 | 0.00105 | | mg/L | 1 | 10/26/2018 7:43:00 PM |
| Surr: 4-Terphenyl-d14 | 110 | 0 | 49.2-161 | | %Rec | 1 | 10/26/2018 7:43:00 PM |

| SEMIVOLATILE ORGANICS IN WATER | | | | | SW8270C | E625/SW351 | Analyst: KSK |
|---------------------------------------|-----------|-----------|---------|--|----------------|-------------------|-----------------------|
| 1,2,4,5-Tetrachlorobenzene | < 0.00102 | 0.000510 | 0.00102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 1,2,4-Trichlorobenzene | < 0.00510 | 0.00102 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 1,2-Dichlorobenzene | < 0.00510 | 0.00102 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 1,3-Dichlorobenzene | < 0.00510 | 0.000514 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 1,3-Dinitrobenzene | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 1,4-Dichlorobenzene | < 0.00510 | 0.00102 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,3,4,6-Tetrachlorophenol | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,4,5-Trichlorophenol | < 0.0102 | 0.000510 | 0.0102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,4,6-Trichlorophenol | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,4-Dichlorophenol | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,4-Dimethylphenol | < 0.00510 | 0.000567 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,4-Dinitrophenol | < 0.0204 | 0.00204 | 0.0204 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,4-Dinitrotoluene | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2,6-Dinitrotoluene | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2-Chloronaphthalene | < 0.00510 | 0.0000627 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2-Chlorophenol | < 0.00510 | 0.0000550 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 2-Nitroaniline | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |

Qualifiers:
 * Value exceeds Maximum Contaminant Level.
 C Value is below Minimum Compound Limit.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 H Holding times for preparation or analysis exceeded
 M Matrix Interference
 R RPD outside accepted recovery limits



Element Materials Technology Lafayette
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Analytical Report

(consolidated MDL)

WO#: 18100941

Date Reported 11/7/2018

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 4:20:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100941-001 **Matrix:** WATER
Client Sample ID PDW

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|---------------------------------------|-----------|-----------|-----------|----------------|-------------------|--------------|-----------------------|
| SEMIVOLATILE ORGANICS IN WATER | | | | SW8270C | E625/SW351 | Analyst: KSK | |
| 3,3'-Dichlorobenzidine | < 0.0102 | 0.000486 | 0.0102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 3-Nitroaniline | < 0.0204 | 0.000510 | 0.0204 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 4-Chloroaniline | < 0.00510 | 0.000242 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 4-Nitroaniline | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| 4-Nitrophenol | < 0.0204 | 0.00510 | 0.0204 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Aniline | < 0.00510 | 0.000500 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Biphenyl | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Bis(2-chloroethyl)ether | < 0.00510 | 0.0000833 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Bis(2-chloroisopropyl)ether | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Bis(2-ethylhexyl)phthalate | < 0.00510 | 0.000308 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Butyl benzyl phthalate | < 0.00510 | 0.000108 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Dibenzofuran | < 0.00510 | 0.0000816 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Diethyl phthalate | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Dimethyl phthalate | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Di-n-octyl phthalate | < 0.0102 | 0.000185 | 0.0102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Dinoseb | < 0.00510 | 0.000306 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Hexachlorobenzene | < 0.00102 | 0.000510 | 0.00102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Hexachlorobutadiene | < 0.00204 | 0.00102 | 0.00204 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Hexachlorocyclopentadiene | < 0.0102 | 0.000510 | 0.0102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Hexachloroethane | < 0.00510 | 0.00204 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Isophorone | < 0.00510 | 0.000183 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Nitrobenzene | < 0.00102 | 0.000510 | 0.00102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| N-Nitrosodi-n-propylamine | < 0.00510 | 0.000510 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| N-Nitrosodiphenylamine | < 0.00510 | 0.000146 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Pentachlorophenol | < 0.0102 | 0.00102 | 0.0102 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Phenol | < 0.00510 | 0.0000532 | 0.00510 | | mg/L | 1 | 10/26/2018 3:35:00 PM |
| Surr: 2,4,6-Tribromophenol | 82.1 | | 47.2-144 | | %Rec | 1 | 10/26/2018 3:35:00 PM |
| Surr: 2-Fluorobiphenyl | 98.6 | | 52.2-116 | | %Rec | 1 | 10/26/2018 3:35:00 PM |
| Surr: 2-Fluorophenol | 54.4 | | 27.3-80.6 | | %Rec | 1 | 10/26/2018 3:35:00 PM |
| Surr: 4-Terphenyl-d14 | 109 | | 48.1-134 | | %Rec | 1 | 10/26/2018 3:35:00 PM |
| Surr: Nitrobenzene-d5 | 91.2 | | 42.5-144 | | %Rec | 1 | 10/26/2018 3:35:00 PM |
| Surr: Phenol-d5 | 37.2 | | 10-67.1 | | %Rec | 1 | 10/26/2018 3:35:00 PM |

Qualifiers: * Value exceeds Maximum Contaminant Level. B Analyte detected in the associated Method Blank
 C Value is below Minimum Compound Limit. DF Dilution Factor
 E Value above quantitation range H Holding times for preparation or analysis exceeded
 J Analyte detected below quantitation limits M Matrix Interference
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits



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Analytical Report

(consolidated MDL)

WO#: **18100941**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 4:20:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100941-001 **Matrix:** WATER
Client Sample ID PDW

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|------------------------------------|------------|-----------|----------|----------------|-------|---------------------|------------------------|
| VOLATILES BY GC/MS IN WATER | | | | SW8260B | | Analyst: KSK | |
| 1,1,1,2-Tetrachloroethane | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,1,1-Trichloroethane | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,1,2,2-Tetrachloroethane | < 0.000500 | 0.000150 | 0.000500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,1,2-Trichloroethane | < 0.00500 | 0.000172 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,1-Dichloroethane | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,1-Dichloroethene | < 0.00500 | 0.000361 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,2-Dibromo-3-chloropropane | < 0.00500 | 0.000210 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,2-Dichlorobenzene | < 0.0200 | 0.000500 | 0.0200 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,2-Dichloroethane | < 0.00500 | 0.000500 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,2-Dichloroethene, Total | < 0.00600 | 0.000400 | 0.00600 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,2-Dichloropropane | < 0.00500 | 0.000148 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,3-Dichlorobenzene | < 0.0100 | 0.000500 | 0.0100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 1,4-Dichlorobenzene | < 0.0200 | 0.000500 | 0.0200 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 2-Butanone | < 0.0100 | 0.000442 | 0.0100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| 4-Methyl-2-pentanone | < 0.0100 | 0.000325 | 0.0100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Acetone | < 0.0100 | 0.00226 | 0.0100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Benzene | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Bromodichloromethane | < 0.00500 | 0.000136 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Bromoform | < 0.00500 | 0.000500 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Bromomethane | < 0.00500 | 0.000688 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Carbon disulfide | < 0.0100 | 0.000133 | 0.0100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Carbon tetrachloride | < 0.00500 | 0.0000773 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Chlorobenzene | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Chlorodibromomethane | < 0.00500 | 0.000170 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Chloroethane | < 0.0100 | 0.00155 | 0.0100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Chloroform | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Chloromethane | < 0.00500 | 0.00200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| cis-1,2-Dichloroethene | < 0.00300 | 0.000200 | 0.00300 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| cis-1,3-Dichloropropene | < 0.00200 | 0.000500 | 0.00200 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Ethylbenzene | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Isobutyl alcohol | < 0.100 | 0.00400 | 0.100 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Methyl tert-butyl ether | < 0.00500 | 0.000500 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Methylene chloride | < 0.00500 | 0.000457 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Styrene | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |

Qualifiers:
 * Value exceeds Maximum Contaminant Level.
 C Value is below Minimum Compound Limit.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 H Holding times for preparation or analysis exceeded
 M Matrix Interference
 R RPD outside accepted recovery limits



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Analytical Report

(consolidated MDL)

WO#: **18100941**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 4:20:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100941-001 **Matrix:** WATER
Client Sample ID PDW

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|--|-----------|----------|----------|----------------|-------|---------------------|------------------------|
| VOLATILES BY GC/MS IN WATER | | | | SW8260B | | Analyst: KSK | |
| Tetrachloroethene | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Toluene | < 0.00500 | 0.000200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| trans-1,2-Dichloroethene | < 0.00300 | 0.000204 | 0.00300 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| trans-1,3-Dichloropropene | < 0.00200 | 0.000500 | 0.00200 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Trichloroethene | < 0.00500 | 0.000500 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Trichlorofluoromethane | < 0.00500 | 0.00200 | 0.00500 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Vinyl chloride | < 0.00200 | 0.00200 | 0.00200 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Xylenes, Total | < 0.0150 | 0.00150 | 0.0150 | | mg/L | 1 | 10/25/2018 12:10:00 PM |
| Surr: 4-Bromofluorobenzene | 98.0 | | 65.1-136 | | %Rec | 1 | 10/25/2018 12:10:00 PM |
| Surr: Dibromofluoromethane | 102 | | 40.4-143 | | %Rec | 1 | 10/25/2018 12:10:00 PM |
| Surr: Toluene-d8 | 103 | | 58.2-127 | | %Rec | 1 | 10/25/2018 12:10:00 PM |
| TOTAL DISSOLVED SOLIDS | | | | SM2540C | | Analyst: GMS | |
| Total Dissolved Solids (Residue, Filterable) | 358 | 11.9 | 20.0 | | mg/L | 1 | 10/26/2018 8:37:00 AM |

Qualifiers:

| | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| C Value is below Minimum Compound Limit. | DF Dilution Factor |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | M Matrix Interference |
| ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits |

Page 7 of 49



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: MB-28141 | SampType: MBLK | TestCode: 8270_W_REC | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73627 | | | | | | |
|-----------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1841977 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2,4,5-Tetrachlorobenzene | < 0.00100 | 0.00100 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,3-Dinitrobenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | < 0.00500 | 0.00500 | | | | | | | | | |
| 2,4,5-Trichlorophenol | < 0.0100 | 0.0100 | | | | | | | | | |
| 2,4,6-Trichlorophenol | < 0.00500 | 0.00500 | | | | | | | | | |
| 2,4-Dichlorophenol | < 0.00500 | 0.00500 | | | | | | | | | |
| 2,4-Dimethylphenol | < 0.00500 | 0.00500 | | | | | | | | | |
| 2,4-Dinitrophenol | < 0.0200 | 0.0200 | | | | | | | | | |
| 2,4-Dinitrotoluene | < 0.00500 | 0.00500 | | | | | | | | | |
| 2,6-Dinitrotoluene | < 0.00500 | 0.00500 | | | | | | | | | |
| 2-Chloronaphthalene | < 0.00500 | 0.00500 | | | | | | | | | |
| 2-Chlorophenol | < 0.00500 | 0.00500 | | | | | | | | | |
| 2-Nitroaniline | < 0.00500 | 0.00500 | | | | | | | | | |
| 3,3'-Dichlorobenzidine | < 0.0100 | 0.0100 | | | | | | | | | |
| 3-Nitroaniline | < 0.0200 | 0.0200 | | | | | | | | | |
| 4-Chloroaniline | < 0.00500 | 0.00500 | | | | | | | | | |
| 4-Nitroaniline | < 0.00500 | 0.00500 | | | | | | | | | |
| 4-Nitrophenol | < 0.0200 | 0.0200 | | | | | | | | | |
| Aniline | < 0.00500 | 0.00500 | | | | | | | | | |
| Biphenyl | < 0.00500 | 0.00500 | | | | | | | | | |
| Bis(2-chloroethyl)ether | < 0.00500 | 0.00500 | | | | | | | | | |
| Bis(2-chloroisopropyl)ether | < 0.00500 | 0.00500 | | | | | | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: MB-28141 | SampType: MBLK | TestCode: 8270_W_REC | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73627 | | | | | | |
|----------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1841977 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|----------------------------|-----------|---------|---------|--|------|------|------|--|--|--|--|
| Bis(2-ethylhexyl)phthalate | < 0.00500 | 0.00500 | | | | | | | | | |
| Butyl benzyl phthalate | < 0.00500 | 0.00500 | | | | | | | | | |
| Dibenzofuran | < 0.00500 | 0.00500 | | | | | | | | | |
| Diethyl phthalate | < 0.00500 | 0.00500 | | | | | | | | | |
| Dimethyl phthalate | < 0.00500 | 0.00500 | | | | | | | | | |
| Di-n-octyl phthalate | < 0.0100 | 0.0100 | | | | | | | | | |
| Dinoseb | < 0.00500 | 0.00500 | | | | | | | | | |
| Hexachlorobenzene | < 0.00100 | 0.00100 | | | | | | | | | |
| Hexachlorobutadiene | < 0.00200 | 0.00200 | | | | | | | | | |
| Hexachlorocyclopentadiene | < 0.0100 | 0.0100 | | | | | | | | | |
| Hexachloroethane | < 0.00500 | 0.00500 | | | | | | | | | |
| Isophorone | < 0.00500 | 0.00500 | | | | | | | | | |
| Nitrobenzene | < 0.00100 | 0.00100 | | | | | | | | | |
| N-Nitrosodi-n-propylamine | < 0.00500 | 0.00500 | | | | | | | | | |
| N-Nitrosodiphenylamine | < 0.00500 | 0.00500 | | | | | | | | | |
| Pentachlorophenol | < 0.0100 | 0.0100 | | | | | | | | | |
| Phenol | < 0.00500 | 0.00500 | | | | | | | | | |
| Surr: 2,4,6-Tribromophenol | 0.0222 | | 0.03000 | | 74.0 | 47.2 | 144 | | | | |
| Surr: 2-Fluorobiphenyl | 0.0190 | | 0.02000 | | 94.8 | 52.2 | 116 | | | | |
| Surr: 2-Fluorophenol | 0.0151 | | 0.03000 | | 50.4 | 27.3 | 80.6 | | | | |
| Surr: 4-Terphenyl-d14 | 0.0222 | | 0.02000 | | 111 | 48.1 | 134 | | | | |
| Surr: Nitrobenzene-d5 | 0.0178 | | 0.02000 | | 88.8 | 42.5 | 144 | | | | |
| Surr: Phenol-d5 | 0.0104 | | 0.03000 | | 34.7 | 10 | 67.1 | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC
Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCSD-28141 | SampType: LCSD | TestCode: 8270_W_REC | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73627 | | | | | | |
|-----------------------------|-----------------|----------------------|-------------|---------------------------|----------------|----------|-----------|-------------|-------|----------|------|
| Client ID: LCSS02 | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1841978 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2,4,5-Tetrachlorobenzene | 0.0398 | 0.00100 | 0.05000 | 0 | 79.6 | 51.3 | 119 | 0.03953 | 0.643 | 40 | |
| 1,2,4-Trichlorobenzene | 0.0340 | 0.00500 | 0.05000 | 0 | 67.9 | 47.4 | 103 | 0.03375 | 0.656 | 40 | |
| 1,2-Dichlorobenzene | 0.0354 | 0.00500 | 0.05000 | 0 | 70.8 | 32 | 119 | 0.03522 | 0.547 | 40 | |
| 1,3-Dichlorobenzene | 0.0336 | 0.00500 | 0.05000 | 0 | 67.2 | 33.9 | 108 | 0.03339 | 0.597 | 40 | |
| 1,3-Dinitrobenzene | 0.0432 | 0.00500 | 0.05000 | 0 | 86.4 | 56.5 | 132 | 0.04171 | 3.54 | 40 | |
| 1,4-Dichlorobenzene | 0.0328 | 0.00500 | 0.05000 | 0 | 65.5 | 31.8 | 107 | 0.03307 | 0.984 | 40 | |
| 2,3,4,6-Tetrachlorophenol | 0.0487 | 0.00500 | 0.05000 | 0 | 97.4 | 71.4 | 118 | 0.04776 | 1.90 | 40 | |
| 2,4,5-Trichlorophenol | 0.0463 | 0.0100 | 0.05000 | 0 | 92.7 | 63.4 | 113 | 0.04490 | 3.13 | 40 | |
| 2,4,6-Trichlorophenol | 0.0453 | 0.00500 | 0.05000 | 0 | 90.6 | 62.5 | 109 | 0.04384 | 3.29 | 40 | |
| 2,4-Dichlorophenol | 0.0427 | 0.00500 | 0.05000 | 0 | 85.4 | 65.8 | 105 | 0.04116 | 3.63 | 40 | |
| 2,4-Dimethylphenol | 0.0441 | 0.00500 | 0.05000 | 0 | 88.3 | 56.4 | 106 | 0.04265 | 3.42 | 40 | |
| 2,4-Dinitrophenol | 0.0477 | 0.0200 | 0.05000 | 0 | 95.4 | 10 | 171 | 0.04553 | 4.67 | 40 | |
| 2,4-Dinitrotoluene | 0.0428 | 0.00500 | 0.05000 | 0 | 85.6 | 72.6 | 107 | 0.04103 | 4.19 | 40 | |
| 2,6-Dinitrotoluene | 0.0460 | 0.00500 | 0.05000 | 0 | 91.9 | 62.5 | 112 | 0.04493 | 2.27 | 40 | |
| 2-Chloronaphthalene | 0.0385 | 0.00500 | 0.05000 | 0 | 76.9 | 43.2 | 121 | 0.03734 | 2.94 | 40 | |
| 2-Chlorophenol | 0.0403 | 0.00500 | 0.05000 | 0 | 80.6 | 57.4 | 104 | 0.03877 | 3.86 | 40 | |
| 2-Nitroaniline | 0.0463 | 0.00500 | 0.05000 | 0 | 92.6 | 71.4 | 120 | 0.04448 | 4.01 | 40 | |
| 3,3'-Dichlorobenzidine | 0.0714 | 0.0100 | 0.1000 | 0 | 71.4 | 49.2 | 113 | 0.07104 | 0.577 | 40 | |
| 3-Nitroaniline | 0.0371 | 0.0200 | 0.05000 | 0 | 74.1 | 37.7 | 116 | 0.03579 | 3.48 | 40 | |
| 4-Chloroaniline | 0.0387 | 0.00500 | 0.05000 | 0 | 77.4 | 56.4 | 98.6 | 0.03712 | 4.23 | 40 | |
| 4-Nitroaniline | 0.0462 | 0.00500 | 0.05000 | 0 | 92.4 | 64 | 113 | 0.04496 | 2.68 | 40 | |
| 4-Nitrophenol | 0.0220 | 0.0200 | 0.05000 | 0 | 43.9 | 22.5 | 63.1 | 0.02131 | 2.97 | 40 | |
| Aniline | 0.0351 | 0.00500 | 0.05000 | 0 | 70.2 | 48.9 | 102 | 0.03310 | 5.91 | 40 | |
| Biphenyl | 0.0414 | 0.00500 | 0.05000 | 0 | 82.8 | 41.7 | 130 | 0.04000 | 3.40 | 40 | |
| Bis(2-chloroethyl)ether | 0.0399 | 0.00500 | 0.05000 | 0 | 79.8 | 51.9 | 112 | 0.03784 | 5.24 | 40 | |
| Bis(2-chloroisopropyl)ether | 0.0430 | 0.00500 | 0.05000 | 0 | 86.0 | 50.1 | 125 | 0.04021 | 6.70 | 40 | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCSD-28141 | SampType: LCSD | TestCode: 8270_W_REC | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73627 | | | | | | |
|----------------------------|-----------------|----------------------|-------------|---------------------------|----------------|----------|-----------|-------------|-------|----------|------|
| Client ID: LCSS02 | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1841978 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Bis(2-ethylhexyl)phthalate | 0.0488 | 0.00500 | 0.05000 | 0 | 97.7 | 46.9 | 137 | 0.04728 | 3.27 | 40 | |
| Butyl benzyl phthalate | 0.0482 | 0.00500 | 0.05000 | 0 | 96.5 | 47.6 | 134 | 0.04683 | 2.98 | 40 | |
| Dibenzofuran | 0.0440 | 0.00500 | 0.05000 | 0 | 87.9 | 59.5 | 126 | 0.04282 | 2.64 | 40 | |
| Diethyl phthalate | 0.0449 | 0.00500 | 0.05000 | 0 | 89.9 | 55.4 | 121 | 0.04352 | 3.22 | 40 | |
| Dimethyl phthalate | 0.0457 | 0.00500 | 0.05000 | 0 | 91.5 | 66 | 109 | 0.04439 | 3.02 | 40 | |
| Di-n-octyl phthalate | 0.0526 | 0.0100 | 0.05000 | 0 | 105 | 36.9 | 145 | 0.05037 | 4.28 | 40 | |
| Dinoseb | 0.0404 | 0.00500 | 0.05000 | 0 | 80.7 | 10 | 180 | 0.03925 | 2.81 | 40 | |
| Hexachlorobenzene | 0.0371 | 0.00100 | 0.05000 | 0 | 74.2 | 59.5 | 100 | 0.03569 | 3.85 | 40 | |
| Hexachlorobutadiene | 0.0306 | 0.00200 | 0.05000 | 0 | 61.2 | 43.1 | 101 | 0.03127 | 2.19 | 40 | |
| Hexachlorocyclopentadiene | 0.0368 | 0.0100 | 0.05000 | 0 | 73.5 | 10 | 151 | 0.03705 | 0.775 | 40 | |
| Hexachloroethane | 0.0298 | 0.00500 | 0.05000 | 0 | 59.6 | 22.2 | 110 | 0.03012 | 1.05 | 40 | |
| Isophorone | 0.0474 | 0.00500 | 0.05000 | 0 | 94.7 | 63.1 | 110 | 0.04544 | 4.15 | 40 | |
| Nitrobenzene | 0.0418 | 0.00100 | 0.05000 | 0 | 83.7 | 67 | 108 | 0.03988 | 4.77 | 40 | |
| N-Nitrosodi-n-propylamine | 0.0404 | 0.00500 | 0.05000 | 0 | 80.9 | 49.4 | 130 | 0.03808 | 6.02 | 40 | |
| N-Nitrosodiphenylamine | 0.0431 | 0.00500 | 0.05000 | 0 | 86.2 | 67.1 | 105 | 0.04187 | 2.86 | 40 | |
| Pentachlorophenol | 0.0350 | 0.0100 | 0.05000 | 0 | 69.9 | 47.1 | 104 | 0.03386 | 3.21 | 40 | |
| Phenol | 0.0205 | 0.00500 | 0.05000 | 0 | 41.0 | 25.2 | 50.1 | 0.01917 | 6.76 | 40 | |
| Surr: 2,4,6-Tribromophenol | 0.0219 | | 0.03000 | | 73.2 | 47.2 | 144 | | 0 | 40 | |
| Surr: 2-Fluorobiphenyl | 0.0182 | | 0.02000 | | 91.0 | 52.2 | 116 | | 0 | 40 | |
| Surr: 2-Fluorophenol | 0.0180 | | 0.03000 | | 59.8 | 27.3 | 80.6 | | 0 | 40 | |
| Surr: 4-Terphenyl-d14 | 0.0217 | | 0.02000 | | 108 | 48.1 | 134 | | 0 | 40 | |
| Surr: Nitrobenzene-d5 | 0.0175 | | 0.02000 | | 87.3 | 42.5 | 144 | | 0 | 40 | |
| Surr: Phenol-d5 | 0.0115 | | 0.03000 | | 38.2 | 10 | 67.1 | | 0 | 40 | |

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits
 W Sample container temperature is out of limit as specified at testcode

J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 SDL Sample detection limit

M Matrix Interference
 RL Reporting Limit
 U Analyte not detected



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCS-28141 | SampType: LCS | TestCode: 8270_W_REC | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73627 | | | | | | |
|-----------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1841979 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2,4,5-Tetrachlorobenzene | 0.0395 | 0.00100 | 0.05000 | 0 | 79.1 | 51.3 | 119 | | | | |
| 1,2,4-Trichlorobenzene | 0.0337 | 0.00500 | 0.05000 | 0 | 67.5 | 47.4 | 103 | | | | |
| 1,2-Dichlorobenzene | 0.0352 | 0.00500 | 0.05000 | 0 | 70.4 | 32 | 119 | | | | |
| 1,3-Dichlorobenzene | 0.0334 | 0.00500 | 0.05000 | 0 | 66.8 | 33.9 | 108 | | | | |
| 1,3-Dinitrobenzene | 0.0417 | 0.00500 | 0.05000 | 0 | 83.4 | 56.5 | 132 | | | | |
| 1,4-Dichlorobenzene | 0.0331 | 0.00500 | 0.05000 | 0 | 66.1 | 31.8 | 107 | | | | |
| 2,3,4,6-Tetrachlorophenol | 0.0478 | 0.00500 | 0.05000 | 0 | 95.5 | 71.4 | 118 | | | | |
| 2,4,5-Trichlorophenol | 0.0449 | 0.0100 | 0.05000 | 0 | 89.8 | 63.4 | 113 | | | | |
| 2,4,6-Trichlorophenol | 0.0438 | 0.00500 | 0.05000 | 0 | 87.7 | 62.5 | 109 | | | | |
| 2,4-Dichlorophenol | 0.0412 | 0.00500 | 0.05000 | 0 | 82.3 | 65.8 | 105 | | | | |
| 2,4-Dimethylphenol | 0.0426 | 0.00500 | 0.05000 | 0 | 85.3 | 56.4 | 106 | | | | |
| 2,4-Dinitrophenol | 0.0455 | 0.0200 | 0.05000 | 0 | 91.1 | 10 | 171 | | | | |
| 2,4-Dinitrotoluene | 0.0410 | 0.00500 | 0.05000 | 0 | 82.1 | 72.6 | 107 | | | | |
| 2,6-Dinitrotoluene | 0.0449 | 0.00500 | 0.05000 | 0 | 89.9 | 62.5 | 112 | | | | |
| 2-Chloronaphthalene | 0.0373 | 0.00500 | 0.05000 | 0 | 74.7 | 43.2 | 121 | | | | |
| 2-Chlorophenol | 0.0388 | 0.00500 | 0.05000 | 0 | 77.5 | 57.4 | 104 | | | | |
| 2-Nitroaniline | 0.0445 | 0.00500 | 0.05000 | 0 | 89.0 | 71.4 | 120 | | | | |
| 3,3'-Dichlorobenzidine | 0.0710 | 0.0100 | 0.1000 | 0 | 71.0 | 49.2 | 113 | | | | |
| 3-Nitroaniline | 0.0358 | 0.0200 | 0.05000 | 0 | 71.6 | 37.7 | 116 | | | | |
| 4-Chloroaniline | 0.0371 | 0.00500 | 0.05000 | 0 | 74.2 | 56.4 | 98.6 | | | | |
| 4-Nitroaniline | 0.0450 | 0.00500 | 0.05000 | 0 | 89.9 | 64 | 113 | | | | |
| 4-Nitrophenol | 0.0213 | 0.0200 | 0.05000 | 0 | 42.6 | 22.5 | 63.1 | | | | |
| Aniline | 0.0331 | 0.00500 | 0.05000 | 0 | 66.2 | 48.9 | 102 | | | | |
| Biphenyl | 0.0400 | 0.00500 | 0.05000 | 0 | 80.0 | 41.7 | 130 | | | | |
| Bis(2-chloroethyl)ether | 0.0378 | 0.00500 | 0.05000 | 0 | 75.7 | 51.9 | 112 | | | | |
| Bis(2-chloroisopropyl)ether | 0.0402 | 0.00500 | 0.05000 | 0 | 80.4 | 50.1 | 125 | | | | |

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits
 W Sample container temperature is out of limit as specified at testcode

J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 SDL Sample detection limit

M Matrix Interference
 RL Reporting Limit
 U Analyte not detected



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCS-28141 | SampType: LCS | TestCode: 8270_W_REC | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73627 | | | | | | |
|----------------------------|-----------------|----------------------|-------------|---------------------------|----------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1841979 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Bis(2-ethylhexyl)phthalate | 0.0473 | 0.00500 | 0.05000 | 0 | 94.6 | 46.9 | 137 | | | | |
| Butyl benzyl phthalate | 0.0468 | 0.00500 | 0.05000 | 0 | 93.7 | 47.6 | 134 | | | | |
| Dibenzofuran | 0.0428 | 0.00500 | 0.05000 | 0 | 85.6 | 59.5 | 126 | | | | |
| Diethyl phthalate | 0.0435 | 0.00500 | 0.05000 | 0 | 87.0 | 55.4 | 121 | | | | |
| Dimethyl phthalate | 0.0444 | 0.00500 | 0.05000 | 0 | 88.8 | 66 | 109 | | | | |
| Di-n-octyl phthalate | 0.0504 | 0.0100 | 0.05000 | 0 | 101 | 36.9 | 145 | | | | |
| Dinoseb | 0.0392 | 0.00500 | 0.05000 | 0 | 78.5 | 10 | 180 | | | | |
| Hexachlorobenzene | 0.0357 | 0.00100 | 0.05000 | 0 | 71.4 | 59.5 | 100 | | | | |
| Hexachlorobutadiene | 0.0313 | 0.00200 | 0.05000 | 0 | 62.5 | 43.1 | 101 | | | | |
| Hexachlorocyclopentadiene | 0.0371 | 0.0100 | 0.05000 | 0 | 74.1 | 10 | 151 | | | | |
| Hexachloroethane | 0.0301 | 0.00500 | 0.05000 | 0 | 60.2 | 22.2 | 110 | | | | |
| Isophorone | 0.0454 | 0.00500 | 0.05000 | 0 | 90.9 | 63.1 | 110 | | | | |
| Nitrobenzene | 0.0399 | 0.00100 | 0.05000 | 0 | 79.8 | 67 | 108 | | | | |
| N-Nitrosodi-n-propylamine | 0.0381 | 0.00500 | 0.05000 | 0 | 76.2 | 49.4 | 130 | | | | |
| N-Nitrosodiphenylamine | 0.0419 | 0.00500 | 0.05000 | 0 | 83.7 | 67.1 | 105 | | | | |
| Pentachlorophenol | 0.0339 | 0.0100 | 0.05000 | 0 | 67.7 | 47.1 | 104 | | | | |
| Phenol | 0.0192 | 0.00500 | 0.05000 | 0 | 38.3 | 25.2 | 50.1 | | | | |
| Surr: 2,4,6-Tribromophenol | 0.0226 | | 0.03000 | | 75.3 | 47.2 | 144 | | | | |
| Surr: 2-Fluorobiphenyl | 0.0184 | | 0.02000 | | 92.1 | 52.2 | 116 | | | | |
| Surr: 2-Fluorophenol | 0.0178 | | 0.03000 | | 59.3 | 27.3 | 80.6 | | | | |
| Surr: 4-Terphenyl-d14 | 0.0223 | | 0.02000 | | 112 | 48.1 | 134 | | | | |
| Surr: Nitrobenzene-d5 | 0.0176 | | 0.02000 | | 87.8 | 42.5 | 144 | | | | |
| Surr: Phenol-d5 | 0.0113 | | 0.03000 | | 37.8 | 10 | 67.1 | | | | |

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits
 W Sample container temperature is out of limit as specified at testcode

J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 SDL Sample detection limit

M Matrix Interference
 RL Reporting Limit
 U Analyte not detected



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: MB-28141 | SampType: MBLK | TestCode: 625_ALL | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73670 | | | | | | |
|-----------------------------|------------------------|--------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1842768 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2,4-Trichlorobenzene | < 0.00400 | 0.00400 | | | | | | | | | |
| 1,3-Dinitrobenzene | < 0.00400 | 0.00400 | | | | | | | | | |
| 2,4,5-Trichlorophenol | < 0.00800 | 0.00800 | | | | | | | | | |
| 2,4,6-Trichlorophenol | < 0.00800 | 0.00800 | | | | | | | | | |
| 2,4-Dichlorophenol | < 0.00800 | 0.00800 | | | | | | | | | |
| 2,4-Dimethylphenol | < 0.00800 | 0.00800 | | | | | | | | | |
| 2,4-Dinitrophenol | < 0.0200 | 0.0200 | | | | | | | | | |
| 2,4-Dinitrotoluene | < 0.00400 | 0.00400 | | | | | | | | | |
| 2,6-Dinitrotoluene | < 0.00400 | 0.00400 | | | | | | | | | |
| 2-Chloronaphthalene | < 0.00400 | 0.00400 | | | | | | | | | |
| 2-Chlorophenol | < 0.00800 | 0.00800 | | | | | | | | | |
| 2-Nitroaniline | < 0.00400 | 0.00400 | | | | | | | | | |
| 3,3'-Dichlorobenzidine | < 0.00400 | 0.00400 | | | | | | | | | |
| 3-Nitroaniline | < 0.00400 | 0.00400 | | | | | | | | | |
| 4-Chloroaniline | < 0.00400 | 0.00400 | | | | | | | | | |
| 4-Nitroaniline | < 0.00400 | 0.00400 | | | | | | | | | |
| 4-Nitrophenol | < 0.0200 | 0.0200 | | | | | | | | | |
| Aniline | < 0.00400 | 0.00400 | | | | | | | | | |
| Bis(2-chloroethyl)ether | < 0.00400 | 0.00400 | | | | | | | | | |
| Bis(2-chloroisopropyl)ether | < 0.00400 | 0.00400 | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | < 0.00400 | 0.00400 | | | | | | | | | |
| Butyl benzyl phthalate | < 0.00400 | 0.00400 | | | | | | | | | |
| Dibenzofuran | < 0.00400 | 0.00400 | | | | | | | | | |
| Diethyl phthalate | < 0.00400 | 0.00400 | | | | | | | | | |
| Dimethyl phthalate | < 0.00400 | 0.00400 | | | | | | | | | |
| Di-n-octyl phthalate | < 0.00400 | 0.00400 | | | | | | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: | MB-28141 | SampType: | MBLK | TestCode: | 625_ALL | Units: | mg/L | Prep Date: | 10/25/2018 | RunNo: | 73670 |
|----------------------------|-----------|-----------|-----------|-------------|---------|-------------|-----------|----------------|------------|----------|---------|
| Client ID: | PBW | Batch ID: | 28141 | TestNo: | SW8270C | E625/SW3510 | | Analysis Date: | 10/26/2018 | SeqNo: | 1842768 |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Hexachlorobenzene | < 0.00400 | 0.00400 | | | | | | | | | |
| Hexachlorobutadiene | < 0.00400 | 0.00400 | | | | | | | | | |
| Hexachlorocyclopentadiene | < 0.00400 | 0.00400 | | | | | | | | | |
| Hexachloroethane | < 0.00400 | 0.00400 | | | | | | | | | |
| Isophorone | < 0.00400 | 0.00400 | | | | | | | | | |
| Nitrobenzene | < 0.00400 | 0.00400 | | | | | | | | | |
| N-Nitrosodi-n-propylamine | < 0.00400 | 0.00400 | | | | | | | | | |
| N-Nitrosodiphenylamine | < 0.00400 | 0.00400 | | | | | | | | | |
| Pentachlorophenol | < 0.00400 | 0.00400 | | | | | | | | | |
| Phenol | < 0.00800 | 0.00800 | | | | | | | | | |
| Surr: 2,4,6-Tribromophenol | 0.0222 | | 0.03000 | | 74.0 | 74 | 120 | | | | S |
| Surr: 2-Fluorobiphenyl | 0.0190 | | 0.02000 | | 94.8 | 63 | 111 | | | | |
| Surr: 2-Fluorophenol | 0.0151 | | 0.03000 | | 50.4 | 40 | 71 | | | | |
| Surr: Nitrobenzene-d5 | 0.0178 | | 0.02000 | | 88.8 | 67 | 104 | | | | |
| Surr: Phenol-d5 | 0.0104 | | 0.03000 | | 34.7 | 27 | 58 | | | | |
| Surr: Terphenyl-d14 | 0.0222 | | 0.02000 | | 111 | 55 | 123 | | | | |

| Sample ID: | LCSD-28141 | SampType: | LCSD | TestCode: | 625_ALL | Units: | mg/L | Prep Date: | 10/25/2018 | RunNo: | 73670 |
|------------------------|------------|-----------|-----------|-------------|---------|-------------|-----------|----------------|------------|----------|---------|
| Client ID: | LCSS02 | Batch ID: | 28141 | TestNo: | SW8270C | E625/SW3510 | | Analysis Date: | 10/26/2018 | SeqNo: | 1842774 |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2,4-Trichlorobenzene | 0.0340 | 0.00400 | 0.05000 | 0 | 67.9 | 57 | 130 | 0.03375 | 0.656 | 30 | |
| 1,3-Dinitrobenzene | 0.0432 | 0.00400 | 0.05000 | 0 | 86.4 | 79 | 120 | 0.04171 | 3.54 | 40 | |
| 2,4,5-Trichlorophenol | 0.0463 | 0.00800 | 0.05000 | 0 | 92.7 | 65 | 120 | 0.04490 | 3.13 | 40 | |
| 2,4,6-Trichlorophenol | 0.0453 | 0.00800 | 0.05000 | 0 | 90.6 | 52 | 129 | 0.04384 | 3.29 | 35 | |

Qualifiers:

| | | | | | |
|----|---|-----|--|----|----------------------|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC
Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCSD-28141 | SampType: LCSD | TestCode: 625_ALL | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73670 | | | | | | |
|-----------------------------|-----------------|-------------------|-------------|---------------------------|----------------|----------|-----------|-------------|-------|----------|------|
| Client ID: LCSS02 | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1842774 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 2,4-Dichlorophenol | 0.0427 | 0.00800 | 0.05000 | 0 | 85.4 | 53 | 122 | 0.04116 | 3.63 | 30 | |
| 2,4-Dimethylphenol | 0.0441 | 0.00800 | 0.05000 | 0 | 88.3 | 42 | 120 | 0.04265 | 3.42 | 35 | |
| 2,4-Dinitrophenol | 0.0477 | 0.0200 | 0.05000 | 0 | 95.4 | 5 | 173 | 0.04553 | 4.67 | 79 | |
| 2,4-Dinitrotoluene | 0.0428 | 0.00400 | 0.05000 | 0 | 85.6 | 48 | 127 | 0.04103 | 4.19 | 25 | |
| 2,6-Dinitrotoluene | 0.0460 | 0.00400 | 0.05000 | 0 | 91.9 | 68 | 137 | 0.04493 | 2.27 | 29 | |
| 2-Chloronaphthalene | 0.0385 | 0.00400 | 0.05000 | 0 | 76.9 | 65 | 120 | 0.03734 | 2.94 | 15 | |
| 2-Chlorophenol | 0.0403 | 0.00800 | 0.05000 | 0 | 80.6 | 36 | 120 | 0.03877 | 3.86 | 37 | |
| 2-Nitroaniline | 0.0463 | 0.00400 | 0.05000 | 0 | 92.6 | 80 | 120 | 0.04448 | 4.01 | 40 | |
| 3,3'-Dichlorobenzidine | 0.0714 | 0.00400 | 0.1000 | 0 | 71.4 | 8 | 213 | 0.07104 | 0.577 | 65 | |
| 3-Nitroaniline | 0.0371 | 0.00400 | 0.05000 | 0 | 74.1 | 68 | 101 | 0.03579 | 3.48 | 40 | |
| 4-Chloroaniline | 0.0387 | 0.00400 | 0.05000 | 0 | 77.4 | 65 | 107 | 0.03712 | 4.23 | 40 | |
| 4-Nitroaniline | 0.0462 | 0.00400 | 0.05000 | 0 | 92.4 | 78 | 120 | 0.04496 | 2.68 | 40 | |
| 4-Nitrophenol | 0.0220 | 0.0200 | 0.05000 | 0 | 43.9 | 13 | 129 | 0.02131 | 2.97 | 79 | |
| Aniline | 0.0351 | 0.00400 | 0.05000 | 0 | 70.2 | 39 | 101 | 0.03310 | 5.91 | 40 | |
| Bis(2-chloroethyl)ether | 0.0399 | 0.00400 | 0.05000 | 0 | 79.8 | 43 | 126 | 0.03784 | 5.24 | 65 | |
| Bis(2-chloroisopropyl)ether | 0.0430 | 0.00400 | 0.05000 | 0 | 86.0 | 63 | 139 | 0.04021 | 6.70 | 46 | |
| Bis(2-ethylhexyl)phthalate | 0.0488 | 0.00400 | 0.05000 | 0 | 97.7 | 29 | 137 | 0.04728 | 3.27 | 50 | |
| Butyl benzyl phthalate | 0.0482 | 0.00400 | 0.05000 | 0 | 96.5 | 5 | 140 | 0.04683 | 2.98 | 36 | |
| Dibenzofuran | 0.0440 | 0.00400 | 0.05000 | 0 | 87.9 | 81 | 120 | 0.04282 | 2.64 | 40 | |
| Diethyl phthalate | 0.0449 | 0.00400 | 0.05000 | 0 | 89.9 | 5 | 120 | 0.04352 | 3.22 | 60 | |
| Dimethyl phthalate | 0.0457 | 0.00400 | 0.05000 | 0 | 91.5 | 5 | 120 | 0.04439 | 3.02 | 110 | |
| Di-n-octyl phthalate | 0.0526 | 0.00400 | 0.05000 | 0 | 105 | 19 | 132 | 0.05037 | 4.28 | 42 | |
| Hexachlorobenzene | 0.0371 | 0.00400 | 0.05000 | 0 | 74.2 | 8 | 142 | 0.03569 | 3.85 | 33 | |
| Hexachlorobutadiene | 0.0306 | 0.00400 | 0.05000 | 0 | 61.2 | 38 | 120 | 0.03127 | 2.19 | 38 | |
| Hexachlorocyclopentadiene | 0.0368 | 0.00400 | 0.05000 | 0 | 73.5 | 10 | 116 | 0.03705 | 0.775 | 40 | |
| Hexachloroethane | 0.0298 | 0.00400 | 0.05000 | 0 | 59.6 | 55 | 120 | 0.03012 | 1.05 | 32 | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCS-28141 | SampType: LCS | TestCode: 625_ALL | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73670 | | | | | | |
|-----------------------------|------------------------|--------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCS02 | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1842774 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Isophorone | 0.0474 | 0.00400 | 0.05000 | 0 | 94.7 | 47 | 180 | 0.04544 | 4.15 | 56 | |
| Nitrobenzene | 0.0418 | 0.00400 | 0.05000 | 0 | 83.7 | 54 | 158 | 0.03988 | 4.77 | 37 | |
| N-Nitrosodi-n-propylamine | 0.0404 | 0.00400 | 0.05000 | 0 | 80.9 | 14 | 198 | 0.03808 | 6.02 | 52 | |
| N-Nitrosodiphenylamine | 0.0431 | 0.00400 | 0.05000 | 0 | 86.2 | 71 | 120 | 0.04187 | 2.86 | 40 | |
| Pentachlorophenol | 0.0350 | 0.00400 | 0.05000 | 0 | 69.9 | 38 | 152 | 0.03386 | 3.21 | 52 | |
| Phenol | 0.0205 | 0.00800 | 0.05000 | 0 | 41.0 | 17 | 120 | 0.01917 | 6.76 | 39 | |
| Surr: 2,4,6-Tribromophenol | 0.0219 | | 0.03000 | | 73.2 | 74 | 120 | | 0 | 40 | S |
| Surr: 2-Fluorobiphenyl | 0.0182 | | 0.02000 | | 91.0 | 63 | 111 | | 0 | 40 | |
| Surr: 2-Fluorophenol | 0.0180 | | 0.03000 | | 59.8 | 40 | 71 | | 0 | 40 | |
| Surr: Nitrobenzene-d5 | 0.0175 | | 0.02000 | | 87.3 | 67 | 104 | | 0 | 40 | |
| Surr: Phenol-d5 | 0.0115 | | 0.03000 | | 38.2 | 27 | 58 | | 0 | 40 | |
| Surr: Terphenyl-d14 | 0.0217 | | 0.02000 | | 108 | 55 | 123 | | 0 | 40 | |

| Sample ID: LCS-28141 | SampType: LCS | TestCode: 625_ALL | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73670 | | | | | | |
|-----------------------------|------------------------|--------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1842775 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2,4-Trichlorobenzene | 0.0337 | 0.00400 | 0.05000 | 0 | 67.5 | 57 | 130 | | | | |
| 1,3-Dinitrobenzene | 0.0417 | 0.00400 | 0.05000 | 0 | 83.4 | 79 | 120 | | | | |
| 2,4,5-Trichlorophenol | 0.0449 | 0.00800 | 0.05000 | 0 | 89.8 | 65 | 120 | | | | |
| 2,4,6-Trichlorophenol | 0.0438 | 0.00800 | 0.05000 | 0 | 87.7 | 52 | 129 | | | | |
| 2,4-Dichlorophenol | 0.0412 | 0.00800 | 0.05000 | 0 | 82.3 | 53 | 122 | | | | |
| 2,4-Dimethylphenol | 0.0426 | 0.00800 | 0.05000 | 0 | 85.3 | 42 | 120 | | | | |
| 2,4-Dinitrophenol | 0.0455 | 0.0200 | 0.05000 | 0 | 91.1 | 5 | 173 | | | | |
| 2,4-Dinitrotoluene | 0.0410 | 0.00400 | 0.05000 | 0 | 82.1 | 48 | 127 | | | | |

| | | | |
|--------------------|---|--|------------------------|
| Qualifiers: | H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits | M Matrix Interference |
| | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | RL Reporting Limit |
| | S Spike Recovery outside accepted recovery limits | SDL Sample detection limit | U Analyte not detected |
| | W Sample container temperature is out of limit as specified at testcode | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCS-28141 | SampType: LCS | TestCode: 625_ALL | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73670 | | | | | | |
|-----------------------------|------------------------|--------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1842775 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 2,6-Dinitrotoluene | 0.0449 | 0.00400 | 0.05000 | 0 | 89.9 | 68 | 137 | | | | |
| 2-Chloronaphthalene | 0.0373 | 0.00400 | 0.05000 | 0 | 74.7 | 65 | 120 | | | | |
| 2-Chlorophenol | 0.0388 | 0.00800 | 0.05000 | 0 | 77.5 | 36 | 120 | | | | |
| 2-Nitroaniline | 0.0445 | 0.00400 | 0.05000 | 0 | 89.0 | 80 | 120 | | | | |
| 3,3'-Dichlorobenzidine | 0.0710 | 0.00400 | 0.1000 | 0 | 71.0 | 8 | 213 | | | | |
| 3-Nitroaniline | 0.0358 | 0.00400 | 0.05000 | 0 | 71.6 | 68 | 101 | | | | |
| 4-Chloroaniline | 0.0371 | 0.00400 | 0.05000 | 0 | 74.2 | 65 | 107 | | | | |
| 4-Nitroaniline | 0.0450 | 0.00400 | 0.05000 | 0 | 89.9 | 78 | 120 | | | | |
| 4-Nitrophenol | 0.0213 | 0.0200 | 0.05000 | 0 | 42.6 | 13 | 129 | | | | |
| Aniline | 0.0331 | 0.00400 | 0.05000 | 0 | 66.2 | 39 | 101 | | | | |
| Bis(2-chloroethyl)ether | 0.0378 | 0.00400 | 0.05000 | 0 | 75.7 | 43 | 126 | | | | |
| Bis(2-chloroisopropyl)ether | 0.0402 | 0.00400 | 0.05000 | 0 | 80.4 | 63 | 139 | | | | |
| Bis(2-ethylhexyl)phthalate | 0.0473 | 0.00400 | 0.05000 | 0 | 94.6 | 29 | 137 | | | | |
| Butyl benzyl phthalate | 0.0468 | 0.00400 | 0.05000 | 0 | 93.7 | 5 | 140 | | | | |
| Dibenzofuran | 0.0428 | 0.00400 | 0.05000 | 0 | 85.6 | 81 | 120 | | | | |
| Diethyl phthalate | 0.0435 | 0.00400 | 0.05000 | 0 | 87.0 | 5 | 120 | | | | |
| Dimethyl phthalate | 0.0444 | 0.00400 | 0.05000 | 0 | 88.8 | 5 | 120 | | | | |
| Di-n-octyl phthalate | 0.0504 | 0.00400 | 0.05000 | 0 | 101 | 19 | 132 | | | | |
| Hexachlorobenzene | 0.0357 | 0.00400 | 0.05000 | 0 | 71.4 | 8 | 142 | | | | |
| Hexachlorobutadiene | 0.0313 | 0.00400 | 0.05000 | 0 | 62.5 | 38 | 120 | | | | |
| Hexachlorocyclopentadiene | 0.0371 | 0.00400 | 0.05000 | 0 | 74.1 | 10 | 116 | | | | |
| Hexachloroethane | 0.0301 | 0.00400 | 0.05000 | 0 | 60.2 | 55 | 120 | | | | |
| Isophorone | 0.0454 | 0.00400 | 0.05000 | 0 | 90.9 | 47 | 180 | | | | |
| Nitrobenzene | 0.0399 | 0.00400 | 0.05000 | 0 | 79.8 | 54 | 158 | | | | |
| N-Nitrosodi-n-propylamine | 0.0381 | 0.00400 | 0.05000 | 0 | 76.2 | 14 | 198 | | | | |
| N-Nitrosodiphenylamine | 0.0419 | 0.00400 | 0.05000 | 0 | 83.7 | 71 | 120 | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28141

| Sample ID: LCS-28141 | SampType: LCS | TestCode: 625_ALL | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73670 | | | | | | |
|-----------------------------|------------------------|--------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28141 | TestNo: SW8270C | E625/SW3510 | Analysis Date: 10/26/2018 | SeqNo: 1842775 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|----------------------------|--------|---------|---------|---|------|----|-----|--|--|--|--|
| Pentachlorophenol | 0.0339 | 0.00400 | 0.05000 | 0 | 67.7 | 38 | 152 | | | | |
| Phenol | 0.0192 | 0.00800 | 0.05000 | 0 | 38.3 | 17 | 120 | | | | |
| Surr: 2,4,6-Tribromophenol | 0.0226 | | 0.03000 | | 75.3 | 74 | 120 | | | | |
| Surr: 2-Fluorobiphenyl | 0.0184 | | 0.02000 | | 92.1 | 63 | 111 | | | | |
| Surr: 2-Fluorophenol | 0.0178 | | 0.03000 | | 59.3 | 40 | 71 | | | | |
| Surr: Nitrobenzene-d5 | 0.0176 | | 0.02000 | | 87.8 | 67 | 104 | | | | |
| Surr: Phenol-d5 | 0.0113 | | 0.03000 | | 37.8 | 27 | 58 | | | | |
| Surr: Terphenyl-d14 | 0.0223 | | 0.02000 | | 112 | 55 | 123 | | | | |

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|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28142

| | | | | | | | | | | | |
|-------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCS-D-28142 | SampType: LCS | TestCode: 8015_DO_W_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73635 | | | | | | |
| Client ID: LCSW | Batch ID: 28142 | TestNo: SW8015B | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842143 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|-----------------------|--------|-------|---------|---|------|------|-----|--|--|--|--|
| TPH (Diesel Range) | 1.71 | 0.135 | 1.787 | 0 | 95.9 | 70 | 130 | | | | |
| Surr: 4-Terphenyl-d14 | 0.0605 | | 0.05956 | | 102 | 51.4 | 146 | | | | |

| | | | | | | | | | | | |
|--------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCSD-D-28142 | SampType: LCSD | TestCode: 8015_DO_W_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73635 | | | | | | |
| Client ID: LCSS02 | Batch ID: 28142 | TestNo: SW8015B | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842144 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

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|-----------------------|--------|-------|---------|---|------|------|-----|-------|------|------|
| TPH (Diesel Range) | 1.75 | 0.137 | 1.804 | 0 | 97.2 | 70 | 130 | 1.714 | 2.27 | 14.1 |
| Surr: 4-Terphenyl-d14 | 0.0383 | | 0.06013 | | 63.7 | 51.4 | 146 | | 0 | 40 |

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|--------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCSD-M-28142 | SampType: LCSD | TestCode: 8015_DO_W_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73635 | | | | | | |
| Client ID: LCSS02 | Batch ID: 28142 | TestNo: SW8015B | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842145 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | |
|-----------------------|--------|-------|---------|---|------|------|-----|-------|------|------|
| TPH (Oil Range) | 1.55 | 0.124 | 1.773 | 0 | 87.3 | 70 | 130 | 1.373 | 11.9 | 23.2 |
| Surr: 4-Terphenyl-d14 | 0.0744 | | 0.05910 | | 126 | 51.4 | 146 | | 0 | 40 |

| | | | | | | | | | | | |
|-------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCS-M-28142 | SampType: LCS | TestCode: 8015_DO_W_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73635 | | | | | | |
| Client ID: LCSW | Batch ID: 28142 | TestNo: SW8015B | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842146 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | |
|-----------------|------|-------|-------|---|------|----|-----|--|--|--|
| TPH (Oil Range) | 1.37 | 0.126 | 1.804 | 0 | 76.1 | 70 | 130 | | | |
|-----------------|------|-------|-------|---|------|----|-----|--|--|--|

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28142

| | | | | | | | | | | | |
|-------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCS-M-28142 | SampType: LCS | TestCode: 8015_DO_W_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73635 | | | | | | |
| Client ID: LCSW | Batch ID: 28142 | TestNo: SW8015B | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842146 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Surr: 4-Terphenyl-d14 | 0.0457 | | 0.06013 | | 76.0 | 51.4 | 146 | | | | |

| | | | | | | | | | | | |
|----------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MB-28142 | SampType: MBLK | TestCode: 8015_DO_W_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73635 | | | | | | |
| Client ID: PBW | Batch ID: 28142 | TestNo: SW8015B | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842147 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH (Diesel Range) | 0.0501 | 0.137 | | | | | | | | | J |
| TPH (Oil Range) | < 0.127 | 0.127 | | | | | | | | | |
| Surr: 4-Terphenyl-d14 | 0.0520 | | 0.06038 | | 86.1 | 51.4 | 146 | | | | |

Qualifiers:

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits
- W Sample container temperature is out of limit as specified at testcode

- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- SDL Sample detection limit

- M Matrix Interference
- RL Reporting Limit
- U Analyte not detected



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28146

| Sample ID: MB-28146 | SampType: MBLK | TestCode: 8270_W_LVI_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73636 | | | | | | |
|----------------------------|------------------------|------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: 28146 | TestNo: SW8270C | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842148 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 2-Methylnaphthalene | < 0.000519 | 0.000519 | | | | | | | | | |
| Acenaphthene | < 0.00104 | 0.00104 | | | | | | | | | |
| Acenaphthylene | < 0.00104 | 0.00104 | | | | | | | | | |
| Anthracene | 0.0000425 | 0.00104 | | | | | | | | | J |
| Benzo(a)anthracene | < 0.000519 | 0.000519 | | | | | | | | | |
| Benzo(a)pyrene | < 0.000176 | 0.000176 | | | | | | | | | |
| Benzo(b)fluoranthene | < 0.000519 | 0.000519 | | | | | | | | | |
| Benzo(k)fluoranthene | < 0.000519 | 0.000519 | | | | | | | | | |
| Chrysene | < 0.000519 | 0.000519 | | | | | | | | | |
| Dibenz(a,h)anthracene | < 0.00104 | 0.00104 | | | | | | | | | |
| Fluoranthene | < 0.00104 | 0.00104 | | | | | | | | | |
| Fluorene | < 0.000622 | 0.000622 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | < 0.000519 | 0.000519 | | | | | | | | | |
| Naphthalene | < 0.00104 | 0.00104 | | | | | | | | | |
| Phenanthrene | 0.0000394 | 0.00104 | | | | | | | | | J |
| Pyrene | < 0.00104 | 0.00104 | | | | | | | | | |
| Surr: 4-Terphenyl-d14 | 0.00275 | | 0.002375 | | 116 | 49.2 | 161 | | | | |

| Sample ID: LCSD-28146 | SampType: LCSD | TestCode: 8270_W_LVI_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73636 | | | | | | |
|------------------------------|------------------------|------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSS02 | Batch ID: 28146 | TestNo: SW8270C | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842153 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 2-Methylnaphthalene | 0.00239 | 0.000521 | 0.002382 | 0 | 101 | 60.8 | 127 | 0.002603 | 8.33 | 40 | |
| Acenaphthene | 0.00251 | 0.00104 | 0.002386 | 0 | 105 | 72.5 | 121 | 0.002676 | 6.26 | 40 | |
| Acenaphthylene | 0.00240 | 0.00104 | 0.002386 | 0 | 100 | 65.7 | 128 | 0.002362 | 1.51 | 40 | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28146

| Sample ID: LCS-28146 | SampType: LCS | TestCode: 8270_W_LVI_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73636 | | | | | | |
|-----------------------------|------------------------|------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: LCS02 | Batch ID: 28146 | TestNo: SW8270C | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842153 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Anthracene | 0.00230 | 0.00104 | 0.002386 | 0 | 96.3 | 73.4 | 120 | 0.002219 | 3.49 | 40 | |
| Benzo(a)anthracene | 0.00264 | 0.000521 | 0.002386 | 0 | 111 | 69 | 121 | 0.002624 | 0.641 | 40 | |
| Benzo(a)pyrene | 0.00236 | 0.000177 | 0.002386 | 0 | 98.8 | 70.6 | 120 | 0.002326 | 1.38 | 40 | |
| Benzo(b)fluoranthene | 0.00286 | 0.000521 | 0.002386 | 0 | 120 | 65.3 | 127 | 0.002691 | 5.96 | 40 | |
| Benzo(k)fluoranthene | 0.00266 | 0.000521 | 0.002386 | 0 | 111 | 68.6 | 125 | 0.002614 | 1.65 | 40 | |
| Chrysene | 0.00260 | 0.000521 | 0.002386 | 0 | 109 | 74.4 | 120 | 0.002541 | 2.39 | 40 | |
| Dibenz(a,h)anthracene | 0.00273 | 0.00104 | 0.002386 | 0 | 114 | 66.4 | 126 | 0.002789 | 2.31 | 40 | |
| Fluoranthene | 0.00282 | 0.00104 | 0.002386 | 0 | 118 | 70.7 | 121 | 0.002391 | 16.4 | 40 | |
| Fluorene | 0.00255 | 0.000625 | 0.002386 | 0 | 107 | 62.5 | 134 | 0.002731 | 6.90 | 40 | |
| Indeno(1,2,3-cd)pyrene | 0.00254 | 0.000521 | 0.002386 | 0 | 107 | 66.9 | 120 | 0.002480 | 2.49 | 40 | |
| Naphthalene | 0.00245 | 0.00104 | 0.002386 | 0 | 102 | 63.5 | 137 | 0.002279 | 7.03 | 40 | |
| Phenanthrene | 0.00253 | 0.00104 | 0.002386 | 0 | 106 | 74.1 | 118 | 0.002560 | 1.18 | 40 | |
| Pyrene | 0.00283 | 0.00104 | 0.002386 | 0 | 119 | 73.2 | 120 | 0.002744 | 3.23 | 40 | |
| Surr: 4-Terphenyl-d14 | 0.00258 | | 0.002386 | | 108 | 49.2 | 161 | | 0 | 40 | |

| Sample ID: LCS-28146 | SampType: LCS | TestCode: 8270_W_LVI_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73636 | | | | | | |
|-----------------------------|------------------------|------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28146 | TestNo: SW8270C | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842154 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 2-Methylnaphthalene | 0.00260 | 0.000523 | 0.002393 | 0 | 109 | 60.8 | 127 | | | | |
| Acenaphthene | 0.00268 | 0.00105 | 0.002398 | 0 | 112 | 72.5 | 121 | | | | |
| Acenaphthylene | 0.00236 | 0.00105 | 0.002398 | 0 | 98.5 | 65.7 | 128 | | | | |
| Anthracene | 0.00222 | 0.00105 | 0.002398 | 0 | 92.6 | 73.4 | 120 | | | | |
| Benzo(a)anthracene | 0.00262 | 0.000523 | 0.002398 | 0 | 109 | 69 | 121 | | | | |
| Benzo(a)pyrene | 0.00233 | 0.000178 | 0.002398 | 0 | 97.0 | 70.6 | 120 | | | | |

Qualifiers:

| | | | | | |
|----|---|-----|--|----|----------------------|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28146

| Sample ID: LCS-28146 | SampType: LCS | TestCode: 8270_W_LVI_ | Units: mg/L | Prep Date: 10/25/2018 | RunNo: 73636 | | | | | | |
|-----------------------------|------------------------|------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28146 | TestNo: SW8270C | SW3511 | Analysis Date: 10/26/2018 | SeqNo: 1842154 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzo(b)fluoranthene | 0.00269 | 0.000523 | 0.002398 | 0 | 112 | 65.3 | 127 | | | | |
| Benzo(k)fluoranthene | 0.00261 | 0.000523 | 0.002398 | 0 | 109 | 68.6 | 125 | | | | |
| Chrysene | 0.00254 | 0.000523 | 0.002398 | 0 | 106 | 74.4 | 120 | | | | |
| Dibenz(a,h)anthracene | 0.00279 | 0.00105 | 0.002398 | 0 | 116 | 66.4 | 126 | | | | |
| Fluoranthene | 0.00239 | 0.00105 | 0.002398 | 0 | 99.7 | 70.7 | 121 | | | | |
| Fluorene | 0.00273 | 0.000628 | 0.002398 | 0 | 114 | 62.5 | 134 | | | | |
| Indeno(1,2,3-cd)pyrene | 0.00248 | 0.000523 | 0.002398 | 0 | 103 | 66.9 | 120 | | | | |
| Naphthalene | 0.00228 | 0.00105 | 0.002398 | 0 | 95.1 | 63.5 | 137 | | | | |
| Phenanthrene | 0.00256 | 0.00105 | 0.002398 | 0 | 107 | 74.1 | 118 | | | | |
| Pyrene | 0.00274 | 0.00105 | 0.002398 | 0 | 114 | 73.2 | 120 | | | | |
| Surr: 4-Terphenyl-d14 | 0.00261 | | 0.002398 | | 109 | 49.2 | 161 | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28150

| | | | | | | | | | | | |
|----------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MB-28150 | SampType: MBLK | TestCode: HG_W_7470A | Units: mg/L | Prep Date: 10/26/2018 | RunNo: 73631 | | | | | | |
| Client ID: PBW | Batch ID: 28150 | TestNo: SW7470A | | Analysis Date: 10/26/2018 | SeqNo: 1842059 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Mercury | < 0.000200 | 0.000200 | | | | | | | | | |

| | | | | | | | | | | | |
|-----------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCS-28150 | SampType: LCS | TestCode: HG_W_7470A | Units: mg/L | Prep Date: 10/26/2018 | RunNo: 73631 | | | | | | |
| Client ID: LCSW | Batch ID: 28150 | TestNo: SW7470A | | Analysis Date: 10/26/2018 | SeqNo: 1842060 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Mercury | 0.0108 | 0.000200 | 0.01000 | 0 | 108 | 80 | 120 | | | | |

| | | | | | | | | | | | |
|------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCSD-28150 | SampType: LCSD | TestCode: HG_W_7470A | Units: mg/L | Prep Date: 10/26/2018 | RunNo: 73631 | | | | | | |
| Client ID: LCSS02 | Batch ID: 28150 | TestNo: SW7470A | | Analysis Date: 10/26/2018 | SeqNo: 1842061 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Mercury | 0.0106 | 0.000200 | 0.01000 | 0 | 106 | 80 | 120 | 0.01084 | 2.60 | 20 | |

| | | | | | | | | | | | |
|-----------------------------------|------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 18100869-001DMS | SampType: MS | TestCode: HG_W_7470A | Units: mg/L | Prep Date: 10/26/2018 | RunNo: 73631 | | | | | | |
| Client ID: ZZZZZZ | Batch ID: 28150 | TestNo: SW7470A | | Analysis Date: 10/26/2018 | SeqNo: 1842065 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Mercury | 0.0104 | 0.000200 | 0.01000 | 0 | 104 | 75 | 125 | | | | |

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits
 W Sample container temperature is out of limit as specified at testcode

J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 SDL Sample detection limit

M Matrix Interference
 RL Reporting Limit
 U Analyte not detected



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28150

| Sample ID: 18100869-001DMSD | SampType: MSD | TestCode: HG_W_7470A | Units: mg/L | Prep Date: 10/26/2018 | RunNo: 73631 | | | | | | |
|-----------------------------|-----------------|----------------------|-------------|---------------------------|----------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: 28150 | TestNo: SW7470A | | Analysis Date: 10/26/2018 | SeqNo: 1842066 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Mercury | 0.0102 | 0.000200 | 0.01000 | 0 | 102 | 75 | 125 | 0.01041 | 1.60 | 20 | |

Qualifiers:

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits
- W Sample container temperature is out of limit as specified at testcode

- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- SDL Sample detection limit

- M Matrix Interference
- RL Reporting Limit
- U Analyte not detected



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28160

| Sample ID: MB-28160 | SampType: MBLK | TestCode: 6010_W | Units: mg/L | Prep Date: 10/29/2018 | RunNo: 73708 | | | | | | |
|----------------------------|------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: 28160 | TestNo: SW6010B | | Analysis Date: 10/30/2018 | SeqNo: 1843572 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|----------|-----------|---------|--|--|--|--|--|--|--|--|---|
| Arsenic | < 0.0100 | 0.0100 | | | | | | | | | |
| Barium | < 0.0100 | 0.0100 | | | | | | | | | |
| Cadmium | < 0.00500 | 0.00500 | | | | | | | | | |
| Chromium | < 0.0100 | 0.0100 | | | | | | | | | |
| Lead | < 0.0100 | 0.0100 | | | | | | | | | |
| Selenium | 0.0137 | 0.0200 | | | | | | | | | J |
| Silver | 0.000800 | 0.00500 | | | | | | | | | J |
| Sodium | < 10.0 | 10.0 | | | | | | | | | |

| Sample ID: LCS-28160 | SampType: LCS | TestCode: 6010_W | Units: mg/L | Prep Date: 10/29/2018 | RunNo: 73708 | | | | | | |
|-----------------------------|------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: 28160 | TestNo: SW6010B | | Analysis Date: 10/30/2018 | SeqNo: 1843573 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|----------|--------|---------|--------|---|------|----|-----|--|--|--|--|
| Arsenic | 0.490 | 0.0100 | 0.5000 | 0 | 98.0 | 80 | 120 | | | | |
| Barium | 0.489 | 0.0100 | 0.5000 | 0 | 97.9 | 80 | 120 | | | | |
| Cadmium | 0.482 | 0.00500 | 0.5000 | 0 | 96.4 | 80 | 120 | | | | |
| Chromium | 0.485 | 0.0100 | 0.5000 | 0 | 96.9 | 80 | 120 | | | | |
| Lead | 0.488 | 0.0100 | 0.5000 | 0 | 97.5 | 80 | 120 | | | | |
| Selenium | 0.500 | 0.0200 | 0.5000 | 0 | 100 | 80 | 120 | | | | |
| Silver | 0.0956 | 0.00500 | 0.1000 | 0 | 95.6 | 80 | 120 | | | | |
| Sodium | 50.0 | 10.0 | 50.00 | 0 | 100 | 80 | 120 | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: **18100941**
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28160

| Sample ID: LCSD-28160 | SampType: LCSD | TestCode: 6010_W | Units: mg/L | Prep Date: 10/29/2018 | RunNo: 73708 | | | | | | |
|------------------------------|------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: LCSS02 | Batch ID: 28160 | TestNo: SW6010B | | Analysis Date: 10/30/2018 | SeqNo: 1843574 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Arsenic | 0.501 | 0.0100 | 0.5000 | 0 | 100 | 80 | 120 | 0.4901 | 2.14 | 20 | |
| Barium | 0.495 | 0.0100 | 0.5000 | 0 | 99.0 | 80 | 120 | 0.4893 | 1.12 | 20 | |
| Cadmium | 0.486 | 0.00500 | 0.5000 | 0 | 97.2 | 80 | 120 | 0.4822 | 0.785 | 20 | |
| Chromium | 0.489 | 0.0100 | 0.5000 | 0 | 97.9 | 80 | 120 | 0.4846 | 0.965 | 20 | |
| Lead | 0.496 | 0.0100 | 0.5000 | 0 | 99.2 | 80 | 120 | 0.4877 | 1.67 | 20 | |
| Selenium | 0.507 | 0.0200 | 0.5000 | 0 | 101 | 80 | 120 | 0.5002 | 1.43 | 20 | |
| Silver | 0.0963 | 0.00500 | 0.1000 | 0 | 96.3 | 80 | 120 | 0.09560 | 0.730 | 20 | |
| Sodium | 47.1 | 10.0 | 50.00 | 0 | 94.2 | 80 | 120 | 50.01 | 6.01 | 20 | |

| Sample ID: 18100889-003AMS | SampType: MS | TestCode: 6010_W | Units: mg/L | Prep Date: 10/29/2018 | RunNo: 73708 | | | | | | |
|-----------------------------------|------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: 28160 | TestNo: SW6010B | | Analysis Date: 10/30/2018 | SeqNo: 1843578 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Arsenic | 0.514 | 0.0100 | 0.5000 | 0 | 103 | 75 | 125 | | | | |
| Barium | 1.27 | 0.0100 | 0.5000 | 0.8521 | 83.8 | 75 | 125 | | | | |
| Cadmium | 0.509 | 0.00500 | 0.5000 | 0.003600 | 101 | 75 | 125 | | | | |
| Chromium | 0.481 | 0.0100 | 0.5000 | 0.01060 | 94.0 | 75 | 125 | | | | |
| Lead | 0.446 | 0.0100 | 0.5000 | 0.005300 | 88.1 | 75 | 125 | | | | |
| Selenium | 0.658 | 0.0200 | 0.5000 | 0.1699 | 97.7 | 75 | 125 | | | | |
| Silver | 0.108 | 0.00500 | 0.1000 | 0 | 108 | 75 | 125 | | | | |
| Sodium | 11,700 | 10.0 | 50.00 | 11,850 | -280 | 75 | 125 | | | | S |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: 28160

| | | | | | |
|-----------------------------|-----------------|------------------|-------------|---------------------------|----------------|
| Sample ID: 18100889-003AMSD | SampType: MSD | TestCode: 6010_W | Units: mg/L | Prep Date: 10/29/2018 | RunNo: 73708 |
| Client ID: ZZZZZZ | Batch ID: 28160 | TestNo: SW6010B | | Analysis Date: 10/30/2018 | SeqNo: 1843581 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|----------|--------|---------|-----------|-------------|------|----------|-----------|-------------|--------|----------|------|
| Arsenic | 0.522 | 0.0100 | 0.5000 | 0 | 104 | 75 | 125 | 0.5143 | 1.39 | 20 | |
| Barium | 1.38 | 0.0100 | 0.5000 | 0.8521 | 107 | 75 | 125 | 1.271 | 8.58 | 20 | |
| Cadmium | 0.514 | 0.00500 | 0.5000 | 0.003600 | 102 | 75 | 125 | 0.5093 | 0.860 | 20 | |
| Chromium | 0.489 | 0.0100 | 0.5000 | 0.01060 | 95.7 | 75 | 125 | 0.4806 | 1.79 | 20 | |
| Lead | 0.448 | 0.0100 | 0.5000 | 0.005300 | 88.6 | 75 | 125 | 0.4457 | 0.537 | 20 | |
| Selenium | 0.691 | 0.0200 | 0.5000 | 0.1699 | 104 | 75 | 125 | 0.6584 | 4.89 | 20 | |
| Silver | 0.108 | 0.00500 | 0.1000 | 0 | 108 | 75 | 125 | 0.1076 | 0.464 | 20 | |
| Sodium | 11,700 | 10.0 | 50.00 | 11,850 | -300 | 75 | 125 | 11,710 | 0.0854 | 20 | S |

NOTES:

S - Analyte concentration in native sample was too high for accurate spike recovery(ies). The method is in control as indicated by the laboratory control sample (LCS).

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: **18100941**
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73590

| | | | | | | | | | | | |
|------------------------|-------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MBLK | SampType: MBLK | TestCode: 9056_W | Units: mg/L | Prep Date: | RunNo: 73590 | | | | | | |
| Client ID: PBW | Batch ID: R73590 | TestNo: SW9056A | | Analysis Date: 10/25/2018 | SeqNo: 1841489 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Chloride < 0.250 0.250

| | | | | | | | | | | | |
|------------------------|-------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCS | SampType: LCS | TestCode: 9056_W | Units: mg/L | Prep Date: | RunNo: 73590 | | | | | | |
| Client ID: LCSW | Batch ID: R73590 | TestNo: SW9056A | | Analysis Date: 10/25/2018 | SeqNo: 1841490 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Chloride 10.7 0.250 10.00 0 107 80 120

| | | | | | | | | | | | |
|--------------------------|-------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCSD | SampType: LCSD | TestCode: 9056_W | Units: mg/L | Prep Date: | RunNo: 73590 | | | | | | |
| Client ID: LCSS02 | Batch ID: R73590 | TestNo: SW9056A | | Analysis Date: 10/25/2018 | SeqNo: 1841491 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Chloride 10.2 0.250 10.00 0 102 80 120 10.67 4.51 15

| | | | | | | | | | | | |
|-----------------------------------|-------------------------|-------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 18100886-002ams | SampType: MS | TestCode: 9056_W | Units: mg/L | Prep Date: | RunNo: 73590 | | | | | | |
| Client ID: ZZZZZZ | Batch ID: R73590 | TestNo: SW9056A | | Analysis Date: 10/25/2018 | SeqNo: 1841499 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Chloride 190 5.00 100.0 95.36 95.1 80 120

| | | | |
|--------------------|---|--|------------------------|
| Qualifiers: | H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits | M Matrix Interference |
| | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | RL Reporting Limit |
| | S Spike Recovery outside accepted recovery limits | SDL Sample detection limit | U Analyte not detected |
| | W Sample container temperature is out of limit as specified at testcode | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73590

| Sample ID: 18100886-002amsd | SampType: MSD | TestCode: 9056_W | Units: mg/L | Prep Date: | RunNo: 73590 | | | | | | |
|-----------------------------|------------------|------------------|-------------|---------------------------|----------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R73590 | TestNo: SW9056A | | Analysis Date: 10/25/2018 | SeqNo: 1841500 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Chloride | 194 | 5.00 | 100.0 | 95.36 | 99.1 | 80 | 120 | 190.5 | 2.09 | 15 | |

Qualifiers:

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits
- W Sample container temperature is out of limit as specified at testcode

- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- SDL Sample detection limit

- M Matrix Interference
- RL Reporting Limit
- U Analyte not detected



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QC SUMMARY REPORT

WO#: **18100941**
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73610

| | | | | | | | | | | | |
|-----------------------------|-------------------------|----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MB-R73610 | SampType: MBLK | TestCode: TDS_2540C | Units: mg/L | Prep Date: | RunNo: 73610 | | | | | | |
| Client ID: PBW | Batch ID: R73610 | TestNo: SM2540C | | Analysis Date: 10/26/2018 | SeqNo: 1842735 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Total Dissolved Solids (Residue, Filterable) < 20.0 20.0

| | | | | | | | | | | | |
|------------------------------|-------------------------|----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCS-R73610 | SampType: LCS | TestCode: TDS_2540C | Units: mg/L | Prep Date: | RunNo: 73610 | | | | | | |
| Client ID: LCSW | Batch ID: R73610 | TestNo: SM2540C | | Analysis Date: 10/26/2018 | SeqNo: 1842736 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Total Dissolved Solids (Residue, Filterable) 992 20.0 1,000 0 99.2 85 115

| | | | | | | | | | | | |
|-------------------------------|-------------------------|----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: LCSD-R73610 | SampType: LCSD | TestCode: TDS_2540C | Units: mg/L | Prep Date: | RunNo: 73610 | | | | | | |
| Client ID: LCSS02 | Batch ID: R73610 | TestNo: SM2540C | | Analysis Date: 10/26/2018 | SeqNo: 1842737 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Total Dissolved Solids (Residue, Filterable) 991 20.0 1,000 0 99.1 85 115 992.0 0.101 10

| | | | | | | | | | | | |
|------------------------------------|-------------------------|----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 18100836-001BDUP | SampType: DUP | TestCode: TDS_2540C | Units: mg/L | Prep Date: | RunNo: 73610 | | | | | | |
| Client ID: ZZZZZ | Batch ID: R73610 | TestNo: SM2540C | | Analysis Date: 10/26/2018 | SeqNo: 1842740 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Total Dissolved Solids (Residue, Filterable) 15,800 2,000 16,000 1.26 10

| | | | |
|--------------------|---|--|------------------------|
| Qualifiers: | H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits | M Matrix Interference |
| | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | RL Reporting Limit |
| | S Spike Recovery outside accepted recovery limits | SDL Sample detection limit | U Analyte not detected |
| | W Sample container temperature is out of limit as specified at testcode | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73610

| | | | | | | | | | | | |
|-----------------------------|------------------|---------------------|-------------|---------------------------|----------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 18100836-001BDUP | SampType: DUP | TestCode: TDS_2540C | Units: mg/L | Prep Date: | RunNo: 73610 | | | | | | |
| Client ID: ZZZZZZ | Batch ID: R73610 | TestNo: SM2540C | | Analysis Date: 10/26/2018 | SeqNo: 1842740 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|-----------------------------|------------------|---------------------|-------------|---------------------------|----------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 18100944-001EDUP | SampType: DUP | TestCode: TDS_2540C | Units: mg/L | Prep Date: | RunNo: 73610 | | | | | | |
| Client ID: ZZZZZZ | Batch ID: R73610 | TestNo: SM2540C | | Analysis Date: 10/26/2018 | SeqNo: 1842744 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|--|-----|------|--|--|--|--|--|-------|------|----|---|
| Total Dissolved Solids (Residue, Filterable) | 501 | 20.0 | | | | | | 402.0 | 21.9 | 10 | R |
|--|-----|------|--|--|--|--|--|-------|------|----|---|

NOTES:
 R - High RPD due to suspected sample non-homogeneity. The method is in control as indicated by the LCS/LCSD.

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

| Sample ID: MB | SampType: MBLK | TestCode: 8260_W_REC | Units: mg/L | Prep Date: | RunNo: 73611 | | | | | | |
|-----------------------------|-------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R73611 | TestNo: SW8260B | | Analysis Date: 10/25/2018 | SeqNo: 1841587 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,1,1-Trichloroethane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | < 0.000500 | 0.000500 | | | | | | | | | |
| 1,1,2-Trichloroethane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,1-Dichloroethane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,1-Dichloroethene | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.0200 | 0.0200 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,2-Dichloroethene, Total | < 0.00600 | 0.00600 | | | | | | | | | |
| 1,2-Dichloropropane | < 0.00500 | 0.00500 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.0100 | 0.0100 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.0200 | 0.0200 | | | | | | | | | |
| 2-Butanone | < 0.0100 | 0.0100 | | | | | | | | | |
| 4-Methyl-2-pentanone | < 0.0100 | 0.0100 | | | | | | | | | |
| Acetone | < 0.0100 | 0.0100 | | | | | | | | | |
| Benzene | < 0.00500 | 0.00500 | | | | | | | | | |
| Bromodichloromethane | < 0.00500 | 0.00500 | | | | | | | | | |
| Bromoform | < 0.00500 | 0.00500 | | | | | | | | | |
| Bromomethane | < 0.00500 | 0.00500 | | | | | | | | | |
| Carbon disulfide | < 0.0100 | 0.0100 | | | | | | | | | |
| Carbon tetrachloride | < 0.00500 | 0.00500 | | | | | | | | | |
| Chlorobenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| Chlorodibromomethane | < 0.00500 | 0.00500 | | | | | | | | | |
| Chloroethane | < 0.0100 | 0.0100 | | | | | | | | | |
| Chloroform | < 0.00500 | 0.00500 | | | | | | | | | |

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits
 W Sample container temperature is out of limit as specified at testcode

J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 SDL Sample detection limit

M Matrix Interference
 RL Reporting Limit
 U Analyte not detected



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QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

| Sample ID: MB | SampType: MBLK | TestCode: 8260_W_REC | Units: mg/L | Prep Date: | RunNo: 73611 | | | | | | |
|-----------------------|-------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R73611 | TestNo: SW8260B | | Analysis Date: 10/25/2018 | SeqNo: 1841587 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|----------------------------|-----------|---------|---------|--|-----|------|-----|--|--|--|--|
| Chloromethane | < 0.00500 | 0.00500 | | | | | | | | | |
| cis-1,2-Dichloroethene | < 0.00300 | 0.00300 | | | | | | | | | |
| cis-1,3-Dichloropropene | < 0.00200 | 0.00200 | | | | | | | | | |
| Ethylbenzene | < 0.00500 | 0.00500 | | | | | | | | | |
| Isobutyl alcohol | < 0.100 | 0.100 | | | | | | | | | |
| Methyl tert-butyl ether | < 0.00500 | 0.00500 | | | | | | | | | |
| Methylene chloride | < 0.00500 | 0.00500 | | | | | | | | | |
| Styrene | < 0.00500 | 0.00500 | | | | | | | | | |
| Tetrachloroethene | < 0.00500 | 0.00500 | | | | | | | | | |
| Toluene | < 0.00500 | 0.00500 | | | | | | | | | |
| trans-1,2-Dichloroethene | < 0.00300 | 0.00300 | | | | | | | | | |
| trans-1,3-Dichloropropene | < 0.00200 | 0.00200 | | | | | | | | | |
| Trichloroethene | < 0.00500 | 0.00500 | | | | | | | | | |
| Trichlorofluoromethane | < 0.00500 | 0.00500 | | | | | | | | | |
| Vinyl chloride | < 0.00200 | 0.00200 | | | | | | | | | |
| Xylenes, Total | < 0.0150 | 0.0150 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.0304 | | 0.03000 | | 101 | 65.1 | 136 | | | | |
| Surr: Dibromofluoromethane | 0.0309 | | 0.03000 | | 103 | 40.4 | 143 | | | | |
| Surr: Toluene-d8 | 0.0302 | | 0.03000 | | 101 | 58.2 | 127 | | | | |

| Sample ID: LCSD 17221A-7 | SampType: LCSD | TestCode: 8260_W_REC | Units: mg/L | Prep Date: | RunNo: 73611 | | | | | | |
|---------------------------------|-------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSS02 | Batch ID: R73611 | TestNo: SW8260B | | Analysis Date: 10/25/2018 | SeqNo: 1841592 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|---------------------------|--------|---------|---------|---|-----|------|-----|---------|------|----|--|
| 1,1,1,2-Tetrachloroethane | 0.0504 | 0.00500 | 0.05000 | 0 | 101 | 73.4 | 120 | 0.04772 | 5.36 | 20 | |
|---------------------------|--------|---------|---------|---|-----|------|-----|---------|------|----|--|

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

| Sample ID: LCSD 17221A-7 | SampType: LCSD | TestCode: 8260_W_REC | Units: mg/L | Prep Date: | RunNo: 73611 | | | | | | |
|-----------------------------|------------------|----------------------|-------------|---------------------------|----------------|----------|-----------|-------------|--------|----------|------|
| Client ID: LCSS02 | Batch ID: R73611 | TestNo: SW8260B | | Analysis Date: 10/25/2018 | SeqNo: 1841592 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1-Trichloroethane | 0.0517 | 0.00500 | 0.05000 | 0 | 103 | 64.5 | 127 | 0.04779 | 7.90 | 20 | |
| 1,1,2,2-Tetrachloroethane | 0.0510 | 0.000500 | 0.05000 | 0 | 102 | 63.6 | 120 | 0.04937 | 3.33 | 20 | |
| 1,1,2-Trichloroethane | 0.0496 | 0.00500 | 0.05000 | 0 | 99.3 | 74.9 | 120 | 0.04680 | 5.89 | 20 | |
| 1,1-Dichloroethane | 0.0514 | 0.00500 | 0.05000 | 0 | 103 | 67.9 | 123 | 0.04818 | 6.47 | 20 | |
| 1,1-Dichloroethene | 0.0471 | 0.00500 | 0.05000 | 0 | 94.3 | 60.3 | 135 | 0.04398 | 6.94 | 20 | |
| 1,2-Dibromo-3-chloropropane | 0.0492 | 0.00500 | 0.05000 | 0 | 98.4 | 56.6 | 132 | 0.05120 | 4.00 | 20 | |
| 1,2-Dichlorobenzene | 0.0489 | 0.0200 | 0.05000 | 0 | 97.8 | 76.4 | 120 | 0.04657 | 4.86 | 20 | |
| 1,2-Dichloroethane | 0.0515 | 0.00500 | 0.05000 | 0 | 103 | 67.5 | 124 | 0.04810 | 6.79 | 20 | |
| 1,2-Dichloroethene, Total | 0.110 | 0.00600 | 0.1000 | 0 | 110 | 72.5 | 122 | 0.1016 | 7.58 | 20 | |
| 1,2-Dichloropropane | 0.0512 | 0.00500 | 0.05000 | 0 | 102 | 77.2 | 120 | 0.04916 | 3.99 | 20 | |
| 1,3-Dichlorobenzene | 0.0486 | 0.0100 | 0.05000 | 0 | 97.1 | 75.1 | 120 | 0.04657 | 4.20 | 20 | |
| 1,4-Dichlorobenzene | 0.0484 | 0.0200 | 0.05000 | 0 | 96.9 | 76.1 | 120 | 0.04619 | 4.73 | 20 | |
| 2-Butanone | 0.0521 | 0.0100 | 0.05000 | 0 | 104 | 61 | 127 | 0.05202 | 0.230 | 20 | |
| 4-Methyl-2-pentanone | 0.0482 | 0.0100 | 0.05000 | 0 | 96.5 | 54.1 | 129 | 0.04827 | 0.0414 | 20 | |
| Acetone | 0.0919 | 0.0100 | 0.1000 | 0 | 91.9 | 52.1 | 135 | 0.08873 | 3.47 | 20 | |
| Benzene | 0.0552 | 0.00500 | 0.05000 | 0 | 110 | 67.8 | 125 | 0.05076 | 8.38 | 20 | |
| Bromodichloromethane | 0.0503 | 0.00500 | 0.05000 | 0 | 101 | 72 | 120 | 0.04898 | 2.64 | 20 | |
| Bromoform | 0.0504 | 0.00500 | 0.05000 | 0 | 101 | 70.4 | 121 | 0.04874 | 3.35 | 20 | |
| Bromomethane | 0.0528 | 0.00500 | 0.05000 | 0 | 106 | 41.6 | 157 | 0.04904 | 7.46 | 20 | |
| Carbon disulfide | 0.0494 | 0.0100 | 0.05000 | 0 | 98.9 | 52.2 | 135 | 0.04610 | 7.01 | 20 | |
| Carbon tetrachloride | 0.0477 | 0.00500 | 0.05000 | 0 | 95.4 | 65.6 | 125 | 0.04517 | 5.45 | 20 | |
| Chlorobenzene | 0.0488 | 0.00500 | 0.05000 | 0 | 97.7 | 74.5 | 120 | 0.04560 | 6.84 | 20 | |
| Chlorodibromomethane | 0.0514 | 0.00500 | 0.05000 | 0 | 103 | 75 | 120 | 0.04842 | 6.01 | 20 | |
| Chloroethane | 0.0465 | 0.0100 | 0.05000 | 0 | 93.0 | 49.5 | 146 | 0.04127 | 12.0 | 20 | |
| Chloroform | 0.0523 | 0.00500 | 0.05000 | 0 | 105 | 71 | 120 | 0.04961 | 5.36 | 20 | |
| Chloromethane | 0.0525 | 0.00500 | 0.05000 | 0 | 105 | 45.8 | 145 | 0.04871 | 7.53 | 20 | |

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits
 W Sample container temperature is out of limit as specified at testcode

J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 SDL Sample detection limit

M Matrix Interference
 RL Reporting Limit
 U Analyte not detected



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QC SUMMARY REPORT

WO#: **18100941**
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

| Sample ID: | SampType: | TestCode: | Units: | Prep Date: | RunNo: | | | | | | |
|----------------------------|---------------|-------------------|-------------------|----------------|--------------|----------|-----------|-------------|------|----------|------|
| LCS D 17221A-7 | LCS D | 8260_W_REC | mg/L | | 73611 | | | | | | |
| Client ID: | Batch ID: | TestNo: | Analysis Date: | SeqNo: | | | | | | | |
| LCS S02 | R73611 | SW8260B | 10/25/2018 | 1841592 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| cis-1,2-Dichloroethene | 0.0573 | 0.00300 | 0.05000 | 0 | 115 | 73.8 | 124 | 0.05334 | 7.14 | 20 | |
| cis-1,3-Dichloropropene | 0.0548 | 0.00200 | 0.05000 | 0 | 110 | 80 | 120 | 0.05305 | 3.32 | 20 | |
| Ethylbenzene | 0.0529 | 0.00500 | 0.05000 | 0 | 106 | 76.9 | 118 | 0.04943 | 6.86 | 20 | |
| Isobutyl alcohol | 0.530 | 0.100 | 0.5000 | 0 | 106 | 70 | 130 | 0.5084 | 4.22 | 20 | |
| Methyl tert-butyl ether | 0.0564 | 0.00500 | 0.05000 | 0 | 113 | 62.6 | 134 | 0.05216 | 7.88 | 20 | |
| Methylene chloride | 0.0513 | 0.00500 | 0.05000 | 0 | 103 | 65.8 | 125 | 0.04756 | 7.61 | 20 | |
| Styrene | 0.0475 | 0.00500 | 0.05000 | 0 | 95.0 | 79 | 120 | 0.04428 | 7.02 | 20 | |
| Tetrachloroethene | 0.0458 | 0.00500 | 0.05000 | 0 | 91.6 | 68.6 | 152 | 0.04250 | 7.50 | 20 | |
| Toluene | 0.0492 | 0.00500 | 0.05000 | 0 | 98.4 | 73.3 | 120 | 0.04578 | 7.24 | 20 | |
| trans-1,2-Dichloroethene | 0.0523 | 0.00300 | 0.05000 | 0 | 105 | 67.7 | 124 | 0.04828 | 7.94 | 20 | |
| trans-1,3-Dichloropropene | 0.0544 | 0.00200 | 0.05000 | 0 | 109 | 79.6 | 121 | 0.05227 | 3.92 | 20 | |
| Trichloroethene | 0.0493 | 0.00500 | 0.05000 | 0 | 98.5 | 74.5 | 124 | 0.04639 | 6.00 | 20 | |
| Trichlorofluoromethane | 0.0488 | 0.00500 | 0.05000 | 0 | 97.6 | 45.2 | 142 | 0.04544 | 7.11 | 20 | |
| Vinyl chloride | 0.0525 | 0.00200 | 0.05000 | 0 | 105 | 37.4 | 174 | 0.04822 | 8.52 | 20 | |
| Xylenes, Total | 0.141 | 0.0150 | 0.1500 | 0 | 94.1 | 80 | 120 | 0.1306 | 7.73 | 20 | |
| Surr: 4-Bromofluorobenzene | 0.0345 | | 0.03000 | | 115 | 65.1 | 136 | | 0 | 20 | |
| Surr: Dibromofluoromethane | 0.0285 | | 0.03000 | | 95.1 | 40.4 | 143 | | 0 | 20 | |
| Surr: Toluene-d8 | 0.0299 | | 0.03000 | | 99.8 | 58.2 | 127 | | 0 | 20 | |

| Sample ID: | SampType: | TestCode: | Units: | Prep Date: | RunNo: | | | | | | |
|---------------------------|---------------|-------------------|-------------------|----------------|--------------|----------|-----------|-------------|------|----------|------|
| LCS S 17221A-79 | LCS S | 8260_W_REC | mg/L | | 73611 | | | | | | |
| Client ID: | Batch ID: | TestNo: | Analysis Date: | SeqNo: | | | | | | | |
| LCS W | R73611 | SW8260B | 10/25/2018 | 1841593 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 0.0477 | 0.00500 | 0.05000 | 0 | 95.4 | 73.4 | 120 | | | | |
| 1,1,1-Trichloroethane | 0.0478 | 0.00500 | 0.05000 | 0 | 95.6 | 64.5 | 127 | | | | |

Qualifiers:

| | | | | | |
|----|---|-----|--|----|----------------------|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

| Sample ID: LCS 17221A-79 | SampType: LCS | TestCode: 8260_W_REC | Units: mg/L | Prep Date: | RunNo: 73611 | | | | | | |
|-----------------------------|------------------|----------------------|-------------|---------------------------|----------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R73611 | TestNo: SW8260B | | Analysis Date: 10/25/2018 | SeqNo: 1841593 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,2,2-Tetrachloroethane | 0.0494 | 0.000500 | 0.05000 | 0 | 98.7 | 63.6 | 120 | | | | |
| 1,1,2-Trichloroethane | 0.0468 | 0.00500 | 0.05000 | 0 | 93.6 | 74.9 | 120 | | | | |
| 1,1-Dichloroethane | 0.0482 | 0.00500 | 0.05000 | 0 | 96.4 | 67.9 | 123 | | | | |
| 1,1-Dichloroethene | 0.0440 | 0.00500 | 0.05000 | 0 | 88.0 | 60.3 | 135 | | | | |
| 1,2-Dibromo-3-chloropropane | 0.0512 | 0.00500 | 0.05000 | 0 | 102 | 56.6 | 132 | | | | |
| 1,2-Dichlorobenzene | 0.0466 | 0.0200 | 0.05000 | 0 | 93.1 | 76.4 | 120 | | | | |
| 1,2-Dichloroethane | 0.0481 | 0.00500 | 0.05000 | 0 | 96.2 | 67.5 | 124 | | | | |
| 1,2-Dichloroethene, Total | 0.102 | 0.00600 | 0.1000 | 0 | 102 | 72.5 | 122 | | | | |
| 1,2-Dichloropropane | 0.0492 | 0.00500 | 0.05000 | 0 | 98.3 | 77.2 | 120 | | | | |
| 1,3-Dichlorobenzene | 0.0466 | 0.0100 | 0.05000 | 0 | 93.1 | 75.1 | 120 | | | | |
| 1,4-Dichlorobenzene | 0.0462 | 0.0200 | 0.05000 | 0 | 92.4 | 76.1 | 120 | | | | |
| 2-Butanone | 0.0520 | 0.0100 | 0.05000 | 0 | 104 | 61 | 127 | | | | |
| 4-Methyl-2-pentanone | 0.0483 | 0.0100 | 0.05000 | 0 | 96.5 | 54.1 | 129 | | | | |
| Acetone | 0.0887 | 0.0100 | 0.1000 | 0 | 88.7 | 52.1 | 135 | | | | |
| Benzene | 0.0508 | 0.00500 | 0.05000 | 0 | 102 | 67.8 | 125 | | | | |
| Bromodichloromethane | 0.0490 | 0.00500 | 0.05000 | 0 | 98.0 | 72 | 120 | | | | |
| Bromoform | 0.0487 | 0.00500 | 0.05000 | 0 | 97.5 | 70.4 | 121 | | | | |
| Bromomethane | 0.0490 | 0.00500 | 0.05000 | 0 | 98.1 | 41.6 | 157 | | | | |
| Carbon disulfide | 0.0461 | 0.0100 | 0.05000 | 0 | 92.2 | 52.2 | 135 | | | | |
| Carbon tetrachloride | 0.0452 | 0.00500 | 0.05000 | 0 | 90.3 | 65.6 | 125 | | | | |
| Chlorobenzene | 0.0456 | 0.00500 | 0.05000 | 0 | 91.2 | 74.5 | 120 | | | | |
| Chlorodibromomethane | 0.0484 | 0.00500 | 0.05000 | 0 | 96.8 | 75 | 120 | | | | |
| Chloroethane | 0.0413 | 0.0100 | 0.05000 | 0 | 82.5 | 49.5 | 146 | | | | |
| Chloroform | 0.0496 | 0.00500 | 0.05000 | 0 | 99.2 | 71 | 120 | | | | |
| Chloromethane | 0.0487 | 0.00500 | 0.05000 | 0 | 97.4 | 45.8 | 145 | | | | |
| cis-1,2-Dichloroethene | 0.0533 | 0.00300 | 0.05000 | 0 | 107 | 73.8 | 124 | | | | |

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

| Sample ID: LCS 17221A-79 | SampType: LCS | TestCode: 8260_W_REC | Units: mg/L | Prep Date: | RunNo: 73611 | | | | | | |
|---------------------------------|-------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R73611 | TestNo: SW8260B | | Analysis Date: 10/25/2018 | SeqNo: 1841593 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|----------------------------|--------|---------|---------|---|------|------|-----|--|--|--|--|
| cis-1,3-Dichloropropene | 0.0530 | 0.00200 | 0.05000 | 0 | 106 | 80 | 120 | | | | |
| Ethylbenzene | 0.0494 | 0.00500 | 0.05000 | 0 | 98.9 | 76.9 | 118 | | | | |
| Isobutyl alcohol | 0.508 | 0.100 | 0.5000 | 0 | 102 | 70 | 130 | | | | |
| Methyl tert-butyl ether | 0.0522 | 0.00500 | 0.05000 | 0 | 104 | 62.6 | 134 | | | | |
| Methylene chloride | 0.0476 | 0.00500 | 0.05000 | 0 | 95.1 | 65.8 | 125 | | | | |
| Styrene | 0.0443 | 0.00500 | 0.05000 | 0 | 88.6 | 79 | 120 | | | | |
| Tetrachloroethene | 0.0425 | 0.00500 | 0.05000 | 0 | 85.0 | 68.6 | 152 | | | | |
| Toluene | 0.0458 | 0.00500 | 0.05000 | 0 | 91.6 | 73.3 | 120 | | | | |
| trans-1,2-Dichloroethene | 0.0483 | 0.00300 | 0.05000 | 0 | 96.6 | 67.7 | 124 | | | | |
| trans-1,3-Dichloropropene | 0.0523 | 0.00200 | 0.05000 | 0 | 105 | 79.6 | 121 | | | | |
| Trichloroethene | 0.0464 | 0.00500 | 0.05000 | 0 | 92.8 | 74.5 | 124 | | | | |
| Trichlorofluoromethane | 0.0454 | 0.00500 | 0.05000 | 0 | 90.9 | 45.2 | 142 | | | | |
| Vinyl chloride | 0.0482 | 0.00200 | 0.05000 | 0 | 96.4 | 37.4 | 174 | | | | |
| Xylenes, Total | 0.131 | 0.0150 | 0.1500 | 0 | 87.1 | 80 | 120 | | | | |
| Surr: 4-Bromofluorobenzene | 0.0346 | | 0.03000 | | 115 | 65.1 | 136 | | | | |
| Surr: Dibromofluoromethane | 0.0279 | | 0.03000 | | 93.0 | 40.4 | 143 | | | | |
| Surr: Toluene-d8 | 0.0294 | | 0.03000 | | 98.1 | 58.2 | 127 | | | | |

Qualifiers:

| | |
|----|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |

| | |
|-----|--|
| J | Analyte detected below quantitation limits |
| R | RPD outside accepted recovery limits |
| SDL | Sample detection limit |

| | |
|----|----------------------|
| M | Matrix Interference |
| RL | Reporting Limit |
| U | Analyte not detected |



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 Website: www.element.com

QC SUMMARY REPORT

WO#: 18100941
 07-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73629

| | | | | | | | | | | | |
|---------------------------|-------------------------|---------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: GAS LCS | SampType: LCS | TestCode: 8015_G_W | Units: mg/L | Prep Date: | RunNo: 73629 | | | | | | |
| Client ID: LCSW | Batch ID: R73629 | TestNo: SW8015B | | Analysis Date: 10/26/2018 | SeqNo: 1842008 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

TPH (Gasoline Range) 11.2 0.150 12.50 0 89.7 80 130

| | | | | | | | | | | | |
|----------------------------|-------------------------|---------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: GAS LCSD | SampType: LCSD | TestCode: 8015_G_W | Units: mg/L | Prep Date: | RunNo: 73629 | | | | | | |
| Client ID: LCSS02 | Batch ID: R73629 | TestNo: SW8015B | | Analysis Date: 10/26/2018 | SeqNo: 1842009 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

TPH (Gasoline Range) 11.6 0.150 12.50 0 92.9 80 130 11.21 3.50 20

| | | | | | | | | | | | |
|------------------------|-------------------------|---------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MBLK | SampType: MBLK | TestCode: 8015_G_W | Units: mg/L | Prep Date: | RunNo: 73629 | | | | | | |
| Client ID: PBW | Batch ID: R73629 | TestNo: SW8015B | | Analysis Date: 10/26/2018 | SeqNo: 1842010 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

TPH (Gasoline Range) 0.100 0.150
 Surr: alpha, alpha, alpha-Trifluorotoluene 0.0524 0.05000 105 70 130 J

| | | | | | | |
|--------------------|----|---|-----|--|----|----------------------|
| Qualifiers: | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Matrix Interference |
| | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits | RL | Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | SDL | Sample detection limit | U | Analyte not detected |
| | W | Sample container temperature is out of limit as specified at testcode | | | | |



Element Materials Technology Lafayette
 2417 W. Pinhook Road
 Lafayette, LA 70508-3344
 TEL: (337) 235-0483 FAX: (337) 233-6540
 Website: www.element.com

Sample Log-In Check List

Client Name: **APPROACH_ENVIRONM** Work Order Number: **18100941** RcptNo: **1**

| | | | |
|---------------|--------------------------|-------------------------------|--------------------------|
| Logged by: | Tammy Thibodeaux | 10/25/2018 8:30:00 AM | <i>Tammy Thibodeaux</i> |
| Completed By: | Tammy Thibodeaux | 10/25/2018 9:36:28 AM | <i>Tammy Thibodeaux</i> |
| Reviewed By: | Caitlin Duplantis | 10/25/2018 11:38:51 AM | <i>Caitlin Duplantis</i> |

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? FedEx
 Tracking No.: 783423488669

Log In

3. Coolers are present? Yes No NA
 4. Shipping container/cooler in good condition? Yes No
 Custody seals intact on shipping container/cooler? Yes No Not Present
 No. Seal Date: Signed By:
 5. Was an attempt made to cool the samples? Yes No NA
 6. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 7. Sample(s) in proper container(s)? Yes No
 8. Sufficient sample volume for indicated test(s)? Yes No
 9. Are samples (except VOA and ONG) properly preserved? Yes No
 10. Was preservative added to bottles? Yes No NA
 11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes No No VOA Vials
 12. Were any sample containers received broken? Yes No
 13. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 14. Are matrices correctly identified on Chain of Custody? Yes No
 15. Is it clear what analyses were requested? Yes No
 16. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes No NA

| | | | |
|----------------------|----------------------|-------|---|
| Person Notified: | <input type="text"/> | Date: | <input type="text"/> |
| By Whom: | <input type="text"/> | Via: | <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person |
| Regarding: | <input type="text"/> | | |
| Client Instructions: | <input type="text"/> | | |

18. Additional remarks:

Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1 | 1.5 | Good | Not Present | | | |

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 11/06/2018

GCAL Report 218102649



Project 18100941

| <i>Deliver To</i> | <i>Additional Recipients</i> |
|------------------------------|---|
| Annie Reedy | Caitlin Duplantis, Element Materials Technology |
| Element Materials Technology | Cristina Thibeaux, Element Materials Technology |
| 2417 W Pinhook Rd | Rhonda David, Element Materials Technology |
| Lafayette, LA 70508 | Buffy Hudson, Element Materials Technology |
| 800-737-2378 | |



Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

| | |
|--------------|---|
| ND | Indicates the result was Not Detected at the specified reporting limit |
| NO | Indicates the sample did not ignite when preliminary test performed for EPA Method 1030 |
| DO | Indicates the result was Diluted Out |
| MI | Indicates the result was subject to Matrix Interference |
| TNTC | Indicates the result was Too Numerous To Count |
| SUBC | Indicates the analysis was Sub-Contracted |
| FLD | Indicates the analysis was performed in the Field |
| DL | Detection Limit |
| LOD | Limit of Detection |
| LOQ | Limit of Quantitation |
| RE | Re-analysis |
| CF | HPLC or GC Confirmation |
| 00:01 | Reported as a time equivalent to 12:00 AM |

Reporting Flags that may be Utilized in this Report

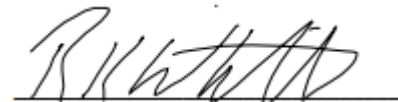
| | |
|---------------|---|
| J or I | Indicates the result is between the MDL and LOQ |
| J | DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria |
| U | Indicates the compound was analyzed for but not detected |
| B or V | Indicates the analyte was detected in the associated Method Blank |
| Q | Indicates a non-compliant QC Result (See Q Flag Application Report) |
| * | Indicates a non-compliant or not applicable QC recovery or RPD – see narrative |
| E | Organics - The result is estimated because it exceeded the instrument calibration range |
| E | Metals - % difference for the serial dilution is > 10% |
| L | Reporting Limits adjusted to meet risk-based limit. |
| P | RPD between primary and confirmation result is greater than 40 |
| DL | Diluted analysis – when appended to Client Sample ID |

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
GCAL Report 218102649

Certifications

| Certification | Certification Number |
|------------------|----------------------|
| DOD ELAP | L16-398-R5 |
| Alabama | 01955 |
| Arkansas | 18-062-0 |
| Colorado | 01955 |
| Delaware | 01955 |
| Florida | E87854 |
| Georgia | 01955 |
| Hawaii | 01955 |
| Idaho | 01955 |
| Illinois | 200048 |
| Indiana | 01955 |
| Kansas | E-10354 |
| Kentucky | 95 |
| Louisiana | 01955 |
| Maryland | 01955 |
| Massachusetts | 01955 |
| Michigan | 01955 |
| Mississippi | 01955 |
| Missouri | 01955 |
| Montana | N/A |
| Nebraska | 01955 |
| New Mexico | 01955 |
| North Carolina | 618 |
| North Dakota | R-195 |
| Oklahoma | 9403 |
| South Carolina | 73006001 |
| South Dakota | 01955 |
| Tennessee | 01955 |
| Texas | T104704178 |
| Vermont | 01955 |
| Virginia | 460215 |
| Washington | C929 |
| USDA Soil Permit | P330-16-00234 |

Case Narrative

Client: Element Materials Technology **Report:** 218102649

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found for the analyzed sample(s).

Sample Summary

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|----------------|------------------|---------------|--------------------------|--------------------------|
| 21810264901 | PDW | Water | 10/24/2018 16:20 | 10/26/2018 10:30 |

Sample Results

| | | | | |
|------------|--------------|------------------|---------|-------------|
| PDW | Collect Date | 10/24/2018 16:20 | GCAL ID | 21810264901 |
| | Receive Date | 10/26/2018 10:30 | Matrix | Water |

EPA RSK-175

| Prep Date | Prep Batch | Prep Method | Dilution | Analysis Date | By | Analytical Batch |
|-----------|------------|-------------|----------|------------------|-----|------------------|
| NA | NA | NA | 1 | 11/06/2018 17:29 | JAR | 647414 |

| CAS# | Parameter | Result | LOQ | Units |
|---------|-----------|--------|------|-------|
| 74-82-8 | Methane | 6.62 | 2.00 | ug/L |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|----------|-----------|--------------|-----------|-------|------------|------------|
| 115-07-1 | Propene | 40.50 | 23.3 | ug/L | 58 | 40 - 143 |

GC Volatiles QC Summary

| | | | | | | | | | | | | |
|-----------------------------------|---|--|--|--|--------|----|---------------------|----------------|--------|----|-----|--------------|
| Analytical Batch 647414 | Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix | MB647414 1865569 MB NA 11/06/2018 12:12 Water | LCS647414 1865570 LCS NA 11/06/2018 12:31 Water | LCSD647414 1865571 LCSD NA 11/06/2018 12:36 Water | | | | | | | | |
| EPA RSK-175 | | Units Result | ug/L LOQ | Spike Added | Result | %R | Control Limits%R | Spike Added | Result | %R | RPD | RPD Limit |
| Methane | 74-82-8 | ND | 2.00 | 17.5 | 14.8 | 85 | 39 - 120 | 17.5 | 14.8 | 85 | 0 | 27 |
| Surrogate Propene | 115-07-1 | 29.4 | 73 | 40.5 | 23.6 | 58 | 40 - 143 | 40.5 | 24 | 59 | NA | NA |



element™

Chain of Custody

Laboratory Number: **18100941**

| | | | | | |
|---|---|-------------------------------------|---|--|--|
| Company Name: Contact Name: Address: City, State Zip: Phone Number: Fax Number: E-mail Address: | Client Information: Approach Env Mark Moore 1000 Grinnett Dr. Shrewport, La 71107 318464 9191 drake@dapproachenv.com | Billing Information: Same | PO Number: Quote Number: Required QC Level: Bill Monthly: <input type="checkbox"/> Yes <input type="checkbox"/> No | Project Name/Number: Residential Wells Sampler's Signature: Shipping Method: UPS / FedEx / NOW DHL / Element / Hand / Mail | Page 1 of 31 Matrix Code DW = Drinking Water WW = Waste Water GW = Ground Water AQ = Aqueous OT = Other SL = Sludge SOL = Solid O = Oil SO = Soil F = Food SW = Swab NG = Natural Gas NGL = Natural Gas Liquid PW = Produced Water CF = Completion Fluid |
|---|---|-------------------------------------|---|--|--|

| Sample ID/Description | Collection Information | | | | Quantity | Type P=Plastic, G=Glass, V=Vial | Pres. HCl, HNO ₃ , H ₂ SO ₄ , NaOH, Na ₂ S ₂ O ₃ | Requested Tests | | | | | | | | | | Comments |
|-----------------------|------------------------|------|------------------|--------|----------|---------------------------------------|--|-----------------|--------------|--------------|-----|-----------|-------------------|--------|-----------|---|---|----------|
| | Date | Time | Grab / Composite | Matrix | | | | VOC Q260 | Sem.VOC 8270 | RCRA Methods | TDS | TPH-G,D,O | Dissolved Methods | Sodium | chlorides | | | |
| PDW | 10/24/18 | 1620 | G | W | 13 | P,G | HCl HNO ₃ | X | X | X | X | X | X | X | X | X | 48-hr rush on VOC's Method detection limit required 783423498665 | |

| | Relinquished by | Date/Time | Received by | Date/Time | Field Notes: |
|---|--------------------|---------------|--------------------|---------------|--|
| 1 | <i>[Signature]</i> | 10/24/18 1845 | <i>[Signature]</i> | 10/24/18 1845 | |
| 2 | Fed Ex | 10/24/18 0830 | <i>[Signature]</i> | 10/24/18 0830 | Received at lab on ice? |
| 3 | | 10/25/18 | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Temp: 15.5 |

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

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