



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

November 21, 2018

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

Re: LDNR-Residential Water Well Sampling Project
Mike Cowdin Water Well- Serial Number: 6563Z
Section 34, Township 13 N, Range 15 W
GPS via hand held (Water Well): 32.076903, -93.888705

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 Mike Cowdin (LDNR serial number 6563Z) water well is registered as an irrigation well with no total depth, depth to water or which formation it is completed in. 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 on a chicken farm next to a furnace and pump shed for the well. The well was located approximately 10' southwest of the pump shed approximately 20' northwest of the furnace. The well was equipped with a valve, and the sample was taken directly from the well. The well was purged of approximately 50- 100

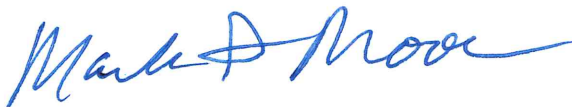
gallons of water since the owner stated the well water was used frequently for the chicken houses. Once purged, the water sample was collected in laboratory supplied sample containers by an experienced Environmental Scientist wearing nitrile gloves and immediately placed on ice in an ice chest. Proper 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 0.0632 mg/l; Chlorides was detected at 54.8 mg/l; Barium was detected at 0.0140 mg/l; Selenium was detected at 0.0113 mg/l; Silver was detected at 0.000500 mg/l; Sodium was detected at 194 mg/l; Bis(2-chloroethyl)ether was detected at 0.00463 mg/l; Bis(2-ethylhexyl)phthalate was detected at 0.00417 mg/l; Bromodichloromethane was detected at 0.0301 mg/l; Bromoform was detected at 0.00528 mg/l; Chlorodibromomethane was detected at 0.0289 mg/l; Chloroform was detected at 0.0249 mg/l; TDS was detected at 309 mg/l and Methane was detected at 281 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



Mike Cowdin-6563Z water well



Mike Cowdin-6563Z Water well, Furnace, Pump Shed & Chicken Houses



Zoomed in Google Earth Aerial Map of the Mike Cowdin-6563Z water well



Zoomed out Google Earth Aerial Map of the Mike Cowdin-6563Z 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

RE: Approach Environmental - LDNR Residential Order No.: 18100943

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#: 18100943
Date: 11/7/2018

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

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#: **18100943**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 12:10:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100943-001 **Matrix:** WATER
Client Sample ID 6563Z Mike Coudin

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)	< 0.137	0.00418	0.137		mg/L	1	10/26/2018 2:27:00 PM
TPH (Oil Range)	< 0.126	0.0500	0.126		mg/L	1	10/26/2018 2:27:00 PM
Surr: 4-Terphenyl-d14	93.1		51.4-146		%Rec	1	10/26/2018 2:27:00 PM
TPH-GRO IN WATER BY SW8015					SW8015B		Analyst: CRM
TPH (Gasoline Range)	0.0632	0.0149	0.150	J	mg/L	1	10/26/2018 12:47:00 PM
Surr: alpha, alpha, alpha-Trifluorotoluene	112		70-130		%Rec	1	10/26/2018 12:47:00 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 2:52:49 PM
INORGANIC ANIONS IN WATER BY IC					SW9056A		Analyst: SGP
Chloride	54.8	0.332	5.00		mg/L	20	10/25/2018 2:08:07 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 8:58:24 PM
Barium	0.0140	0.00103	0.0100		mg/L	1	10/30/2018 8:58:24 PM
Cadmium	< 0.00500	0.000781	0.00500		mg/L	1	10/30/2018 8:58:24 PM
Chromium	< 0.0100	0.000483	0.0100		mg/L	1	10/30/2018 8:58:24 PM
Lead	< 0.0100	0.00488	0.0100		mg/L	1	10/30/2018 8:58:24 PM
Selenium	0.0113	0.00526	0.0200	J	mg/L	1	10/30/2018 8:58:24 PM
Silver	0.000500	0.000340	0.00500	J	mg/L	1	10/30/2018 8:58:24 PM
Sodium	194	2.32	5.00		mg/L	1	10/30/2018 8:58:24 PM
PAH IN WATER BY EPA 8270C					SW8270C	SW3511	Analyst: CRM
2-Methylnaphthalene	< 0.000525	0.0000197	0.000525		mg/L	1	10/26/2018 8:08:00 PM
Acenaphthene	< 0.00105	0.0000547	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Acenaphthylene	< 0.00105	0.000118	0.00105		mg/L	1	10/26/2018 8:08:00 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



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#: **18100943**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 12:10:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100943-001 **Matrix:** WATER
Client Sample ID 6563Z Mike Coudin

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH IN WATER BY EPA 8270C					SW8270C	SW3511	Analyst: CRM
Anthracene	< 0.00105	0.0000626	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Benzo(a)anthracene	< 0.000525	0.0000255	0.000525		mg/L	1	10/26/2018 8:08:00 PM
Benzo(a)pyrene	< 0.000179	0.0000477	0.000179		mg/L	1	10/26/2018 8:08:00 PM
Benzo(b)fluoranthene	< 0.000525	0.0000449	0.000525		mg/L	1	10/26/2018 8:08:00 PM
Benzo(k)fluoranthene	< 0.000525	0.0000645	0.000525		mg/L	1	10/26/2018 8:08:00 PM
Chrysene	< 0.000525	0.0000253	0.000525		mg/L	1	10/26/2018 8:08:00 PM
Dibenz(a,h)anthracene	< 0.00105	0.0000540	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Fluoranthene	< 0.00105	0.00000567	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Fluorene	< 0.000630	0.0000243	0.000630		mg/L	1	10/26/2018 8:08:00 PM
Indeno(1,2,3-cd)pyrene	< 0.000525	0.000151	0.000525		mg/L	1	10/26/2018 8:08:00 PM
Naphthalene	< 0.00105	0.0000270	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Phenanthrene	< 0.00105	0.00000313	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Pyrene	< 0.00105	0.00000122	0.00105		mg/L	1	10/26/2018 8:08:00 PM
Surr: 4-Terphenyl-d14	115	0	49.2-161		%Rec	1	10/26/2018 8:08:00 PM

SEMIVOLATILE ORGANICS IN WATER					SW8270C	E625/SW351	Analyst: KSK
1,2,4,5-Tetrachlorobenzene	< 0.00101	0.000505	0.00101		mg/L	1	10/26/2018 4:09:00 PM
1,2,4-Trichlorobenzene	< 0.00505	0.00101	0.00505		mg/L	1	10/26/2018 4:09:00 PM
1,2-Dichlorobenzene	< 0.00505	0.00101	0.00505		mg/L	1	10/26/2018 4:09:00 PM
1,3-Dichlorobenzene	< 0.00505	0.000509	0.00505		mg/L	1	10/26/2018 4:09:00 PM
1,3-Dinitrobenzene	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
1,4-Dichlorobenzene	< 0.00505	0.00101	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2,3,4,6-Tetrachlorophenol	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2,4,5-Trichlorophenol	< 0.0101	0.000505	0.0101		mg/L	1	10/26/2018 4:09:00 PM
2,4,6-Trichlorophenol	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2,4-Dichlorophenol	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2,4-Dimethylphenol	< 0.00505	0.000562	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2,4-Dinitrophenol	< 0.0202	0.00202	0.0202		mg/L	1	10/26/2018 4:09:00 PM
2,4-Dinitrotoluene	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2,6-Dinitrotoluene	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2-Chloronaphthalene	< 0.00505	0.0000620	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2-Chlorophenol	< 0.00505	0.0000545	0.00505		mg/L	1	10/26/2018 4:09:00 PM
2-Nitroaniline	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 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
 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#: **18100943**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 12:10:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100943-001 **Matrix:** WATER
Client Sample ID 6563Z Mike Coudin

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS IN WATER							
					SW8270C	E625/SW351	Analyst: KSK
3,3'-Dichlorobenzidine	< 0.0101	0.000481	0.0101		mg/L	1	10/26/2018 4:09:00 PM
3-Nitroaniline	< 0.0202	0.000505	0.0202		mg/L	1	10/26/2018 4:09:00 PM
4-Chloroaniline	< 0.00505	0.000240	0.00505		mg/L	1	10/26/2018 4:09:00 PM
4-Nitroaniline	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
4-Nitrophenol	< 0.0202	0.00505	0.0202		mg/L	1	10/26/2018 4:09:00 PM
Aniline	< 0.00505	0.000495	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Biphenyl	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Bis(2-chloroethyl)ether	0.00463	0.0000825	0.00505	J	mg/L	1	10/26/2018 4:09:00 PM
Bis(2-chloroisopropyl)ether	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Bis(2-ethylhexyl)phthalate	0.00417	0.000305	0.00505	J	mg/L	1	10/26/2018 4:09:00 PM
Butyl benzyl phthalate	< 0.00505	0.000107	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Dibenzofuran	< 0.00505	0.0000808	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Diethyl phthalate	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Dimethyl phthalate	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Di-n-octyl phthalate	< 0.0101	0.000183	0.0101		mg/L	1	10/26/2018 4:09:00 PM
Dinoseb	< 0.00505	0.000303	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Hexachlorobenzene	< 0.00101	0.000505	0.00101		mg/L	1	10/26/2018 4:09:00 PM
Hexachlorobutadiene	< 0.00202	0.00101	0.00202		mg/L	1	10/26/2018 4:09:00 PM
Hexachlorocyclopentadiene	< 0.0101	0.000505	0.0101		mg/L	1	10/26/2018 4:09:00 PM
Hexachloroethane	< 0.00505	0.00202	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Isophorone	< 0.00505	0.000181	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Nitrobenzene	< 0.00101	0.000505	0.00101		mg/L	1	10/26/2018 4:09:00 PM
N-Nitrosodi-n-propylamine	< 0.00505	0.000505	0.00505		mg/L	1	10/26/2018 4:09:00 PM
N-Nitrosodiphenylamine	< 0.00505	0.000144	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Pentachlorophenol	< 0.0101	0.00101	0.0101		mg/L	1	10/26/2018 4:09:00 PM
Phenol	< 0.00505	0.0000527	0.00505		mg/L	1	10/26/2018 4:09:00 PM
Surr: 2,4,6-Tribromophenol	63.2		47.2-144		%Rec	1	10/26/2018 4:09:00 PM
Surr: 2-Fluorobiphenyl	93.0		52.2-116		%Rec	1	10/26/2018 4:09:00 PM
Surr: 2-Fluorophenol	40.2		27.3-80.6		%Rec	1	10/26/2018 4:09:00 PM
Surr: 4-Terphenyl-d14	103		48.1-134		%Rec	1	10/26/2018 4:09:00 PM
Surr: Nitrobenzene-d5	86.8		42.5-144		%Rec	1	10/26/2018 4:09:00 PM
Surr: Phenol-d5	1.06		10-67.1	S	%Rec	1	10/26/2018 4:09:00 PM

NOTES:

S: Surrogate outside of control limits. Re-extraction was not possible due to insufficient sample.

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



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#: **18100943**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 12:10:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100943-001 **Matrix:** WATER
Client Sample ID 6563Z Mike Coudin

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 12:31:00 PM
1,1,1-Trichloroethane	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,1,2,2-Tetrachloroethane	< 0.000500	0.000150	0.000500		mg/L	1	10/25/2018 12:31:00 PM
1,1,2-Trichloroethane	< 0.00500	0.000172	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,1-Dichloroethane	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,1-Dichloroethene	< 0.00500	0.000361	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,2-Dibromo-3-chloropropane	< 0.00500	0.000210	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,2-Dichlorobenzene	< 0.0200	0.000500	0.0200		mg/L	1	10/25/2018 12:31:00 PM
1,2-Dichloroethane	< 0.00500	0.000500	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,2-Dichloroethene, Total	< 0.00600	0.000400	0.00600		mg/L	1	10/25/2018 12:31:00 PM
1,2-Dichloropropane	< 0.00500	0.000148	0.00500		mg/L	1	10/25/2018 12:31:00 PM
1,3-Dichlorobenzene	< 0.0100	0.000500	0.0100		mg/L	1	10/25/2018 12:31:00 PM
1,4-Dichlorobenzene	< 0.0200	0.000500	0.0200		mg/L	1	10/25/2018 12:31:00 PM
2-Butanone	< 0.0100	0.000442	0.0100		mg/L	1	10/25/2018 12:31:00 PM
4-Methyl-2-pentanone	< 0.0100	0.000325	0.0100		mg/L	1	10/25/2018 12:31:00 PM
Acetone	< 0.0100	0.00226	0.0100		mg/L	1	10/25/2018 12:31:00 PM
Benzene	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Bromodichloromethane	0.0301	0.000136	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Bromoform	0.00528	0.000500	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Bromomethane	< 0.00500	0.000688	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Carbon disulfide	< 0.0100	0.000133	0.0100		mg/L	1	10/25/2018 12:31:00 PM
Carbon tetrachloride	< 0.00500	0.0000773	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Chlorobenzene	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Chlorodibromomethane	0.0289	0.000170	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Chloroethane	< 0.0100	0.00155	0.0100		mg/L	1	10/25/2018 12:31:00 PM
Chloroform	0.0249	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Chloromethane	< 0.00500	0.00200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
cis-1,2-Dichloroethene	< 0.00300	0.000200	0.00300		mg/L	1	10/25/2018 12:31:00 PM
cis-1,3-Dichloropropene	< 0.00200	0.000500	0.00200		mg/L	1	10/25/2018 12:31:00 PM
Ethylbenzene	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Isobutyl alcohol	< 0.100	0.00400	0.100		mg/L	1	10/25/2018 12:31:00 PM
Methyl tert-butyl ether	< 0.00500	0.000500	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Methylene chloride	< 0.00500	0.000457	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Styrene	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 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



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#: **18100943**

Date Reported **11/7/2018**

CLIENT: Approach Environmental, LLC **Collection Date:** 10/24/2018 12:10:00 PM
Project: Approach Environmental - LDNR Residential Water Wells
Lab ID: 18100943-001 **Matrix:** WATER
Client Sample ID 6563Z Mike Coudin

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 12:31:00 PM
Toluene	< 0.00500	0.000200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
trans-1,2-Dichloroethene	< 0.00300	0.000204	0.00300		mg/L	1	10/25/2018 12:31:00 PM
trans-1,3-Dichloropropene	< 0.00200	0.000500	0.00200		mg/L	1	10/25/2018 12:31:00 PM
Trichloroethene	< 0.00500	0.000500	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Trichlorofluoromethane	< 0.00500	0.00200	0.00500		mg/L	1	10/25/2018 12:31:00 PM
Vinyl chloride	< 0.00200	0.00200	0.00200		mg/L	1	10/25/2018 12:31:00 PM
Xylenes, Total	< 0.0150	0.00150	0.0150		mg/L	1	10/25/2018 12:31:00 PM
Surr: 4-Bromofluorobenzene	103		65.1-136		%Rec	1	10/25/2018 12:31:00 PM
Surr: Dibromofluoromethane	104		40.4-143		%Rec	1	10/25/2018 12:31:00 PM
Surr: Toluene-d8	106		58.2-127		%Rec	1	10/25/2018 12:31:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	309	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 51



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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

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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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
 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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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		



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				

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

QC SUMMARY REPORT

WO#: 18100943
 09-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

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

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
	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

QC SUMMARY REPORT

WO#: 18100943
 09-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	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

QC SUMMARY REPORT

WO#: 18100943
 09-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		



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

QC SUMMARY REPORT

WO#: 18100943
 09-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		



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

QC SUMMARY REPORT

WO#: 18100943
 09-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
- 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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: **18100943**
09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: **18100943**
09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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		



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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



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

QC SUMMARY REPORT

WO#: 18100943
 09-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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 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

QC SUMMARY REPORT

WO#: **18100943**
 09-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

Sample ID: LCS D 17221A-7	SampType: LCS D	TestCode: 8260_W_REC	Units: mg/L	Prep Date:	RunNo: 73611						
Client ID: LCS S02	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
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: LCS 17221A-79	SampType: LCS	TestCode: 8260_W_REC	Units: mg/L	Prep Date:	RunNo: 73611						
Client ID: LCS W	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
1,1,1,2-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-Nov-18

Client: Approach Environmental, LLC

Project: Approach Environmental - LDNR Residential

BatchID: R73611

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
LCS 17221A-79	LCS	8260_W_REC	mg/L		73611						
Client ID:	Batch ID:	TestNo:	Analysis Date:	SeqNo:							
LCSW	R73611	SW8260B	10/25/2018	1841593							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-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				



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

QC SUMMARY REPORT

WO#: 18100943
 09-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	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

QC SUMMARY REPORT

WO#: 18100943
 09-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: **18100943** RcptNo: **1**

Logged by:	Tammy Thibodeaux	10/25/2018 8:30:00 AM	<i>Tammy Thibodeaux</i>
Completed By:	Tammy Thibodeaux	10/25/2018 9:56:20 AM	<i>Tammy Thibodeaux</i>
Reviewed By:	Caitlin Duplantis	10/25/2018 11:41:36 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 11/08/2018

GCAL Report 218102646



Project 18100943

<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

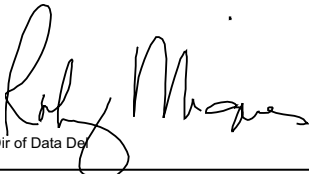
J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (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.



Robyn Migues/Dir of Data Det

Authorized Signature
GCAL Report 218102646

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:** 218102646

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.

This report is revised 11/08/18. The client revised the sample collection date and time.

PM COMMENT

Client requested that the sample date and time be updated to 10/24/18 @ 12:10PM. (Jessica Monfore 11/08/2018 14:02)

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

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21810264601	6563Z Mike Coudin	Water	10/24/2018 12:10	10/26/2018 10:30

Sample Results

6563Z Mike Coudin	Collect Date	10/24/2018 12:10	GCAL ID	21810264601
	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	10	11/06/2018 16:57	JAR	647414

CAS#	Parameter	Result	LOQ	Units
74-82-8	Methane	281	20.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	Diluted Out	ug/L	0*	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 Surrogate	74-82-8	ND	2.00	17.5	14.8	85	39 - 120	17.5	14.8	85	0	27
Propene	115-07-1	29.4	73	40.5	23.6	58	40 - 143	40.5	24	59	NA	NA



CHAIN OF CUSTODY RECORD

Omega COCID 7736

PAGE: 1

OF: 1

Client ID: 4462 - Element Materials Technology

SDG: 218102646

PM: JLM



ADDRESS

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

Form containing SUB CONTRACTOR (GCAL), COMPANY (Gulf Coast), ADDRESS (7979 GSRI Avenue), CITY, STATE, ZIP (Baton Rouge, LA 70820), PHONE, FAX, EMAIL, ACCOUNT #, and a table with columns: ITEM #, SAMPLE ID, CLIENT SAMPLE ID, BOTTLE TYPE, MATRIX, DATE COLLECTED, NUMBER OF CONTAINERS, COMMENTS.

Form containing Relinquished By/Received By signatures and dates, TAT (Standard/RUSH) options, and REPORT TRANSMITTAL DESIRED (HARDCOPY, FAX, EMAIL, ONLINE) options.



SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 218102646			CHECKLIST		YES	NO
Client PM JLM 4462 - Element Materials Technology	Transport Method CUST		Samples received with proper thermal preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			Radioactivity is <1600 cpm? If no, record cpm value in notes section.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Profile Number 271810	Received By Haydel, Daria L.		COC relinquished and complete (including sampleIDs, collect times, and sampler)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			All containers received in good condition and within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Line Item(s) 1 - Water	Receive Date(s) 10/26/18		All sample labels and containers received match the chain of custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			Preservative added to any containers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
			If received, was headspace for VOC water containers < 6mm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			Samples collected in containers provided by GCAL?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
COOLERS			DISCREPANCIES	LAB PRESERVATIONS		
Airbill	Thermometer ID: E29	Temp °C 0.8	None	None		
NOTES						



element

Chain of Custody

Laboratory Number: **18100941³**

Client Information:	Billing Information:	PO Number:	Project Name/Number:	Page 2 of 3
Company Name: Approach Env.	Same		LDNR	Matrix Code
Contact Name: Mark Moore		Quote Number:	Residential Wells	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
Address: 1000 Grinnett Dr.		Required QC Level:	Sampler's Signature: <i>[Signature]</i>	
City, State Zip: Shreveport, La 71107		Bill Monthly:	Shipping Method:	
Phone Number: 318 464 9191 Ext:	Ext:	<input type="checkbox"/> Yes	UPS / FedEx / NOW	
Fax Number:		<input type="checkbox"/> No	DHL / Element / Hand / Mail	
E-mail Address: dmraced@approachenv.com				

Which Regulations Apply:		Turn Time	(Rush turn times will incur a surcharge and must be pre-approved by lab.)		Container	Pres.	Requested Tests								Comments		
<input type="checkbox"/> RCRA	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Standard			Quantity	Type P=Plastic, G=Glass, V=Vial	HCl, HNO ₃ , H ₂ SO ₄ , NaOH, Na ₂ S ₂ O ₃	VOC 8260	Semi-VOC 8270	RCFA Metals	TDS	TPH-G,D,O	A.Solvent Meth	Sodium	Chlorides		
<input type="checkbox"/> POTW	<input type="checkbox"/> Distribution	RUSH															
<input type="checkbox"/> NPDES	<input type="checkbox"/> Special	<input type="checkbox"/> 1 Day															
<input type="checkbox"/> USDA/FDA	<input type="checkbox"/> State	<input checked="" type="checkbox"/> 2 Day															
<input type="checkbox"/> RECAP/RISC	<input type="checkbox"/> Other	<input type="checkbox"/> Other															
Sample ID/Description		Collection Information			Matrix												
		Date	Time	Grab / Composite													
6563Z	Mike Coudin	10/24/18	1210	G	W	13	P.G	HCl HNO₃	X	X	X	X	X	X	X	X	48-hr rush on VOC's Method detection Limit Required. 783423488669

	Relinquished by	Date/Time	Received by	Date/Time	Field Notes:
1	<i>[Signature]</i>	10/24/18 1845	FedEx	10/24/18 1845	
2	FedEx	10/25/18 0830	<i>[Signature]</i>	10/25/18 0830	Received at lab on ice? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Temp: 1.5- x.6
3					

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.

8800 North US 31
Columbus, IN
47201 USA
P 812-375-0531
F 812-375-0731

328 Ley Road, Suite 100
Fort Wayne, IN
46825 USA
P 260-471-7000
F 260-471-7777

909 Executive Dr
Warsaw, IN
46580 USA
P 574-267-3305
F 574-269-6569

3371 Cleveland Road, Suite 100A
South Bend, IN
46628 USA
P 574-277-0707
F 574-273-5699

2417 W. Pinhook Rd
Lafayette, LA
70508 USA
P 337-235-0483
F 337-233-6540

IR10