

All Phase Environmental, LLC

February 15, 2019

For: Alan Gray
Rooker Company

Subject Site: Invista-Dupont
110 Voyles Road
Athens, Georgia 30601

Limited Phase II Subsurface Investigation Report

All Phase Environmental, LLC completed a Limited Phase II Subsurface Investigation for the Invista-Dupont facility in Athens, Georgia on February 4, 2019. The purpose of the investigation was to test for petroleum hydrocarbons in areas near the former heating oil underground storage tanks (USTs). These non-regulated UST systems were removed prior to 1988 UST regulations. Heating oil USTs would not require any sampling by today's standards, however, any contamination from the former USTs would be regulated. We used present-day UST regulations to assess the current subsurface groundwater conditions near the former UST locations.

Three monitoring wells exist on the subject property in the area of the former USTs. All Phase Environmental collected groundwater samples from two of the monitoring wells (MW-1 and MW-2). (See the enclosed Site Map 1). The third monitoring well was dry. Before each sample was collected with a disposable bailer, the depth to groundwater was measured and the monitoring wells were purged of three well volumes of water. The average depth to groundwater was approximately 36 feet. The groundwater samples were manifested, placed in lab supplied containers, and were shipped overnight to AES Laboratories. The samples were analyzed for BTEX and PAHs.

A hand auger was used to collect one soil sample (HA-1) from a drainpipe discharge area that leads from the parking lot and the former AST dike location. (See the enclosed Site Map 2). The soil sample was collected from 6-12 inches below the ground surface (bgs). The soil sample was manifested, placed in lab supplied containers, and was shipped overnight to AES Laboratories. The sample was analyzed for BTEX, PAHs, TPH-DRO, and TPH-GRO. This sample was needed to assess existing soil conditions down-gradient from the dike drain and parking lot storm water drainage.

All Phase Environmental, LLC

Results of Lab Analysis

Table 1 – Soil Sample

	B mg/kg	T mg/kg	E mg/kg	X mg/kg	GRO mg/kg	DRO mg/kg	PAHs mg/kg
HA-1 6"-12"	BRL	BRL	BRL	BRL	BRL	68	BRL
Regulatory Standards	0.005	0.400	0.500	27.00	10	10	N/A

BRL = Below Reporting Limits

Concentrations in bold exceed regulatory standards.

Please see the lab report for complete names of chemicals analyzed in the samples.

Table 2 – Groundwater Samples

	B ug/L	T ug/L	E ug/L	X ug/L	PAHs ug/L
MW-1, 35.70'	BRL	BRL	BRL	BRL	BRL
MW-2, 37.55'	BRL	BRL	BRL	BRL	BRL
In-Stream Water Quality Standards	51	5,980	2,100	N/A	N/A

BRL = Below Reporting Limits

Please see the lab report for complete names of chemicals analyzed in the samples.

Although the former heating oil tanks are not regulated by the GA EPD UST Management Program, any potential contamination would be subject to the rules and regulations set forth by the EPD. The above tables include the most stringent regulatory standards for sites located in a lower groundwater pollution susceptibility area as listed in the GA EPD's *UST Guidance Documents*. We also used these guidelines for the basis for our conclusions and recommendations.

Conclusions:

1. BTEX and PAH compounds were below laboratory reporting limits in soil and groundwater.
2. TPH-GRO compounds were below laboratory reporting limits in soil.
3. TPH-DRO (total petroleum hydrocarbon-diesel range organics) contamination levels detected in the soil sample were above the recommended 10 mg/kg. However, the PAH analysis consists of several specific diesel range organics. Therefore, since BTEX and

All Phase Environmental, LLC

PAH compounds were delineated to BRL, no further actions or investigations are recommended regarding the detected amount of TPH-DRO.

If you have any questions or comments, please contact us and we will discuss the report with you.


Thomas O. Tweedell

February 18, 2019
Date

Signature of Registered Professional Geologist

I certify that I have directed and supervised the field work and preparation of this plan, in accordance with State Rules and Regulations. As a registered geologist, I certify that I am a qualified groundwater professional, as defined by the Georgia State Board of Professional Geologists. All of the information and laboratory data in this plan and in all of the attachments are true, accurate, complete, and in accordance with applicable State Rules and Regulations.


Amanda T. Robertson

February 18, 2019
Date





ANALYTICAL ENVIRONMENTAL SERVICES, INC.

February 12, 2019

Tom Tweedell
All Phase Environmental

1233 Wolfskin Road
Arnoldsville GA 30619

RE: Rooter

Dear Tom Tweedell:

Order No: 1902401

Analytical Environmental Services, Inc. received 4 samples on 2/6/2019 10:16:00 AM
for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES's accreditations are as follows:

-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/18-06/30/19.

State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/18-06/30/19 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.

-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 11/01/19.

These results relate only to the items tested. This report may only be reproduced in full.

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

Sincerely,

Jessica Shilling
Project Manager



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

3080 Presidential Drive Atlanta, GA 30340-3704

Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

Work Order: 1902401

CHAIN OF CUSTODY

COMPANY: ANALYTICAL ENVIRONMENTAL SERVICES, INC.				ADDRESS:				ANALYSIS REQUESTED				REMARKS				Number of Containers			
Tom Tweedell (APE) 1233 Walskim Rd. Atlanta, GA 30610				Tom Tweedell (TOT) 1233 Walskim Rd. Atlanta, GA 30610				HA-1 6'-12" creek foraging bed MW-1, 35.7' b70c MW-2, 37.55' b70c				HA-1 6'-12" creek foraging bed MW-1, 35.7' b70c MW-2, 37.55' b70c				HA-1 6'-12" creek foraging bed MW-1, 35.7' b70c MW-2, 37.55' b70c			
#	SAMPLE ID	DATE	TIME	GRAB	COMPOSITE	MATRIX (see codes)	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED	SIGNED		
																		DATE	TIME
1	HA-1 6'-12" creek foraging bed	2-4-19	11:25	✓	✓	SO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
2	MW-1, 35.7' b70c	2-4-19	11:50	✓	✓	GW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3	MW-2, 37.55' b70c	2-4-19	12:12	✓	✓	GW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			

RELINQUISHED BY: <i>Tom Tweedell (TOT)</i> DATE/TIME: 2/5/19 4PM		RECEIVED BY: <i>Tom Tweedell (TOT)</i> DATE/TIME: 2-6-19 10:10	
SPECIAL INSTRUCTIONS/COMMENTS:		SHIPMENT METHOD: OUT: / / VIA: IN: / / VIA: client FedEx UPS US mail courier other:	
STATE PROGRAM (if any): <input checked="" type="checkbox"/> E-mail? <input type="checkbox"/> Fax? <input type="checkbox"/> DATA PACKAGE: I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/>		QUOTE #:	

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. Samples received after 3PM on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arrangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST = Stormwater V/W = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) 7.11.18_CO

Preservative Codes: HH = Hydrochloric acid + ice I = Ice only N = Nitric acid SH = Sulfuric acid + ice S/MH = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

Client: All Phase Environmental

Project: Rooter

Lab ID: 1902401

Case Narrative

Sample Receiving Nonconformance:

A Trip Blank was provided but not listed on the Chain of Custody. Trip blank analyzed at no cost to the client.

Analytical Environmental Services, Inc

Date: 12-Feb-19

Client: All Phase Environmental
 Project Name: Rooter
 Lab ID: 1902401-001

Client Sample ID: HA-1 6"-12" CREEK/ DRAINAGE
 Collection Date: 2/4/2019 11:25:00 AM
 Matrix: Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILE ORGANICS SW8260B					(SW5035)			
Benzene	BRL	0.0008		mg/Kg-dry	274172	1	02/08/2019 19:59	JF
Toluene	BRL	0.0008		mg/Kg-dry	274172	1	02/08/2019 19:59	JF
Ethylbenzene	BRL	0.0008		mg/Kg-dry	274172	1	02/08/2019 19:59	JF
m,p-Xylene	BRL	0.0008		mg/Kg-dry	274172	1	02/08/2019 19:59	JF
o-Xylene	BRL	0.0008		mg/Kg-dry	274172	1	02/08/2019 19:59	JF
Surr: 4-Bromofluorobenzene	91.6	65.1-125		%REC	274172	1	02/08/2019 19:59	JF
POLYAROMATIC HYDROCARBONS SW8270D					(SW3546)			
Naphthalene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Acenaphthylene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
1-Methylnaphthalene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
2-Methylnaphthalene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Acenaphthene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Fluorene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Phenanthrene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Anthracene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Fluoranthene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Pyrene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Benz(a)anthracene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Chrysene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Benzo(b)fluoranthene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Benzo(k)fluoranthene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Benzo(a)pyrene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Dibenz(a,h)anthracene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Benzo(g,h,i)perylene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Indeno(1,2,3-cd)pyrene	BRL	0.45		mg/Kg-dry	274079	1	02/08/2019 19:02	RF
Surr: 2-Fluorobiphenyl	63.6	54.4-120		%REC	274079	1	02/08/2019 19:02	RF
Surr: 4-Terphenyl-d14	57.2	60.4-120	S	%REC	274079	1	02/08/2019 19:02	RF
Surr: Nitrobenzene-d5	70	51-120		%REC	274079	1	02/08/2019 19:02	RF
GASOLINE RANGE ORGANICS SW8015C					(SW5035)			
TPH (Gasoline Range Organics)	BRL	0.38		mg/Kg-dry	274172	1	02/08/2019 19:59	JF
Surr: a.a.a-trifluorotoluene	112	71.5-133		%REC	274172	1	02/08/2019 19:59	JF
DIESEL RANGE ORGANICS SW8015C					(SW3550C)			
TPH (Diesel Range Organics)	68	9.2		mg/Kg-dry	274090	1	02/08/2019 22:06	RF
Surr: Dioctylphthalate	110	51.1-122		%REC	274090	1	02/08/2019 22:06	RF
PERCENT MOISTURE D2216								
Percent Moisture	27.1	0		wt%	R390633	1	02/08/2019 14:00	JW

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 12-Feb-19

Client: All Phase Environmental
 Project Name: Rooter
 Lab ID: 1902401-002

Client Sample ID: MW-1, 35.7' B TO C
 Collection Date: 2/4/2019 11:50:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILE ORGANICS SW8260B		(SW5030B)						
Benzene	BRL	1.0		ug/L	274270	1	02/08/2019 13:57	OM
Toluene	BRL	1.0		ug/L	274270	1	02/08/2019 13:57	OM
Ethylbenzene	BRL	1.0		ug/L	274270	1	02/08/2019 13:57	OM
m,p-Xylene	BRL	1.0		ug/L	274270	1	02/08/2019 13:57	OM
o-Xylene	BRL	1.0		ug/L	274270	1	02/08/2019 13:57	OM
Surr: 4-Bromofluorobenzene	104	64-125		%REC	274270	1	02/08/2019 13:57	OM
PAHs by Microextraction SW8270D		(SW3511)						
1-Methylnaphthalene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
2-Methylnaphthalene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Acenaphthene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Acenaphthylene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Anthracene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Benz(a)anthracene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Benzo(a)pyrene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Benzo(b)fluoranthene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Benzo(g,h,i)perylene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Benzo(k)fluoranthene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Chrysene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Dibenz(a,h)anthracene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Fluoranthene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Fluorene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Indeno(1,2,3-cd)pyrene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Naphthalene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Phenanthrene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Pyrene	BRL	9.1		ug/L	274123	1	02/07/2019 17:06	RF
Surr: 2-Fluorobiphenyl	87.7	52.2-120		%REC	274123	1	02/07/2019 17:06	RF
Surr: 4-Terphenyl-d14	123	42.7-120	S	%REC	274123	1	02/07/2019 17:06	RF
Surr: Nitrobenzene-d5	107	50.7-122		%REC	274123	1	02/07/2019 17:06	RF

Qualifiers:

* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

> Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

< Less than Result value

J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 12-Feb-19

Client: All Phase Environmental
 Project Name: Rooter
 Lab ID: 1902401-003

Client Sample ID: MW-2, 37.55' B TO C
 Collection Date: 2/4/2019 12:12:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILE ORGANICS SW8260B					(SW5030B)			
Benzene	BRL	1.0		ug/L	274270	1	02/08/2019 14:21	OM
Toluene	BRL	1.0		ug/L	274270	1	02/08/2019 14:21	OM
Ethylbenzene	BRL	1.0		ug/L	274270	1	02/08/2019 14:21	OM
m,p-Xylene	BRL	1.0		ug/L	274270	1	02/08/2019 14:21	OM
o-Xylene	BRL	1.0		ug/L	274270	1	02/08/2019 14:21	OM
Surr: 4-Bromofluorobenzene	103	64-125		%REC	274270	1	02/08/2019 14:21	OM
PAHs by Microextraction SW8270D					(SW3511)			
1-Methylnaphthalene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
2-Methylnaphthalene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Acenaphthene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Acenaphthylene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Anthracene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Benz(a)anthracene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Benzo(a)pyrene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Benzo(b)fluoranthene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Benzo(g,h,i)perylene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Benzo(k)fluoranthene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Chrysene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Dibenz(a,h)anthracene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Fluoranthene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Fluorene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Indeno(1,2,3-cd)pyrene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Naphthalene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Phenanthrene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Pyrene	BRL	8.9		ug/L	274123	1	02/07/2019 18:16	RF
Surr: 2-Fluorobiphenyl	89.4	52.2-120		%REC	274123	1	02/07/2019 18:16	RF
Surr: 4-Terphenyl-d14	140	42.7-120	S	%REC	274123	1	02/07/2019 18:16	RF
Surr: Nitrobenzene-d5	118	50.7-122		%REC	274123	1	02/07/2019 18:16	RF

Qualifiers: * Value exceeds maximum contaminant level
 BRL Below reporting limit
 H Holding times for preparation or analysis exceeded
 N Analyte not NELAC certified
 B Analyte detected in the associated method blank
 > Greater than Result value

E Estimated (value above quantitation range)
 S Spike Recovery outside limits due to matrix
 Narr See case narrative
 NC Not confirmed
 < Less than Result value
 J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 12-Feb-19

Client: All Phase Environmental
 Project Name: Rooter
 Lab ID: 1902401-004

Client Sample ID: TRIP BLANK
 Collection Date: 2/4/2019
 Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILE ORGANICS SW8260B				(SW5030B)				
Benzene	BRL	1.0		ug/L	274270	1	02/08/2019 12:20	OM
Toluene	BRL	1.0		ug/L	274270	1	02/08/2019 12:20	OM
Ethylbenzene	BRL	1.0		ug/L	274270	1	02/08/2019 12:20	OM
m,p-Xylene	BRL	1.0		ug/L	274270	1	02/08/2019 12:20	OM
o-Xylene	BRL	1.0		ug/L	274270	1	02/08/2019 12:20	OM
Surr: 4-Bromofluorobenzene	104	64-125		%REC	274270	1	02/08/2019 12:20	OM

Qualifiers:

* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

> Greater than Result value

E Estimated (value above quantitation range)

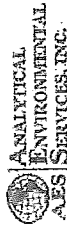
S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

< Less than Result value

J Estimated value detected below Reporting Limit



SAMPLE/COOLER RECEIPT CHECKLIST

Clear

Save as

1902401

AES Work Order Number:

1. Client Name: ALL PHASE ENVIRONMENTAL

2. Carrier: FedEx ☐ UPS ☒ USPS ☐ Client ☐ Courier ☐ Other ☐

	Yes	No	N/A	Details			Comments
3. Shipping container/cooler received in good condition?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	damaged <input type="checkbox"/>	leaking <input type="checkbox"/>	other <input type="checkbox"/>	
4. Custody seals present on shipping container?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
5. Custody seals intact on shipping container?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
6. Temperature blanks present?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
7. Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Cooling initiated for recently collected samples / ice present <input type="checkbox"/>			
8. Chain of Custody (COC) present?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
9. Chain of Custody signed, dated, and timed when relinquished and received?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
10. Sampler name and/or signature on COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
11. Were all samples received within holding time?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
12. TAT marked on the COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	If no TAT indicated, proceeded with standard TAT per Terms & Conditions. <input type="checkbox"/>			

13. Cooler 1 Temperature 1.8 °C Cooler 2 Temperature °C Cooler 3 Temperature °C Cooler 4 Temperature °C
14. Cooler 5 Temperature °C Cooler 6 Temperature °C Cooler 7 Temperature °C Cooler 8 Temperature °C

15. Comments:

I certify that I have completed sections 1-15 (dated initials). EW 2/6/19

	Yes	No	N/A	Details			Comments
16. Were sample containers intact upon receipt?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
17. Custody seals present on sample containers?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
18. Custody seals intact on sample containers?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
19. Do sample container labels match the COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	incomplete info <input type="checkbox"/>	illegible <input type="checkbox"/>	other <input type="checkbox"/>	
20. Are analyses requested indicated on the COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
21. Were all of the samples listed on the COC received?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	samples received but not listed on COC <input type="checkbox"/>	samples listed on COC not received <input type="checkbox"/>		
22. Was the sample collection date/time noted?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
23. Did we receive sufficient sample volume for indicated analyses?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
24. Were samples received in appropriate containers?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
25. Were VOA samples received without headspace (< 1/4" bubble)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
26. Were trip blanks submitted?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	listed on COC <input type="checkbox"/>	not listed on COC <input checked="" type="checkbox"/>		

27. Comments:

I certify that I have completed sections 16-27 (dated initials). EW 2/6/19

	Yes	No	N/A	Details			Comments
28. Have containers needing chemical preservation been checked? *	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
29. Containers meet preservation guidelines?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				
30. Was pH adjusted at Sample Receipt?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>				

* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH. I certify that I have completed sections 28-30 (dated initials). EW 2/6/19

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274079

Sample ID: MB-274079	Client ID:	Units: ug/Kg	Prep Date:	Run No: 390545							
Sample Type: MBLK	Test Code: POLYAROMATIC HYDROCARBONS	BatchID: 274079	Analysis Date: 02/07/2019	Seq No: 8738400							
	SW8270D										
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1-Methylnaphthalene	BRL	330									
2-Methylnaphthalene	BRL	330									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									
Anthracene	BRL	330									
Benz(a)anthracene	BRL	330									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Chrysene	BRL	330									
Dibenz(a,h)anthracene	BRL	330									
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Indeno(1,2,3-cd)pyrene	BRL	330									
Naphthalene	BRL	330									
Phenanthrene	BRL	330									
Pyrene	BRL	330									
Surr: 2-Fluorobiphenyl	1731	0	1667		104	54.4	120				
Surr: 4-Terphenyl-d14	1748	0	1667		105	60.4	120				
Surr: Nitrobenzene-d5	1779	0	1667		107	51	120				
										</	

Qualifiers: > Greater than Result value
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim Reporting Limit

< Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental
 Project Name: Rooter
 Workorder: 1902401

BatchID: 274079

Sample ID: LCS-274079		Client ID:		Units: ug/Kg		Prep Date: 02/07/2019		Run No: 390545			
Sample Type: LCS		Test Code: POLYAROMATIC HYDROCARBONS		BatchID: 274079		Analysis Date: 02/07/2019		Seq No: 8738403			
		SW8270D									
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1741	330	1667		104	66.9	120				
Acenaphthene	1682	330	1667		101	67.5	120				
Acenaphthylene	1720	330	1667		103	66.5	120				
Anthracene	1743	330	1667		105	70	120				
Benz(a)anthracene	1783	330	1667		107	70	120				
Benzo(a)pyrene	1762	330	1667		106	70	120				
Benzo(b)fluoranthene	1733	330	1667		104	64.9	120				
Benzo(g,h,i)perylene	1749	330	1667		105	70	120				
Benzo(k)fluoranthene	1735	330	1667		104	70	120				
Chrysene	1732	330	1667		104	68.3	120				
Dibenz(a,h)anthracene	1713	330	1667		103	70	120				
Fluoranthene	1714	330	1667		103	70	120				
Fluorene	1701	330	1667		102	69.5	120				
Indeno(1,2,3-cd)pyrene	1748	330	1667		105	70	120				
Naphthalene	1722	330	1667		103	62.8	120				
Phenanthrene	1662	330	1667		99.7	70	120				
Pyrene	1770	330	1667		106	70	120				
Surr: 2-Fluorobiphenyl	1764	0	1667		106	54.4	120				
Surr: 4-Terphenyl-d14	1842	0	1667		110	60.4	120				
Surr: Nitrobenzene-d5	1903	0	1667		114	51	120				
Units: mg/Kg-dry											
Sample ID: 1902483-002BMS		Client ID:		BatchID: 274079		Prep Date: 02/07/2019		Run No: 390545			
Sample Type: MS		Test Code: POLYAROMATIC HYDROCARBONS				Analysis Date: 02/07/2019		Seq No: 8739351			
		SW8270D									
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1-Methylnaphthalene	1.660	0.35	1.765		94.1	57.1	120				
2-Methylnaphthalene	1.631	0.35	1.765		92.4	54.9	120				
Acenaphthene	1.609	0.35	1.765		91.2	51.4	120				

Qualifiers: > Greater than Result value
 BNL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim Reporting Limit
 < Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix
 B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

Date: 12-Feb-19

Analytical Environmental Services, Inc

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rootcr

Workorder: 1902401

BatchID: 274079

Workorder:	1902401	Sample ID: 1902483-002BMS	Client ID:	POLYAROMATIC HYDROCARBONS				SW8270D	Units: mg/Kg-dry	Prep Date:	02/07/2019	Run No: 390545
		SampleType: MS	TestCode:						BatchID: 274079	Analysis Date:	02/07/2019	Seq No: 8739351
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual	
Acenaphthylene	1.667	0.35	1.765		94.5	56.5	120					
Anthracene	1.701	0.35	1.765		96.4	61.5	120					
Benz(a)anthracene	1.767	0.35	1.765		100	59.6	120					
Benzo(a)pyrene	1.748	0.35	1.765		99.0	63.2	120					
Benzo(b)fluoranthene	1.703	0.35	1.765		96.5	52.3	124					
Benzo(g,h,i)perylene	1.724	0.35	1.765		97.7	50.7	120					
Benzo(k)fluoranthene	1.666	0.35	1.765		94.4	59.2	120					
Chrysene	1.734	0.35	1.765		98.2	56.5	120					
Dibenz(a,h)anthracene	1.687	0.35	1.765		95.6	51.2	119					
Fluoranthene	1.713	0.35	1.765		97.1	58.1	120					
Fluorene	1.663	0.35	1.765		94.2	52.6	120					
Indeno(1,2,3-cd)pyrene	1.684	0.35	1.765		95.4	51.7	119					
Naphthalene	1.537	0.35	1.765		87.1	49.9	120					
Phenanthrene	1.652	0.35	1.765		93.6	57.4	120					
Pyrene	1.767	0.35	1.765		100	56.8	120					
Surr: 2-Fluorobiphenyl	1.544	0	1.765		87.5	54.4	120					
Surr: 4-Terphenyl-d14	1.712	0	1.765		97.0	60.4	120					
Surr: Nitrobenzene-d5	1.511	0	1.765		85.6	51	120					

Sample ID: 1902483-002BMSD	Client ID:	Units: mg/Kg-dry	Prep Date:	Run No: 390545							
Sample Type: MSD	Test Code: POLYAROMATIC HYDROCARBONS SW8270D	BatchID: 274079	Analysis Date: 02/07/2019	Seq No: 8739352							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1-Methylnaphthalene	1.700	0.35	1.765		96.3	57.1	120	1.660	2.35	49.8	
2-Methylnaphthalene	1.636	0.35	1.765		92.7	54.9	120	1.631	0.302	54.2	
Acenaphthene	1.630	0.35	1.765		92.4	51.4	120	1.609	1.31	35.6	
Acenaphthylene	1.678	0.35	1.765		95.1	56.5	120	1.667	0.633	26.4	
Anthracene	1.706	0.35	1.765		96.6	61.5	120	1.701	0.290	24.3	

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

> Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274079

Sample ID: 1902483-002BMSD Client ID:

Sample Type: MSD TestCode: POLYAROMATIC HYDROCARBONS SWS270D

Units: mg/kg-dry

BatchID: 274079

Prep Date: 02/07/2019 Run No: 390545

Analysis Date: 02/07/2019 Seq No: 8739352

Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.790	0.35	1.765		101	59.6	120	1.767	1.31	24.8	
Benzo(a)pyrene	1.780	0.35	1.765		101	63.2	120	1.748	1.80	21.8	
Benzo(b)fluoranthene	1.754	0.35	1.765		99.4	52.3	124	1.703	2.94	35.2	
Benzo(g,h,i)perylene	1.730	0.35	1.765		98.0	50.7	120	1.724	0.327	27.7	
Benzo(k)fluoranthene	1.706	0.35	1.765		96.6	59.2	120	1.666	2.35	31.8	
Chrysene	1.752	0.35	1.765		99.2	56.5	120	1.734	1.01	32.7	
Dibenz(a,h)anthracene	1.714	0.35	1.765		97.1	51.2	119	1.687	1.62	34.8	
Fluoranthene	1.706	0.35	1.765		96.7	58.1	120	1.713	0.413	34.2	
Fluorene	1.705	0.35	1.765		96.6	52.6	120	1.663	2.52	52.9	
Indeno(1,2,3-cd)pyrene	1.761	0.35	1.765		99.8	51.7	119	1.684	4.47	35.2	
Naphthalene	1.533	0.35	1.765		86.8	49.9	120	1.537	0.276	54.6	
Phenanthrene	1.620	0.35	1.765		91.8	57.4	120	1.652	1.94	51.4	
Pyrene	1.811	0.35	1.765		103	56.8	120	1.767	2.45	33.8	
Surr: 2-Fluorobiphenyl	1.568	0	1.765		88.8	54.4	120	1.544	0	0	
Surr: 4-Terphenyl-d14	1.725	0	1.765		97.8	60.4	120	1.712	0	0	
Surr: Nitrobenzene-d5	1.571	0	1.765		89.0	51	120	1.511	0	0	

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit		E	Estimated (value above quantification range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit		N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit		S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental
Project Name: Rooter
Workorder: 1902401

BatchID: 274090

Sample ID: MB-274090	Client ID:	Units: mg/Kg				Prep Date: 02/07/2019	Run No: 390716				
Sample Type: MBLK	Test Code:	DIESEL RANGE ORGANICS	SW8015C	BatchID: 274090	Analysis Date: 02/08/2019		Seq No: 8742618				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Surr: Diocetylphthalate	3.004	0	3.003	99.9	50.0	120					
Sample ID: LCS-274090	Client ID:	DIESEL RANGE ORGANICS	SW8015C	Units: mg/Kg	Prep Date: 02/07/2019	Run No: 390716					
SampleType: LCS	TestCode:			BatchID: 274090	Analysis Date: 02/08/2019	Seq No: 8742616					
Analyte	Result	RPT Limit	SPK value	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual	

Surr: Diocetylphthalate										
Sample ID: 1902483-002BMS										
SampleType: MS										
Analyte										
Client ID: DIESEL RANGE ORGANICS SW8015C										
TestCode:										
Result										
RPT Limit										
SPK value										
SPK RefVal										
%REC										
Low Limit										
High Limit										
RPD Ref Val										
%RPD										
RPD Limit										
Qual										
Units: mg/Kg-dry										
BatchID: 274090										
Prep Date: 02/07/2019										
Analysis Date: 02/08/2019										
Run No: 390716										
Seq No: 8742623										

Surr: Diocetylphthalate	2.1125																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</
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Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL		Below reporting limit	E	Estimated (value above quantization range)	H	Holding times for preparation or analysis exceeded
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim		Reporting Limit	S	Spikes Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274123

Sample ID: MB-274123	Client ID:	Units: ug/L	Prep Date: 02/07/2019	Run No: 390756
Sample Type: MBLK	Test Code: PAHs by Microextraction	BatchID: 274123	Analysis Date: 02/07/2019	Seq No: 8743672
Analyte	Result	RPT Limit	SPK value	SW870D
		%REC	Low Limit	High Limit
		%RPD	RPD Ref Val	RPD Limit
				Qual

1-Methylnaphthalene

8.6

2-Methylnaphthalene

8.6

Acenaphthene

8.6

Acenaphthylene

8.6

Anthracene

8.6

Benz(a)anthracene

8.6

Benzo(a)pyrene

8.6

Benzo(b)fluoranthene

8.6

Benzo(g,h,i)perylene

8.6

Benzo(k)fluoranthene

8.6

Chrysene

8.6

Dibenz(a,h)anthracene

8.6

Fluoranthene

8.6

Fluorene

8.6

Indeno(1,2,3-cd)pyrene

8.6

Naphthalene

8.6

Phenanthrene

8.6

Pyrene

8.6

Surr: 2-Fluorobiphenyl

27.03

Surr: 4-Terphenyl-d14

31.73

Surr: Nitrobenzene-d5

31.74

94.6

130

111

130

111

130

Sample ID: LCS-274123	Client ID:	Units: ug/L	Prep Date: 02/07/2019	Run No: 390756
Sample Type: LCS	Test Code: PAHs by Microextraction	BatchID: 274123	Analysis Date: 02/07/2019	Seq No: 8743673
Analyte	Result	RPT Limit	SPK value	SW870D
		%REC	Low Limit	High Limit
		%RPD	RPD Ref Val	RPD Limit
				Qual

1-Methylnaphthalene

30.24

2-Methylnaphthalene

28.27

106

130

98.9

130

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Splice Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274123

Sample ID: LCS-274123	Client ID:	PAHs by Microextraction	SW8270D	Units: ug/L	Prep Date:	Run No: 390756					
SampleType: LCS	TestCode:	PAHs by Microextraction	SW8270D	BatchID: 274123	Analysis Date: 02/07/2019	Seq No: 8743673					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	29.75	8.6	28.57		104	70	130				
Acenaphthylene	31.02	8.6	28.57		109	70	130				
Anthracene	32.35	8.6	28.57		113	70	130				
Benz(a)anthracene	34.30	8.6	28.57		120	70	130				
Benzo(a)pyrene	33.36	8.6	28.57		117	70	130				
Benzo(b)fluoranthene	32.30	8.6	28.57		113	70	130				
Benzo(g,h,i)perylene	34.64	8.6	28.57		121	70	130				
Benzo(k)fluoranthene	32.41	8.6	28.57		113	70	130				
Chrysene	31.87	8.6	28.57		112	70	130				
Dibenz(a,h)anthracene	35.42	8.6	28.57		124	70	130				
Fluoranthene	34.07	8.6	28.57		119	70	130				
Fluorene	29.38	8.6	28.57		103	70	130				
Indeno(1,2,3-cd)pyrene	35.71	8.6	28.57		125	70	130				
Naphthalene	27.92	8.6	28.57		97.7	70	130				
Phenanthrene	30.79	8.6	28.57		108	70	130				
Pyrene	31.48	8.6	28.57		110	70	130				
Surr: 2-Fluorobiphenyl	28.39	0	28.57		99.4	70	130				
Surr: 4-Terphenyl-d14	32.59	0	28.57		114	70	130				
Surr: Nitrobenzene-d5	33.72	0	28.57		118	70	130				

Sample ID: 1902401-002BMS		Client ID: MW-1, 35.7' B TO C		Prep Date: 02/07/2019		Run No: 390756					
SampleType: MS		TestCode: PAHs by Microextraction		Analysis Date: 02/07/2019		Seq No: 8743675					
		SW8270D		Units: ug/L							
				BatchID: 274123							
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
1-Methylnaphthalene	31.71	9.1	30.22		105	53.4	120				
2-Methylnaphthalene	30.92	9.1	30.22		102	49.3	120				
Acenaphthene	32.42	9.1	30.22		107	59.8	120				
Acenaphthylene	34.58	9.1	30.22		114	56.3	120				

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	>	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	>	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	>	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Date: 12-Feb-19

Analytical Environmental Services, Inc

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274123

Sample ID: 1902401-002BMS				Client ID: MW-1, 35.7' B TO C				Units: ug/L		Prep Date: 02/07/2019		Run No: 390756	
Sample Type: MS				Test Code: PAHs by Microextraction				BatchID: 274123		Analysis Date: 02/07/2019		Seq No: 8743675	
				SW8270D									
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual		
Anthracene	32.78	9.1	30.22		108	64.2	118				S		
Benz(a)anthracene	18.84	9.1	30.22		62.3	63	124						
Benzo(a)pyrene	37.31	9.1	30.22		123	57.6	126						
Benzo(b)fluoranthene	29.58	9.1	30.22		97.9	62.1	133						
Benzo(g,h,i)perylene	31.40	9.1	30.22		104	54.8	127				S		
Benzo(k)fluoranthene	41.79	9.1	30.22		138	52.4	123						
Chrysene	32.33	9.1	30.22		107	62.6	118						
Dibenz(a,h)anthracene	33.10	9.1	30.22		110	52.8	125				S		
Fluoranthene	37.36	9.1	30.22		124	69.7	121				S		
Fluorene	35.97	9.1	30.22		119	57.8	117						
Indeno(1,2,3-cd)pyrene	32.56	9.1	30.22		108	51.1	129						
Naphthalene	30.87	9.1	30.22		102	43.5	120						
Phenanthrene	32.61	9.1	30.22		108	61.7	121				S		
Pyrene	39.19	9.1	30.22		130	67.3	118						
Surr: 2-Fluorobiphenyl	28.64	0	30.22		94.8	52.2	120				S		
Surr: 4-Terphenyl-d14	38.54	0	30.22		128	42.7	120						
Surr: Nitrobenzene-d5	36.61	0	30.22		121	50.7	122						

Sample ID: 1902401-002BMSD		Client ID: MW-1, 35.7' B TO C		Units: ug/L		Prep Date: 02/07/2019		Run No: 390756			
Sample Type: MSD		Test Code: PAHs by Microextraction		BatchID: 274123		Analysis Date: 02/07/2019		Seq No: 8743676			
				SW8270D							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1-Methylnaphthalene	29.78	9.2	30.58		97.4	53.4	120	31.71	6.27	19.6	
2-Methylnaphthalene	28.67	9.2	30.58		93.8	49.3	120	30.92	7.54	21.2	
Acenaphthene	30.41	9.2	30.58		99.4	59.8	120	32.42	6.40	19.2	
Acenaphthylene	32.49	9.2	30.58		106	56.3	120	34.58	6.23	18.9	
Anthracene	31.84	9.2	30.58		104	64.2	118	32.78	2.90	18.9	
Benz(a)anthracene	20.15	9.2	30.58		65.9	63	124	18.84	6.74	18.4	

Qualifiers: > Greater than Result value < Less than Result value B Analyte detected in the associated method blank

BRL Below reporting limit E Estimated (value above quantitation range) H Holding times for preparation or analysis exceeded

J Estimated value detected below Reporting Limit N Analyte not NELAC certified R RPD outside limits due to matrix

Rpt Lim Reporting Limit S Spike Recovery outside limits due to matrix

Date: 12-Feb-19

Analytical Environmental Services, Inc

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274123

Workorder:	1902401	Sample ID: 1902401-002BMSD	Client ID: MW-1, 35.7' B TO C	TestCode: PAHs by Microextraction	SW8270D	Units: ug/L	BatchID: 274123	Prep Date:	02/07/2019	Run No: 390756	
Sample Type: MSD								Analysis Date:	02/07/2019	Seq No: 8743676	
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
Benzo(a)pyrene	36.65	9.2	30.58		120	57.6	126	37.31	1.77	21.9	
Benzo(b)fluoranthene	34.02	9.2	30.58		111	62.1	133	29.58	14.0	22.2	
Benzo(g,h,i)perylene	30.81	9.2	30.58		101	54.8	127	31.40	1.92	25.8	
Benzo(k)fluoranthene	36.65	9.2	30.58		120	52.4	123	41.79	13.1	21.2	
Chrysene	36.75	9.2	30.58		120	62.6	118	32.33	12.8	17.5	S
Dibenz(a,h)anthracene	32.65	9.2	30.58		107	52.8	125	33.10	1.35	26	
Fluoranthene	36.46	9.2	30.58		119	69.7	121	37.36	2.45	17.8	
Fluorene	34.84	9.2	30.58		114	57.8	117	35.97	3.18	21.6	
Indeno(1,2,3-cd)pyrene	32.57	9.2	30.58		107	51.1	129	32.56	0.026	26	
Naphthalene	27.09	9.2	30.58		88.6	43.5	120	30.87	13.0	21.9	
Phenanthrene	31.24	9.2	30.58		102	61.7	121	32.61	4.31	21.8	
Pyrene	42.43	9.2	30.58		139	67.3	118	39.19	7.95	18	S
Surr: 2-Fluorobiphenyl	29.90	0	30.58		97.8	52.2	120	28.64	0	0	
Surr: 4-Terphenyl-d14	45.94	0	30.58		150	42.7	120	38.54	0	0	S
Surr: Nitrobenzene-d5	38.39	0	30.58		126	50.7	122	36.61	0	0	S

Quantifiers:		Less than Result value		Analyte detected in the associated method blank	
>	Greater than Result value	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
BRL	Below reporting limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
J	Estimated value detected below Reporting Limit	S	Spike Recovery outside limits due to matrix		
Rep Lim	Reporting Limit				

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental

Project Name: Rooter

Workorder: 1902401

BatchID: 274172

Sample ID: MB-274172	Client ID:	Units: ug/Kg	Prep Date: 02/07/2019	Run No: 390522							
Sample Type: MBLK	TestCode: VOLATILE ORGANICS	BatchID: 274172	Analysis Date: 02/07/2019	Seq No: 8737811							
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Benzene	BRL	1.0									
Ethylbenzene	BRL	1.0									
m,p-Xylene	BRL	1.0									
o-Xylene	BRL	1.0									
Toluene	BRL	1.0									
Surr: 4-Bromofluorobenzene	44.22	0	50.00		88.4	65.1				125	

Sample ID: MB-274172	Client ID:	Units: mg/Kg	Prep Date: 02/07/2019	Run No: 390692							
Sample Type: MBLK	TestCode: GASOLINE RANGE ORGANICS	BatchID: 274172	Analysis Date: 02/08/2019	Seq No: 8742439							
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

TPH (Gasoline Range Organics)	BRL	0.50									
Surr: a.a.a-trifluorotoluene	0.05510	0	0.0500		110	71.5				133	

Surr: a.a.a-trifluorotoluene											
0.02510											
0.02510											
Sample ID: LCS-274172											
Client ID:											
TestCode: VOLATILE ORGANICS											
SW8260B											
Units: ug/Kg											
BatchID: 274172											
Prep Date: 02/07/2019											
Run No: 390522											
Analysis Date: 02/07/2019											
Seq No: 8739421											
Analyte											
Result											
RPT Limit											
SPK value											
SPK RefVal											
%REC											
Low Limit											
High Limit											
RPD Ref Val											
%RPD											
RPD Limit											
Qual											

Benzene	49.52	1.0	50.00		99.0	71.3				130	
Ethylbenzene	52.37	1.0	50.00		105	74.7				126	
m,p-Xylene	102.9	1.0	100.0		103	72.5				127	
o-Xylene	51.49	1.0	50.00		103	73.1				127	
Toluene	50.35	1.0	50.00		101	70.4				127	
Surr: 4-Bromofluorobenzene	48.89	0	50.00		97.8	65.1				125	

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
	J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
	Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 12-Feb-19

ANALYTICAL QC SUMMARY REPORT

BatchID: 274172

Client: All Phase Environmental
Project Name: Rooter
Workorder: 1902401

Sample ID: LCS-274172	Client ID:	Units: mg/Kg		Prep Date: 02/07/2019	Run No: 390692						
Sample Type: LCS	Test Code: GASOLINE RANGE ORGANICS	SW8015C	BatchID: 274172	Analysis Date: 02/08/2019	Seq No: 8742443						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Sample ID: 1902401-001AMS	Client ID: HA-1 6"-12" CREEK/DRAINAGE BED	Units: mg/Kg-dry	Prep Date: 02/07/2019	Run No: 390795						
SampleType: MS	TestCode: GASOLINE RANGE ORGANICS SW8015C	BatchID: 274172	Analysis Date: 02/11/2019	Seq No: 8744569						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	%RPD	RPD Limit	Qual

Sample ID: 1902263-001ADUP	Client ID:	Units: mg/Kg-dry		Prep Date: 02/07/2019	Run No: 390795						
SampleType: DUP	TestCode: GASOLINE RANGE ORGANICS	SW8015C	BatchID: 274172	Analysis Date: 02/11/2019	Seq No: 8744564						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Sample ID: 1902374-001ADUP	Client ID:	Units: mg/Kg-dry	Prep Date:	Run No: 390621						
SampleType: DUP	TestCode: VOLATILE ORGANICS	BatchID: 274172	Analysis Date: 02/08/2019	Seq No: 8742137						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	%RPD	RPD Limit	Qual

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
	J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
		Rpt Lim Reporting Limit	S	Splice Recovery outside limits due to matrix		

Date: 12-Feb-19

Analytical Environmental Services, Inc

ANALYTICAL QC SUMMARY REPORT

Client: All Phase Environmental
 Project Name: Rooter
 Workorder: 1902401

BatchID: 274270

Workorder: 17022401		Client ID:		Units: ug/L	Prep Date:	Run No: 390620					
Sample ID: MB-274270		TestCode: VOLATILE ORGANICS		BatchID: 274270	Analysis Date: 02/08/2019	Seq No: 8740128					
SampleType: MBLK											
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual

Surr: 4-Bromofluorobenzene	51.18	0	50.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
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Qualifiers: > Greater than Result value
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim Reporting Limit

< Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Date: 12-Feb-19

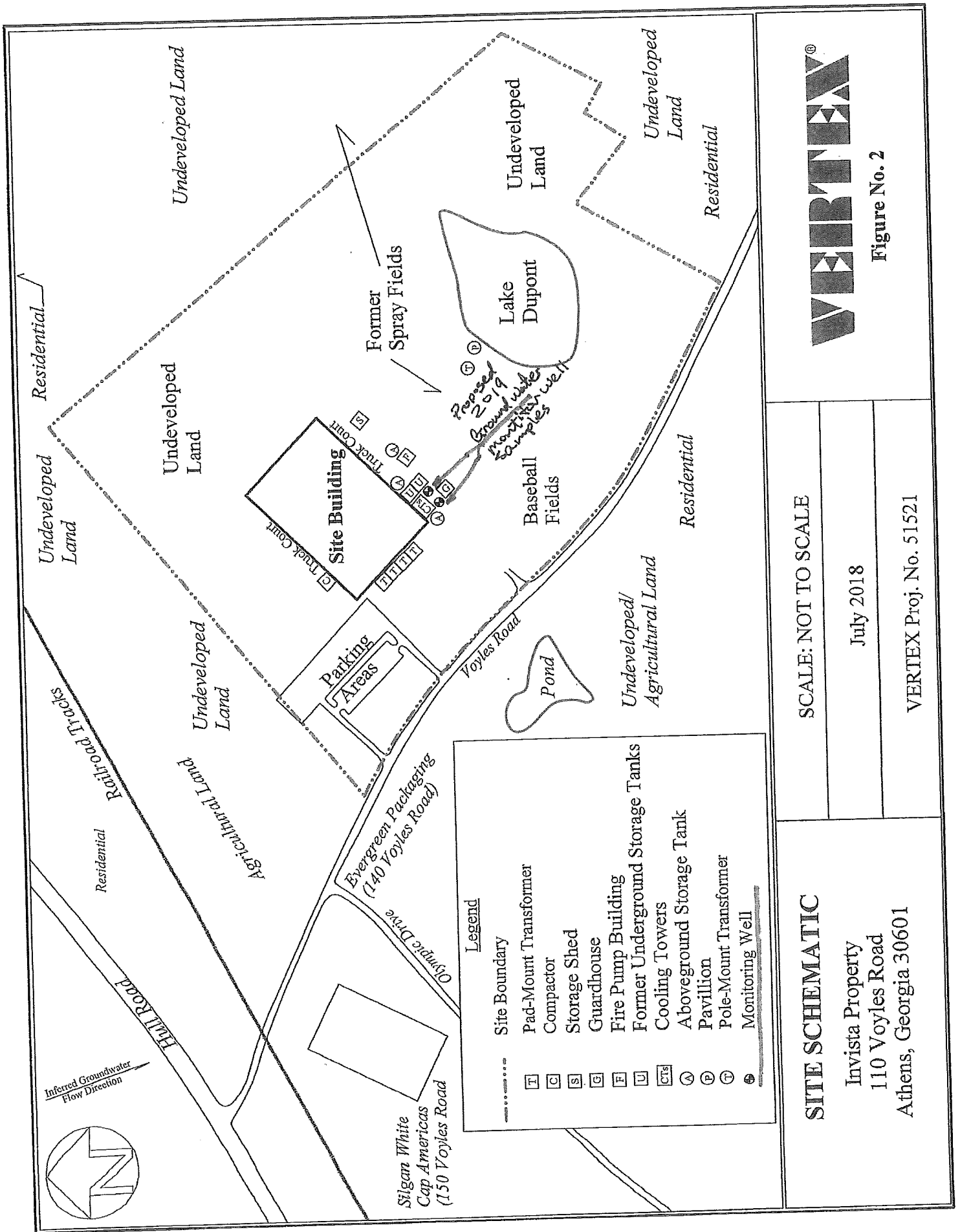
ANALYTICAL QC SUMMARY REPORT

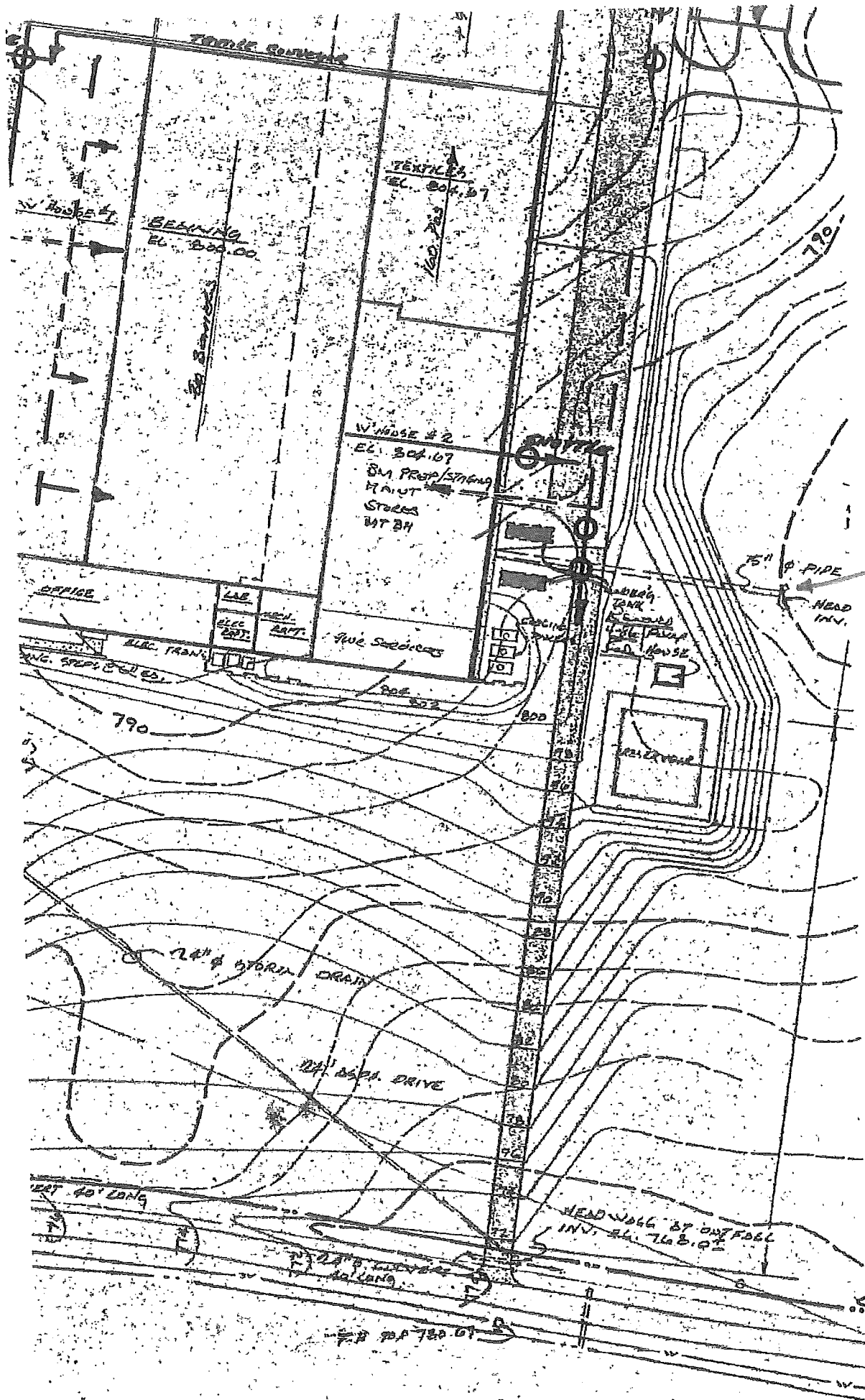
Client: All Phase Environmental
Project Name: Rooter
Workorder: 1902401

BatchID: 274270

Sample ID: 1902401-002ADUP		Client ID: MW-1, 35.7' B TO C		Units: ug/L		Prep Date: 02/08/2019		Seq No: 8741804			
Sample Type: DUP		Test Code: VOLATILE ORGANICS		Batch ID: 274270		Analysis Date: 02/08/2019					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	1.0						0	0	20	
Ethylbenzene	BRL	1.0						0	0	20	
m,p-Xylene	BRL	1.0						0	0	20	
o-Xylene	BRL	1.0						0	0	20	
Toluene	BRL	1.0						0	0	20	
Surr: 4-Bromofluorobenzene		52.21				64	125	52.18	0	0	

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
	J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
	Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		





Proposed
A.P.E.
2019
Hand Auger
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