SEA
SAILORS ENGINEERING ASSOCIATES, INC.
1675 SPECTRUM DRIVE • LAWRENCEVILLE, GEORGIA 30043 • TEL (770) 962-5922 • FAX 962-7964

SECOND SEMI-ANNUAL VRP PROGRESS REPORT
BRIGHT HOUR TRUST PROPERTY
340 ARMOUR DRIVE
ATLANTA, FULTON COUNTY, GEORGIA

SEA JOB #152-079
HSI#10894

SUBMITTED:
JULY 2, 2018

SEA
SAILORS ENGINEERING ASSOCIATES, INC.
1675 SPECTRUM DRIVE • LAWRENCEVILLE, GEORGIA 30043 • TEL (770) 962-5922 • FAX 962-7964

July 2, 2018

Mr. David Hayes
Georgia Department of Natural Resources
Environmental Protection Division
205 Butler Street, S.E.
Floyd Towers East, Suite 1054
Atlanta, GA 30334

RE: Second Semi-Annual VRP Progress Report
Bright Hour Trust Property
340 Armour Drive
Atlanta, Fulton County, Georgia
HSI #10894
SEA Job No. 152-079

Dear Mr. Hayes:

Sailors Engineering Associates, Inc. (SEA) appreciates this opportunity to submit this Semi-Annual Progress Report for the Bright Hour Trust Property located at 340 Armour Drive, Atlanta, Fulton County Georgia (the "Property"). The purpose of this report is to provide an update of the activities and findings since our March 15, 2015 VIRP Application.

I certify, under penalty of law, that the enclosed electronic copy is complete, identical to the paper copy, and virus free.

If you have any questions or need additional information, please contact us at (770) 962-5922. We look forward to working with you on this project.

Respectfully submitted,

SAILORS ENGINEERING ASSOCIATES, INC.

Michael J Haller, P.G.
Manager, Environmental Engineering

w/enclosures
cc: Mr. James Sochovka, Key Investments, Inc and Bright Hour Trust w/enclosures

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1.0 Introduction

1.1 Purpose

The purpose of this June 2018 Semi-Annual Voluntary Remediation Program Progress Report is (i) to discuss the current site conditions and any actions taken since the initial Voluntary Investigation and Remediation Program (VIRP) application and (ii) to outline the proposed Type 5 risk reduction standard (RRS) remedy and the proposed corrective measures to address impacted historic fill material within the Bright Hour Trust Property and a portion of the neighboring property to the west which is subject to a Conservation Easement (the "Conservation Property").

2.0 Updated Conceptual Site Model

As discussed in prior submittals, prior soil testing revealed historic slag material in certain areas of the Bright Hour Trust Property and the Conservation Property. Since this prior testing, SEA has updated the Conceptual Site Model based on the findings of additional shallow soil testing performed on the Conservation Property, which is discussed below. As part of the updated site conceptual model, the potential for future migration of the slag material was evaluated. The migration of the slag material was determined to be unlikely since the topography of the area has remained essentially unchanged over the last 60 years. In addition, concrete plant operations on the Bright Hour Trust Property have resulted in a substantial and impervious concrete cover across the majority of the Bright Hour Trust Property, thereby creating a cap over the historic slag material.

As noted below, the proposed corrective action includes constructing a concrete cap in those limited areas within the Bright Hour Trust Property that exceed the Type 3 or 4 RRS and are not currently covered by concrete. This additional concrete cap will further prevent direct exposure to impacted soil and reduce the potential for leaching to the underlying groundwater. The Conservation Property, neighboring the Bright Hour Trust Property to the west, is currently undeveloped and subject to a City of Atlanta nature conservation easement. The Conservation Property consists of 9.4 acres and includes the 2.2-acre Restricted Areas discussed below. Based on SEA's extensive historical research, the Conservation Property has never been developed or used for commercial or industrial purposes. During SEA's site reconnaissance, areas of scattered slag were observed near the surface on the eastern edge of the Conservation Property and within the Restricted Area. As previously reported, this slag contains elevated levels of certain constituents, primarily lead and arsenic. The source and timing of the slag within the Restricted Area is unknown, although it may have been transported by mechanical means or may have been placed in conjunction with the construction of the adjacent rail line. The lateral extent of the slag material on the Conservation Property is confined to a narrow area along the common boundary of the Conservation Property and the Bright Hour Trust Property.

3.0 Activities Completed This Period

Activities completed this period include (i) the collection and analysis of soil samples from portions of the Conservation Property, (ii) a survey of the "Restricted Area" which is the portion

within the Conservation Property where lead and arsenic impacts were discovered, and (iii) the design of remedial measures to address the off-site impacts.

4.0 Additional Soil Investigation

Between January 28, 2018 and March 7, 2018, SEA collected thirty-three additional soil samples from the Conservation Property to investigate the extent of impacts. The samples were collected using hand auger sampling methods. During the January sampling event, eighteen soil samples were collected and screened with an XRF instrument. Eleven of those samples were selected for laboratory analysis of RCRA Metals and five were selected for analysis for semi-volatile organic compounds (SVOCs).

Soil samples were collected in general accordance with published protocols including USEPA Region 4 Science and Ecosystem Support Division Field Branches Quality System and Technical Procedures, and Standard Operating Procedures, Soil Sampling ((SESPROC-300-R3, August 21, 2014). All soil samples were placed in laboratory supplied sample containers and immediately placed on ice for delivery to the laboratory under written chain-of-custody procedures. All downhole and/or reusable field equipment was properly decontaminated between soil borings and temporary wells in general accordance with published protocols including USEPA Region 4 Science and Ecosystem Support Division "Field Equipment Cleaning and Decontamination" Operating Procedure (SESDPROC-205-R3, December 18, 2015).

Following receipt of the analytical results, fifteen additional samples were collected from the Conservation Property to further investigate for metals and to determine if area averaging was a viable means of establishing compliance with the Type 4 Risk Reduction Standards (RRS). The samples were collected using hand auger sampling methods and submitted for analysis of RCRA Metals.

The results of the January and March sampling indicated that shallow, near surface lead and arsenic impacts exist within the Restricted Area of the Conservation Property. The affected area is approximately 2.28 acres and adjoins the northern portion of the Bright Hour Trust Property as shown of the attached Off-Site Impact Map. The sampling data is tabulated in the tables and depicted on site plans attached to this report. Copies of the laboratory data sheets are also attached.

5.0 Remediation Plan

5.1 Corrective Action Completed or in Process

Although no direct corrective action measures have been taken to date, the operation of a concrete batch plant on the Bright Hour Trust Property has resulted in a substantial and impervious concrete cover across the majority of the Bright Hour Trust Property. This concrete cap prevents direct exposure to impacted soil and reduces the potential for leaching to the underlying groundwater. Based on SEA's multiple subsurface investigations of the Bright Hour Trust Property, the concrete thickness across the paved portions of the Bright Hour Trust Property ranges from eight inches to over 14 inches.

5.2 Additional Corrective Action Measures

Additional corrective action measures necessary to meet the appropriate risk reduction standards will include engineering and institutional controls to minimize the potential for exposure. Specifically, the proposed corrective action measures will include the following engineering and institutional controls:

a) Engineering controls will include the placement of at least 6-inches of concrete in those areas of the Bright Hour Trust Property that exceed the Type 3 or 4 RRS which currently are not covered by concrete.
b) In addition, a fence will be erected around the perimeter of the Restricted Area. The proposed fence will be constructed of a heavy gauge wire fence approximately six feet tall supported by treated wooden posts, similar in appearance to the fencing commonly used along highways to prevent wildlife from entering the roadway. The use of the fence limits the potential for long term, continuous access to the area and results in a diminished potential for any adverse health effects from exposure to the remaining slag.
c) An institutional control in the form of a Uniform Environmental Covenant will be recorded on the Bright Hour Trust Property and the Restricted Property. The covenant for the Bright Trust Property will restrict groundwater and residential use (without EPD's prior approval) and will require that the concrete cover on the Bright Hour Trust Property be inspected annually and an annual certification form be submitted to EPD documenting any changes or repairs to the concrete cap. Similarly, the covenant for the Restricted Area will restrict groundwater and residential use (without EPD's prior approval) and will require that the fence surrounding the Restricted Area be maintained and inspected annually and an annual certification be submitted to EPD documenting any changes or repairs made. Finally, the covenants will require that all subsurface work on the Bright Hour Trust Property and the Restricted Area be performed in accordance with the soil management plan approved by EPD.

The areas to receive the additional concrete cover and the fenced area are shown on the attached Soil Impact Summary (Figure 1).

6.0 Site Risk Reduction Standards

The Risk Reduction Standards for soil selected for the Bright Hour Trust Property are the Type 3 or Type 4 RRS for all site potential contaminants of concern (COCs), with the exception of arsenic, barium, lead, mercury, selenium and silver. A Type 5 remedy has been chosen for arsenic, barium, lead, mercury, selenium and silver impacts as discussed above in Section 5.2. Since the Property was not listed on the Hazardous Site Inventory for a release to groundwater, certification to an RRS for groundwater is not required.

The concentrations of regulated substances detected on the Conservation Property were compared to the Type 3 and Type 4 RRS previously calculated for the Bright Hour Trust Property. All substances detected were in compliance with the higher of either the Type 3 or Type 4 RRS with the exception of arsenic, barium and lead. A Type 5 remedy has been chosen for this area as discussed in Section 5.2 above. Since materials with concentrations above the

Type 3 and Type 4 RRS will be present near the surface and not covered with a cap, SEA calculated a Type 5 RRS for the proposed fenced area on the Conservation Property. The calculation is based on both chronic and acute exposure values for a maintenance worker who may inspect the fence area. The maintenance worker exposure calculation was based on a determination of the number of days per year of exposure that would not exceed the average concentration based on the 95-percentile upper confidence level (95%UCL). This 95%UCL was calculated using the XRF and laboratory results for soil samples collected in the Restricted Area discussed in section 5.2 above within 2 feet of the surface. The value calculated for arsenic was 150.56 milligrams per kilogram (mg/Kg), 935.04 mg/Kg for barium and 691.84 for lead. The Georgia Adult Lead Model was used to calculate an exposure for lead and it was determined that the average concentration for lead within the restricted area was below the target soil concentration of 929.77 mg/Kg calculated using the default model input values. The average concentration for barium is below the calculated Type 4 RRS of 1,648 mg/Kg and no further access restriction is necessary for barium or lead.

The calculated 95%UCL average concentration for arsenic within the Restricted Area is above the Type 3 RRS for arsenic and additional exposure restrictions are necessary. SEA used the default input parameters for RAGs Equations 6 and 7 except for the exposure frequency which was adjusted until the value did not cause the resulting soil concentration to exceed the 95%UCL concentration. The exposure frequency value of 63 days per year does not result in an exposure risk above the target number of 10E-5 for carcinogenic effects and the default exposure frequency of 250 days per year does not result in a hazard quotient of 1 to be exceeded for non-carcinogenic effects. To determine if an acute exposure risk for arsenic exists, RAGs equations 6 and 7 were used with a carcinogenic risk of 10E-4 and a Hazard Quotient of 3, and an exposure frequency set to 63 days per year. The lower of the two calculated values at 1,510 mg/Kg based on carcinogenic risk was compared to the highest detected concentration of arsenic on the Conservation Property at 881 mg/Kg indicating that an acute risk is not present. Single worker access will be restricted to 63 days per year or less as part of the proposed institutional control portion of the Type 5 remedy for the Restricted Area.

Copies of the RRS calculations are presented in the Appendix to this report.

7.0 Conclusion

Based on the findings of this June 2018 Semi-Annual Voluntary Remediation Program Progress Report, the VRP participant respectfully requests EPD's approval to implement the proposed corrective action measures set forth in Section 5.2.

Appendix 1 Figures

Soil Impact Summary

Restricted Area Survey

BRIGHT HOUR TRUST PROPERTY

340 Armour Drive
Atlanta, Fulton County, Georgia

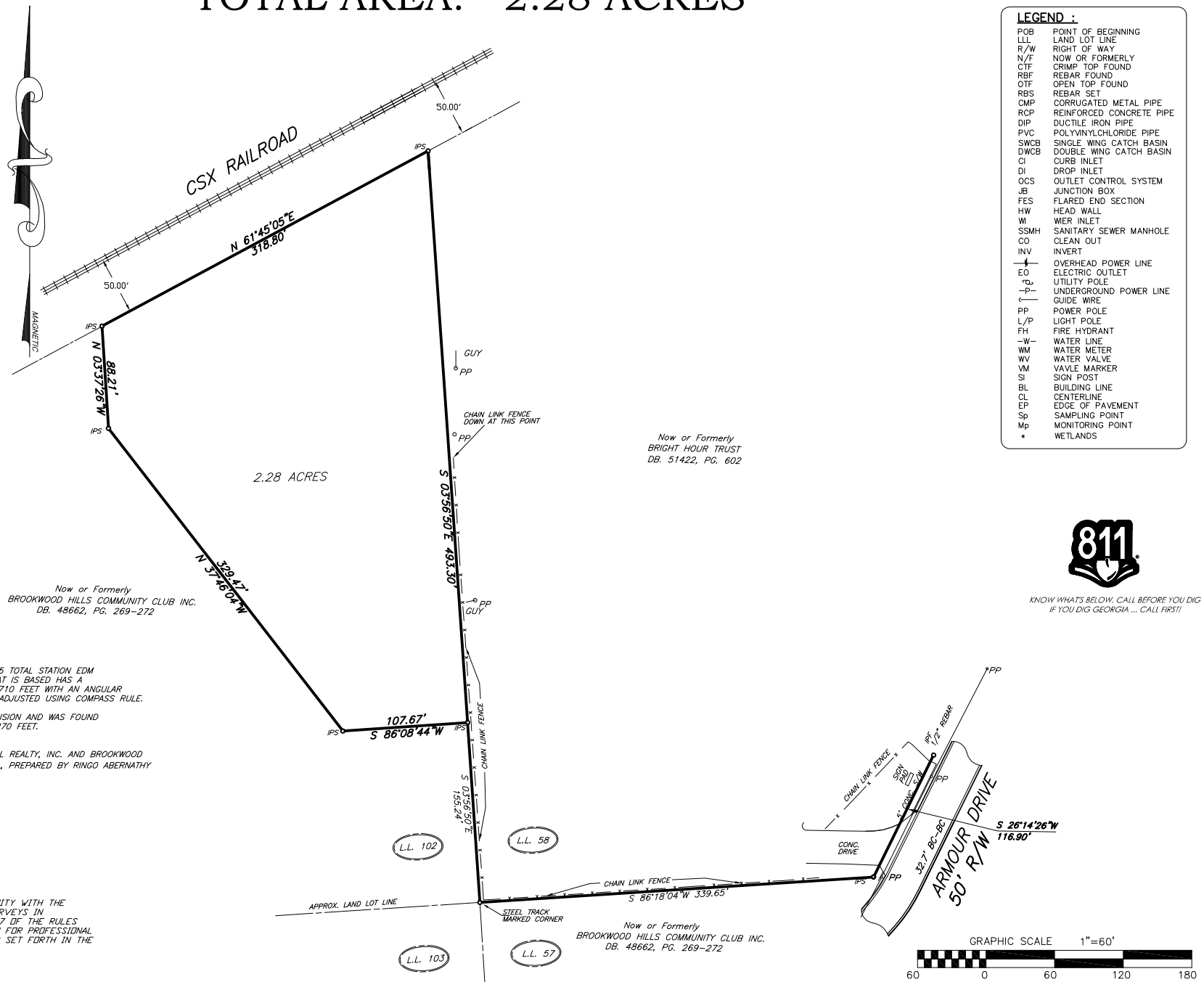
Job No. 152-079

3/21/2018

SOIL IMPACT SUMMARY
FIGURE 1

SAILORS ENGINEERING ASSOCIATES, INC.
ENVIRONMENTAL/GEOTECHNICAL
1675 SPECTRUM DRIVE
LAWRENCEVILLE, GEORGIA 30043
(770) 962-5922 FAX 962-7964
SEA

TOTAL AREA: 2.28 ACRES



LEGEND :

POB	POINT OF BEGINNING
LLL	LAND LOT LINE
R/W	RIGHT OF WAY
N/F	NOW OR FORMERLY
CTF	CRIMP TOP FOUND
RBF	REBAR FOUND
OTF	OPEN TOP FOUND
RBS	REBAR SET
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE
PVC	POLYVINYLCHLORIDE PIPE
SWCB	SINGLE WING CATCH BASIN
DWCB	DOUBLE WING CATCH BASIN
CI	CURB INLET
DI	DROP INLET
OCS	OUTLET CONTROL SYSTEM
JB	JUNCTION BOX
FES	FLARED END SECTION
HW	HEAD WALL
WI	WIER INLET
SSMH	SANITARY SEWER MANHOLE
CO	CLEAN OUT
INV	INVERT
	OVERHEAD POWER LINE
EO	ELECTRIC OUTLET
	UTILITY POLE
-P-	UNDERGROUND POWER LINE
	GUIDE WIRE
PP	POWER POLE
L/P	LIGHT POLE
FH	FIRE HYDRANT
-W-	WATER LINE
WM	WATER METER
WV	WATER VALVE
VM	VAVLE MARKER
SI	SIGN POST
BL	BUILDING LINE
CL	CENTERLINE
EP	EDGE OF PAVEMENT
Sp	SAMPLING POINT
Mp	MONITORING POINT
*	WETLANDS

811

KNOW WHAT'S BELOW. CALL BEFORE YOU DIG
IF YOU DIG GEORGIA ... CALL FIRST!

SURVEY NOTATION:
THIS SURVEY WAS RUN USING A TOPCON 225 TOTAL STATION EDM UNIT. THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 149,710 FEET WITH AN ANGULAR ERROR OF 03" PER ANGLE POINT AND WAS ADJUSTED USING COMPASS RULE.

THIS PLAT HAS BEEN CALCULATED FOR PRECISION AND WAS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 324,270 FEET.

REFERENCE MATERIAL:
DEED BETWEEN SOUTHERN REGION INDUSTRIAL REALTY, INC. AND BROOKWOOD
PLAT OF SURVEY FOR KEY INVESTMENTS INC., PREPARED BY RINGO ABERNATHY AND ASSOCIATES DATED 01-22-16

THIS SURVEY WAS PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT O.C.G.A 15-6-67.

GRAPHIC SCALE 1"=60'
60 0 60 120 180

GEORGIA REGISTERED No. 2707 LAND SURVEYOR KEVIN V. RINGO

NO.	DATE	REVISION

COUNTY:	FULTON
LAND LOT:	102
DISTRICT/PARCEL	17TH
DATE:	4/10/18
SCALE:	1" = 60'
JOB NO.	16003

SURVEY FOR:

BRIGHT HOUR TRUST

RINGO ABERNATHY & ASSOCIATES
CONSULTANTS
SURVEYORS
ENGINEERS
PLANNERS
174 DACULA ROAD – DACULA, GA. 30019
Phone (770) 962-8456

Appendix 2 - Tables

Table 1 – Soil Impact Summary – RCRA Metals
Table 2 – Soil Impact Summary – SVOCs

Bright Hour Trust Property
340 Armour Drive, Atlanta, GA 30324
HSI # 10894
SEA Job #152-079
Table 1 - Summary of Soil Analyses – RCRA Metals

Location	HA-1		HA-1	HA-2		HA-2		HA-3	HA-3		HA-4		HA-4	HA-5	
Type	XRF	soil	XRF	XRF	soil	XRF	soil	XRF	XRF	soil	XRF	soil	XRF	XRF	soil
Depth (ft)	0-0.5		1'-2'	0-0.5		1'-2'		1'-2'	0-0.5		0-0.5		1'-2'	0-0.5	
Date	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018
Arsenic	97	98.5	55	11	8.00	19	12.4	141	95	94.4	209	170	160	15	13.2
Barium		827			172		213			1040		1210			241
Cadmium		1.95			<2.24		<2.37			7.11		4.11			<2.38
Chromium		27.5			30.7		28.3			68.9		41.7			42.2
Lead	1139	961	392	89	61.1	116	78.1	1332	832	699	1421	1080	458	118	84.2
Selenium		2.10			4.85		<2.37			<2.72		3.93			2.97
Silver		4.67			0.154		0.213			1.59		6.04			0.208

Highlighted values exceed the Type 3 - Default Non-Residential Risk Reduction Standard
XRF values were field measurements
Soil values were fixed based laboratory results

Bright Hour Trust Property
340 Armour Drive, Atlanta, GA 30324
HSI # 10894
SEA Job #152-079
Table 1 - Summary of Soil Analyses – RCRA Metals

Location	HA-5		HA-6	HA-6		HA-7	HA-7	HA-8		HA-9	HA-10		HA-11		HA-17
Type	XRF	soil	XRF	XRF	soil	XRF	XRF	XRF	soil	XRF	XRF	soil	XRF	soil	soil
Depth (ft)	1'-2'		3'-4'	0-0.5		0-0.5		0-0.5		0-0.5	0-0.5		0-0.5		0-2
Date	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/28/2018	1/29/2018	1/29/2018	1/29/2018	1/29/2018	1/29/2018	1/29/2018	1/29/2018	3/7/2018
Arsenic	35	41.5	181	18	26.8	31	417	<LOD	<4.05	<LOD	17	9.76	21	21.4	7.85
Barium		393			1130				126			243		721	202
Cadmium		<2.01			<2.53				<2.03			<2.39		2.63	<2.40
Chromium		65.3			39.2				19.1			48.1		73.9	25
Lead	492	378	2528	441	418	819	934	37	23.1	48	95	67.4	383	274	121
Selenium		<2.01			<2.53				<2.03			2.93		4.99	<4.80
Silver		1.68			0.310				<0.101			0.161		0.470	<2.40

Bright Hour Trust Property
340 Armour Drive, Atlanta, GA 30324
HSI # 10894
SEA Job #152-079
Table 1 - Summary of Soil Analyses – RCRA Metals

Location	HA-18	HA-19	HA-21	HA-22	HA-23	HA-24	HA-25	HA-26
Type	soil	soil	soil	soil	soil	soil	soil	soil
Depth (ft)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2
Date	3/7/2018	3/7/2018	3/7/2018	3/7/2018	3/7/2018	3/7/2018	3/7/2018	3/7/2018
Arsenic	54.3	60.7	46.2	382	811	100	372	95.1
Barium	1990	818	461	1000	1060	908	1170	878
Cadmium	3.17	<2.71	<3.08	4.68	6.60	3.66	5.81	<3.41
Chromium	58.8	49.3	71.7	79.3	67.7	54.5	80.8	71.4
Lead	393	470	387	640	1000	1790	1490	862
Selenium	<4.15	<5.42	<6.16	<6.23	<4.77	<3.96	<6.32	<6.83
Silver	<2.08	<2.71	<3.08	<3.11	2.59	<1.98	4.12	4.81

Bright Hour Trust Property
340 Armour Drive, Atlanta, GA 30324
HSI # 10894
SEA Job #152-079

Table 2 - Summary of Soil Analyses - SVOCs

Location	HA-2	HA-5	HA-5	HA-8	HA-10
Type	Soil	Soil	Soil	Soil	Soil
Depth	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Date	1/3/2018	1/3/2018	1/3/2018	1/3/2018	1/3/2018
Acenaphthene	<0.70	<0.72	<0.49	<0.53	<0.48
Acenaphthylene	<0.70	<0.72	<0.49	<0.53	<0.48
Anthracene	<0.70	<0.72	<0.49	<0.53	<0.48
Benz(a)anthracene	<0.70	<0.72	<0.49	**0.57**	<0.48
Benzo(a)pyrene	<0.70	<0.72	<0.49	**0.66**	<0.48
Benzo(b)fluoranthene	<0.70	<0.72	<0.49	**1.4**	<0.48
Benzo(g,h,i)perylene	<0.70	<0.72	<0.49	**0.63**	<0.48
Benzo(k)fluoranthene	<0.70	<0.72	<0.49	<0.53	<0.48
Bis(2-ethylhexyl)phthalete	<0.70	<0.72	<0.49	**0.55**	<0.48
Carbazole	<0.70	<0.72	<0.49	<0.53	<0.48
Chrysene	<0.70	<0.72	<0.49	**0.79**	<0.48
Dibenzofuran	<0.70	<0.72	<0.49	<0.53	<0.48
Dibenz(a,h)anthracene	<0.70	<0.72	<0.49	<0.53	<0.48
Fluoranthene	<0.70	<0.72	<0.49	**1.2**	<0.48
Flourene	<0.70	<0.72	<0.49	<0.53	<0.48
Indeno(1,2,3-cd)pyrene	<0.70	<0.72	<0.49	**0.56**	<0.48
2-Methylnaphthalene	<0.70	<0.72	<0.49	<0.53	<0.48
Naphthalene	<0.70	<0.72	<0.49	<0.53	<0.48
Phenanthrene	<0.70	<0.72	<0.49	<0.53	<0.48
Pyrene	<0.70	<0.72	<0.49	<0.53	<0.48

Appendix 3 – Lab Data

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

January 10, 2018

Michael Haller
Sailors Engineering Associates

1675 Spectrum Drive
Lawrenceville GA 30043

RE: Key Investments

Dear Michael Haller: Order No: 1801150

Analytical Environmental Services, Inc. received 11 samples on 1/3/2018 4:12:00 PM
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 07/01/17-06/30/18.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-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,

Paris Masoudi

Paris Masoudi

Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive Atlanta, GA 30340-3704
AES Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1801150

Date: 1/3/17 Page 1 of 1

COMPANY: Sailors Eng. Assoc.
ADDRESS: 1675 Spectrum Dr Lawrenceville, GA 30043
PHONE: 770-962-5922
EMAIL:
SAMPLED BY: Michael Short
SIGNATURE:

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	RCRA Metals	REMARKS	Number of Containers
1	HA-1 0"-6"	12/28/17	10:39	✓		So	✓		1
2	HA-2 0"-6"	12/28/17	10:46	✓		So	✓		1
3	HA-2 1'-2'	12/28/17	10:51	✓		So	✓		1
4	HA-3 0"-6"	12/28/17	11:05	✓		So	✓		1
5	HA-4 0"-6"	12/28/17	11:15	✓		So	✓		1
6	HA-5 0"-6"	12/28/17	11:32	✓		So	✓		1
7	HA-5 1'-2'	12/28/17	11:37	✓		So	✓		1
8	HA-6 0"-6"	12/28/17	12:00	✓		So	✓		1
9	HA-8 0"-6"	12/29/17	14:16	✓		So	✓		1
10	HA-10 0"-6"	12/29/17	14:29	✓		So	✓		1
11	HA-11 0"-6"	12/29/17	14:41	✓		So	✓		1
12									
13									
14									

PRESERVATION (see codes): 1

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

RELINQUISHED BY: 1. Michael Short DATE/TIME: 1/3/18 16:10
2.
3.

RECEIVED BY: 1. Monique Abouelen DATE/TIME: 1/3/2018 4:12pm
2.
3.

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
client FedEx UPS US mail courier Greyhound
other:

PROJECT INFORMATION
PROJECT NAME: Key Investments
PROJECT #: 182-079
SITE ADDRESS: 340 Armour Dr Atlanta GA
SEND REPORT TO: Mike Haller
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 11

Turnaround Time (TAT) Request
- ☑ Standard 5 Business Days
- ☐ 2 Business Day Rush
- ☐ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☐ Other

STATE PROGRAM (if any):
E-mail? ☑ Fax? ☐
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or 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 arangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

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

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-1 0"-6"
Project Name	Key Investments	**Collection Date:**	12/28/2017 10:39:00 AM
Lab ID:	1801150-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	4.67	0.116		mg/Kg-dry	253846	1	01/09/2018 13:28	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	98.5	3.12		mg/Kg-dry	253778	1	01/05/2018 14:29	IO
Barium	827	15.6		mg/Kg-dry	253778	5	01/08/2018 15:07	IO
Cadmium	1.95	1.56		mg/Kg-dry	253778	1	01/05/2018 14:29	IO
Chromium	27.5	1.56		mg/Kg-dry	253778	1	01/05/2018 14:29	IO
Lead	961	3.12		mg/Kg-dry	253778	1	01/05/2018 14:29	IO
Selenium	BRL	3.12		mg/Kg-dry	253778	1	01/05/2018 14:29	IO
Silver	2.10	1.56		mg/Kg-dry	253778	1	01/05/2018 14:29	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.8	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-2 0"-6"
Project Name	Key Investments	**Collection Date:**	12/28/2017 10:46:00 AM
Lab ID:	1801150-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	0.154	0.104		mg/Kg-dry	253846	1	01/09/2018 13:02	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	8.00	4.49		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
Barium	172	4.49		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
Cadmium	BRL	2.24		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
Chromium	30.7	2.24		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
Lead	61.1	4.49		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
Selenium	BRL	4.49		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
Silver	4.85	2.24		mg/Kg-dry	253778	1	01/05/2018 14:34	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.20	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-2 1'-2'
Project Name	Key Investments	**Collection Date:**	12/28/2017 10:51:00 AM
Lab ID:	1801150-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	0.213	0.102		mg/Kg-dry	253846	1	01/09/2018 13:37	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	12.4	4.73		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
Barium	213	4.73		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
Cadmium	BRL	2.37		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
Chromium	28.3	2.37		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
Lead	78.1	4.73		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
Selenium	BRL	4.73		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
Silver	BRL	2.37		mg/Kg-dry	253778	1	01/05/2018 14:38	IO
PERCENT MOISTURE D2216								
Percent Moisture	1.94	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-3 0"-6"
Project Name	Key Investments	**Collection Date:**	12/28/2017 11:05:00 AM
Lab ID:	1801150-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	1.59	0.120		mg/Kg-dry	253846	1	01/09/2018 13:46	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	94.4	5.44		mg/Kg-dry	253778	1	01/05/2018 14:42	IO
Barium	1040	27.2		mg/Kg-dry	253778	5	01/08/2018 15:11	IO
Cadmium	7.11	2.72		mg/Kg-dry	253778	1	01/05/2018 14:42	IO
Chromium	68.9	2.72		mg/Kg-dry	253778	1	01/05/2018 14:42	IO
Lead	699	5.44		mg/Kg-dry	253778	1	01/05/2018 14:42	IO
Selenium	BRL	5.44		mg/Kg-dry	253778	1	01/05/2018 14:42	IO
Silver	BRL	2.72		mg/Kg-dry	253778	1	01/05/2018 14:42	IO
PERCENT MOISTURE D2216								
Percent Moisture	16.9	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-4 0"-6"
Project Name	Key Investments	**Collection Date:**	12/28/2017 11:15:00 AM
Lab ID:	1801150-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	6.04	0.102		mg/Kg-dry	253846	1	01/09/2018 13:54	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	170	3.88		mg/Kg-dry	253778	1	01/05/2018 14:53	IO
Barium	1210	19.4		mg/Kg-dry	253778	5	01/08/2018 15:15	IO
Cadmium	4.11	1.94		mg/Kg-dry	253778	1	01/05/2018 14:53	IO
Chromium	41.7	1.94		mg/Kg-dry	253778	1	01/05/2018 14:53	IO
Lead	1080	3.88		mg/Kg-dry	253778	1	01/05/2018 14:53	IO
Selenium	BRL	3.88		mg/Kg-dry	253778	1	01/05/2018 14:53	IO
Silver	3.93	1.94		mg/Kg-dry	253778	1	01/05/2018 14:53	IO
PERCENT MOISTURE D2216								
Percent Moisture	1.87	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-5 0"-6"
Project Name	Key Investments	**Collection Date:**	12/28/2017 11:32:00 AM
Lab ID:	1801150-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	0.208	0.103		mg/Kg-dry	253846	1	01/09/2018 14:03	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	13.2	4.77		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
Barium	241	4.77		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
Cadmium	BRL	2.38		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
Chromium	42.2	2.38		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
Lead	84.2	4.77		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
Selenium	BRL	4.77		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
Silver	2.97	2.38		mg/Kg-dry	253778	1	01/05/2018 14:58	IO
PERCENT MOISTURE D2216								
Percent Moisture	2.77	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-5 1'-2'
Project Name	Key Investments	**Collection Date:**	12/28/2017 11:37:00 AM
Lab ID:	1801150-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	1.68	0.103		mg/Kg-dry	253846	1	01/09/2018 14:25	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	41.5	4.02		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
Barium	393	4.02		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
Cadmium	BRL	2.01		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
Chromium	65.3	2.01		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
Lead	378	4.02		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
Selenium	BRL	4.02		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
Silver	BRL	2.01		mg/Kg-dry	253778	1	01/05/2018 15:06	IO
PERCENT MOISTURE D2216								
Percent Moisture	2.58	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-6 0"-6"
Project Name	Key Investments	**Collection Date:**	12/28/2017 12:00:00 PM
Lab ID:	1801150-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	0.310	0.111		mg/Kg-dry	253846	1	01/09/2018 14:34	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	26.8	5.07		mg/Kg-dry	253778	1	01/05/2018 15:10	IO
Barium	1130	25.3		mg/Kg-dry	253778	5	01/08/2018 15:19	IO
Cadmium	BRL	2.53		mg/Kg-dry	253778	1	01/05/2018 15:10	IO
Chromium	39.2	2.53		mg/Kg-dry	253778	1	01/05/2018 15:10	IO
Lead	418	5.07		mg/Kg-dry	253778	1	01/05/2018 15:10	IO
Selenium	BRL	5.07		mg/Kg-dry	253778	1	01/05/2018 15:10	IO
Silver	BRL	2.53		mg/Kg-dry	253778	1	01/05/2018 15:10	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.80	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-8 0"-6"
Project Name	Key Investments	**Collection Date:**	12/29/2017 2:16:00 PM
Lab ID:	1801150-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	BRL	0.101		mg/Kg-dry	253846	1	01/09/2018 14:42	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	4.05		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
Barium	126	4.05		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
Cadmium	BRL	2.03		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
Chromium	19.1	2.03		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
Lead	23.1	4.05		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
Selenium	BRL	4.05		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
Silver	BRL	2.03		mg/Kg-dry	253778	1	01/05/2018 15:14	IO
PERCENT MOISTURE D2216								
Percent Moisture	0.603	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-10 0"-6"
Project Name	Key Investments	**Collection Date:**	12/29/2017 2:29:00 PM
Lab ID:	1801150-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	0.161	0.102		mg/Kg-dry	253846	1	01/09/2018 14:51	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	9.76	4.79		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
Barium	243	4.79		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
Cadmium	BRL	2.39		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
Chromium	48.1	2.39		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
Lead	67.4	4.79		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
Selenium	BRL	4.79		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
Silver	2.93	2.39		mg/Kg-dry	253778	1	01/05/2018 15:18	IO
PERCENT MOISTURE D2216								
Percent Moisture	1.94	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 10-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-11 0"-6"
Project Name	Key Investments	**Collection Date:**	12/29/2017 2:41:00 PM
Lab ID:	1801150-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
Total Mercury by SW7473				**(SW7473)**				
Mercury	0.470	0.102		mg/Kg-dry	253846	1	01/09/2018 15:00	AJ
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	21.4	4.14		mg/Kg-dry	253778	1	01/05/2018 15:24	IO
Barium	721	20.7		mg/Kg-dry	253778	5	01/08/2018 15:23	IO
Cadmium	2.63	2.07		mg/Kg-dry	253778	1	01/05/2018 15:24	IO
Chromium	73.9	2.07		mg/Kg-dry	253778	1	01/05/2018 15:24	IO
Lead	274	4.14		mg/Kg-dry	253778	1	01/05/2018 15:24	IO
Selenium	BRL	4.14		mg/Kg-dry	253778	1	01/05/2018 15:24	IO
Silver	4.99	2.07		mg/Kg-dry	253778	1	01/05/2018 15:24	IO
PERCENT MOISTURE D2216								
Percent Moisture	1.58	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC. AES

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **Sailors Engineering Associates** AES Work Order Number: **1801150**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ■ Courier ☐ Other _____

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

13. Cooler 1 Temperature 5.1 °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). TR 1/3/17

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

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). AJJ 1/4/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	○	○	●		
29.	Containers meet preservation guidelines?	○	○	●		
30.	Was pH adjusted at Sample Receipt?	○	○	●		

* 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). AJJ 1/4/18

Checklist 6.9.17 Rev 2

Locked

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801150

ANALYTICAL QC SUMMARY REPORT

BatchID: 253778

Sample ID: **MB-253778** Client ID: Units: **mg/Kg** Prep Date: **01/04/2018** Run No: **360426**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **253778** Analysis Date: **01/04/2018** Seq No: **7956340**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Lead	BRL	5.00									
Selenium	BRL	5.00									
Silver	BRL	2.50									

Sample ID: **LCS-253778** Client ID: Units: **mg/Kg** Prep Date: **01/04/2018** Run No: **360426**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **253778** Analysis Date: **01/04/2018** Seq No: **7956341**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	46.07	5.00	50.00		92.1	80	120				
Barium	47.92	5.00	50.00		95.8	80	120				
Cadmium	46.61	2.50	50.00		93.2	80	120				
Chromium	48.17	2.50	50.00	0.2905	95.8	80	120				
Lead	46.43	5.00	50.00		92.9	80	120				
Selenium	45.46	5.00	50.00		90.9	80	120				
Silver	4.715	2.50	5.000		94.3	80	120				

Sample ID: **1801061-001CMS** Client ID: Units: **mg/Kg-dry** Prep Date: **01/04/2018** Run No: **360426**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **253778** Analysis Date: **01/04/2018** Seq No: **7956343**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	42.03	5.10	50.99	1.036	80.4	75	125				
Barium	97.73	5.10	50.99	52.18	89.3	75	125				
Cadmium	45.05	2.55	50.99		88.3	75	125				
Chromium	92.58	2.55	50.99	64.09	55.9	75	125				S

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		

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801150

ANALYTICAL QC SUMMARY REPORT

BatchID: 253778

Sample ID: **1801061-001CMS** Client ID: Units: **mg/Kg-dry** Prep Date: **01/04/2018** Run No: **360426**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **253778** Analysis Date: **01/04/2018** Seq No: **7956343**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	52.97	5.10	50.99	11.33	81.7	75	125				
Selenium	37.13	5.10	50.99		72.8	75	125				S
Silver	4.577	2.55	5.099	0.05607	88.6	75	125				

Sample ID: **1801061-001CMSD** Client ID: Units: **mg/Kg-dry** Prep Date: **01/04/2018** Run No: **360426**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **253778** Analysis Date: **01/04/2018** Seq No: **7956344**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	41.95	5.08	50.82	1.036	80.5	75	125	42.03	0.198	20	
Barium	94.55	5.08	50.82	52.18	83.4	75	125	97.73	3.30	20	
Cadmium	44.95	2.54	50.82		88.5	75	125	45.05	0.217	20	
Chromium	83.25	2.54	50.82	64.09	37.7	75	125	92.58	10.6	20	S
Lead	51.78	5.08	50.82	11.33	79.6	75	125	52.97	2.26	20	
Selenium	37.76	5.08	50.82		74.3	75	125	37.13	1.69	20	S
Silver	4.610	2.54	5.082	0.05607	89.6	75	125	4.577	0.715	20	

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		

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801150

ANALYTICAL QC SUMMARY REPORT

BatchID: 253846

Sample ID: **MB-253846**	Client ID:			Units: **mg/Kg**	Prep Date: **01/09/2018**	Run No: **360633**
SampleType: **MBLK**	TestCode: **Total Mercury by SW7473**			BatchID: **253846**	Analysis Date: **01/09/2018**	Seq No: **7961723**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-253846**	Client ID:			Units: **mg/Kg**	Prep Date: **01/09/2018**	Run No: **360633**
SampleType: **LCS**	TestCode: **Total Mercury by SW7473**			BatchID: **253846**	Analysis Date: **01/09/2018**	Seq No: **7961724**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.9134	0.100	1.000		91.3	80	120				

Sample ID: **1801150-002AMS**	Client ID: **HA-2 0"-6"**			Units: **mg/Kg-dry**	Prep Date: **01/09/2018**	Run No: **360633**
SampleType: **MS**	TestCode: **Total Mercury by SW7473**			BatchID: **253846**	Analysis Date: **01/09/2018**	Seq No: **7961726**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	1.094	0.104	1.016	0.1542	92.5	80	120				

Sample ID: **1801150-002AMSD**	Client ID: **HA-2 0"-6"**			Units: **mg/Kg-dry**	Prep Date: **01/09/2018**	Run No: **360633**
SampleType: **MSD**	TestCode: **Total Mercury by SW7473**			BatchID: **253846**	Analysis Date: **01/09/2018**	Seq No: **7961727**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	1.086	0.104	1.017	0.1542	91.6	80	120	1.094	0.747	20	

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		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

January 09, 2018

Michael Haller
Sailors Engineering Associates

1675 Spectrum Drive
Lawrenceville GA 30043

RE: Key Investments

Dear Michael Haller: Order No: 1801151

Analytical Environmental Services, Inc. received 5 samples on 1/3/2018 4:12:00 PM
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 07/01/17-06/30/18.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-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,

Paris Masoudi

Paris Masoudi

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

CHAIN OF CUSTODY

Work Order: 1801157

Date: 1/3/18 Page 1 of 1

COMPANY: Sailors Eng. Assoc.
ADDRESS: 1675 Spectrum Dr Lawrenceville, GA 30043
PHONE: 770-962-5922
EMAIL:
SAMPLED BY: Michael Sheart
SIGNATURE:

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes)	REMARKS	Number of Containers
1	HA-2 0'-6"	1/3/18	14:46	✓		SO	I		1
2	HA-5 0'-6"	1/3/18	14:58	✓		SO	I		1
3	HA-5 1'-2"	1/3/18	15:06	✓		SO	I		1
4	HA-8 0'-6"	1/3/18	15:21	✓		SO	I		1
5	HA-10 0'-6"	1/3/18	15:37	✓		SO	I		1
6									
7									
8									
9									
10									
11									
12									
13									
14									

ANALYSIS REQUESTED: 5 VOC

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

RELINQUISHED BY: 1. [signature] DATE/TIME: 1/3/18 16:10
2.
3.

RECEIVED BY: 1. Monique Abouttan DATE/TIME: 1/3/18 4:12pm
2.
3.

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
(client) FedEx UPS US mail courier Greyhound
other: _____

PROJECT INFORMATION
PROJECT NAME: Key Investments
PROJECT #: 152-079
SITE ADDRESS: 340 Armour Dr NW
SEND REPORT TO: Mike Halter
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: _____ PO#: _____

RECEIPT
Total # of Containers

Turnaround Time (TAT) Request
- [x] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same-Day Rush (auth req.)
- [ ] Other _____

STATE PROGRAM (if any): _____
E-mail? [x] Fax? [ ]
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or 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 arangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

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

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-2 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 2:46:00 PM
Lab ID:	1801151-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1´-Biphenyl	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,4,5-Trichlorophenol	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,4,6-Trichlorophenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,4-Dichlorophenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,4-Dimethylphenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,4-Dinitrophenol	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,4-Dinitrotoluene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2,6-Dinitrotoluene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2-Chloronaphthalene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2-Chlorophenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2-Methylnaphthalene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2-Methylphenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2-Nitroaniline	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
2-Nitrophenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
3,3´-Dichlorobenzidine	BRL	1.4		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
3-Nitroaniline	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4,6-Dinitro-2-methylphenol	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Bromophenyl phenyl ether	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Chloro-3-methylphenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Chloroaniline	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Chlorophenyl phenyl ether	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Methylphenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Nitroaniline	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
4-Nitrophenol	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Acenaphthene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Acenaphthylene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Acetophenone	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Anthracene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Atrazine	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Benz(a)anthracene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Benzaldehyde	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Benzo(a)pyrene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Benzo(b)fluoranthene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Benzo(g,h,i)perylene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Benzo(k)fluoranthene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Bis(2-chloroethoxy)methane	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Bis(2-chloroethyl)ether	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Bis(2-chloroisopropyl)ether	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Bis(2-ethylhexyl)phthalate	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Butyl benzyl phthalate	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Caprolactam	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-2 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 2:46:00 PM
Lab ID:	1801151-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D (SW3550C)								
Carbazole	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Chrysene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Di-n-butyl phthalate	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Di-n-octyl phthalate	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Dibenz(a,h)anthracene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Dibenzofuran	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Diethyl phthalate	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Dimethyl phthalate	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Fluoranthene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Fluorene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Hexachlorobenzene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Hexachlorobutadiene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Hexachlorocyclopentadiene	BRL	1.4		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Hexachloroethane	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Indeno(1,2,3-cd)pyrene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Isophorone	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
N-Nitrosodi-n-propylamine	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
N-Nitrosodiphenylamine	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Naphthalene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Nitrobenzene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Pentachlorophenol	BRL	3.6		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Phenanthrene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Phenol	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Pyrene	BRL	0.70		mg/Kg-dry	253860	1	01/08/2018 13:51	YH
Surr: 2,4,6-Tribromophenol	98.4	48.2-133		%REC	253860	1	01/08/2018 13:51	YH
Surr: 2-Fluorobiphenyl	86.3	50.2-120		%REC	253860	1	01/08/2018 13:51	YH
Surr: 2-Fluorophenol	86.5	41.6-120		%REC	253860	1	01/08/2018 13:51	YH
Surr: 4-Terphenyl-d14	109	52.1-122		%REC	253860	1	01/08/2018 13:51	YH
Surr: Nitrobenzene-d5	81.5	41.4-120		%REC	253860	1	01/08/2018 13:51	YH
Surr: Phenol-d5	87.5	45.7-120		%REC	253860	1	01/08/2018 13:51	YH
PERCENT MOISTURE D2216								
Percent Moisture	53.2	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-5 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 2:58:00 PM
Lab ID:	1801151-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1′-Biphenyl	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,4,5-Trichlorophenol	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,4,6-Trichlorophenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,4-Dichlorophenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,4-Dimethylphenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,4-Dinitrophenol	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,4-Dinitrotoluene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2,6-Dinitrotoluene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2-Chloronaphthalene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2-Chlorophenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2-Methylnaphthalene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2-Methylphenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2-Nitroaniline	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
2-Nitrophenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
3,3′-Dichlorobenzidine	BRL	1.5		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
3-Nitroaniline	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4,6-Dinitro-2-methylphenol	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Bromophenyl phenyl ether	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Chloro-3-methylphenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Chloroaniline	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Chlorophenyl phenyl ether	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Methylphenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Nitroaniline	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
4-Nitrophenol	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Acenaphthene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Acenaphthylene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Acetophenone	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Anthracene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Atrazine	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Benz(a)anthracene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Benzaldehyde	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Benzo(a)pyrene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Benzo(b)fluoranthene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Benzo(g,h,i)perylene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Benzo(k)fluoranthene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Bis(2-chloroethoxy)methane	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Bis(2-chloroethyl)ether	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Bis(2-chloroisopropyl)ether	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Bis(2-ethylhexyl)phthalate	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Butyl benzyl phthalate	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Caprolactam	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH

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:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-5 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 2:58:00 PM
Lab ID:	1801151-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Carbazole	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Chrysene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Di-n-butyl phthalate	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Di-n-octyl phthalate	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Dibenz(a,h)anthracene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Dibenzofuran	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Diethyl phthalate	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Dimethyl phthalate	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Fluoranthene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Fluorene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Hexachlorobenzene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Hexachlorobutadiene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Hexachlorocyclopentadiene	BRL	1.4		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Hexachloroethane	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Indeno(1,2,3-cd)pyrene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Isophorone	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
N-Nitrosodi-n-propylamine	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
N-Nitrosodiphenylamine	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Naphthalene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Nitrobenzene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Pentachlorophenol	BRL	3.7		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Phenanthrene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Phenol	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Pyrene	BRL	0.72		mg/Kg-dry	253860	1	01/08/2018 14:17	YH
Surr: 2,4,6-Tribromophenol	93.5	48.2-133		%REC	253860	1	01/08/2018 14:17	YH
Surr: 2-Fluorobiphenyl	77.4	50.2-120		%REC	253860	1	01/08/2018 14:17	YH
Surr: 2-Fluorophenol	79.3	41.6-120		%REC	253860	1	01/08/2018 14:17	YH
Surr: 4-Terphenyl-d14	98.6	52.1-122		%REC	253860	1	01/08/2018 14:17	YH
Surr: Nitrobenzene-d5	75.2	41.4-120		%REC	253860	1	01/08/2018 14:17	YH
Surr: Phenol-d5	80.5	45.7-120		%REC	253860	1	01/08/2018 14:17	YH
PERCENT MOISTURE D2216								
Percent Moisture	54.5	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-5 1'-2'
Project Name	Key Investments	**Collection Date:**	1/3/2018 3:06:00 PM
Lab ID:	1801151-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1′-Biphenyl	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,4,5-Trichlorophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,4,6-Trichlorophenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,4-Dichlorophenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,4-Dimethylphenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,4-Dinitrophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,4-Dinitrotoluene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2,6-Dinitrotoluene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2-Chloronaphthalene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2-Chlorophenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2-Methylnaphthalene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2-Methylphenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2-Nitroaniline	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
2-Nitrophenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
3,3′-Dichlorobenzidine	BRL	0.99		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
3-Nitroaniline	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4,6-Dinitro-2-methylphenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Bromophenyl phenyl ether	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Chloro-3-methylphenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Chloroaniline	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Chlorophenyl phenyl ether	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Methylphenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Nitroaniline	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
4-Nitrophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Acenaphthene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Acenaphthylene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Acetophenone	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Anthracene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Atrazine	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Benz(a)anthracene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Benzaldehyde	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Benzo(a)pyrene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Benzo(b)fluoranthene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Benzo(g,h,i)perylene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Benzo(k)fluoranthene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Bis(2-chloroethoxy)methane	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Bis(2-chloroethyl)ether	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Bis(2-chloroisopropyl)ether	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Bis(2-ethylhexyl)phthalate	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Butyl benzyl phthalate	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Caprolactam	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH

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:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-5 1'-2'
Project Name	Key Investments	**Collection Date:**	1/3/2018 3:06:00 PM
Lab ID:	1801151-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Carbazole	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Chrysene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Di-n-butyl phthalate	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Di-n-octyl phthalate	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Dibenz(a,h)anthracene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Dibenzofuran	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Diethyl phthalate	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Dimethyl phthalate	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Fluoranthene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Fluorene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Hexachlorobenzene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Hexachlorobutadiene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Hexachlorocyclopentadiene	BRL	0.98		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Hexachloroethane	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Indeno(1,2,3-cd)pyrene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Isophorone	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
N-Nitrosodi-n-propylamine	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
N-Nitrosodiphenylamine	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Naphthalene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Nitrobenzene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Pentachlorophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Phenanthrene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Phenol	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Pyrene	BRL	0.49		mg/Kg-dry	253860	1	01/08/2018 14:44	YH
Surr: 2,4,6-Tribromophenol	109	48.2-133		%REC	253860	1	01/08/2018 14:44	YH
Surr: 2-Fluorobiphenyl	89.1	50.2-120		%REC	253860	1	01/08/2018 14:44	YH
Surr: 2-Fluorophenol	90.6	41.6-120		%REC	253860	1	01/08/2018 14:44	YH
Surr: 4-Terphenyl-d14	118	52.1-122		%REC	253860	1	01/08/2018 14:44	YH
Surr: Nitrobenzene-d5	86.7	41.4-120		%REC	253860	1	01/08/2018 14:44	YH
Surr: Phenol-d5	94.4	45.7-120		%REC	253860	1	01/08/2018 14:44	YH
PERCENT MOISTURE D2216								
Percent Moisture	32.6	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-8 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 3:21:00 PM
Lab ID:	1801151-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1′-Biphenyl	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,4,5-Trichlorophenol	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,4,6-Trichlorophenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,4-Dichlorophenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,4-Dimethylphenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,4-Dinitrophenol	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,4-Dinitrotoluene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2,6-Dinitrotoluene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2-Chloronaphthalene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2-Chlorophenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2-Methylnaphthalene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2-Methylphenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2-Nitroaniline	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
2-Nitrophenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
3,3′-Dichlorobenzidine	BRL	1.1		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
3-Nitroaniline	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4,6-Dinitro-2-methylphenol	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Bromophenyl phenyl ether	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Chloro-3-methylphenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Chloroaniline	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Chlorophenyl phenyl ether	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Methylphenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Nitroaniline	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
4-Nitrophenol	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Acenaphthene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Acenaphthylene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Acetophenone	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Anthracene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Atrazine	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Benz(a)anthracene	0.57	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Benzaldehyde	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Benzo(a)pyrene	0.66	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Benzo(b)fluoranthene	1.4	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Benzo(g,h,i)perylene	0.63	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Benzo(k)fluoranthene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Bis(2-chloroethoxy)methane	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Bis(2-chloroethyl)ether	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Bis(2-chloroisopropyl)ether	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Bis(2-ethylhexyl)phthalate	0.55	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Butyl benzyl phthalate	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Caprolactam	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH

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:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-8 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 3:21:00 PM
Lab ID:	1801151-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Carbazole	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Chrysene	0.79	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Di-n-butyl phthalate	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Di-n-octyl phthalate	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Dibenz(a,h)anthracene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Dibenzofuran	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Diethyl phthalate	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Dimethyl phthalate	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Fluoranthene	1.2	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Fluorene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Hexachlorobenzene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Hexachlorobutadiene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Hexachlorocyclopentadiene	BRL	1.1		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Hexachloroethane	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Indeno(1,2,3-cd)pyrene	0.56	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Isophorone	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
N-Nitrosodi-n-propylamine	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
N-Nitrosodiphenylamine	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Naphthalene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Nitrobenzene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Pentachlorophenol	BRL	2.7		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Phenanthrene	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Phenol	BRL	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Pyrene	1.1	0.53		mg/Kg-dry	253860	1	01/08/2018 15:10	YH
Surr: 2,4,6-Tribromophenol	114	48.2-133		%REC	253860	1	01/08/2018 15:10	YH
Surr: 2-Fluorobiphenyl	94.6	50.2-120		%REC	253860	1	01/08/2018 15:10	YH
Surr: 2-Fluorophenol	94.3	41.6-120		%REC	253860	1	01/08/2018 15:10	YH
Surr: 4-Terphenyl-d14	120	52.1-122		%REC	253860	1	01/08/2018 15:10	YH
Surr: Nitrobenzene-d5	89.7	41.4-120		%REC	253860	1	01/08/2018 15:10	YH
Surr: Phenol-d5	101	45.7-120		%REC	253860	1	01/08/2018 15:10	YH
PERCENT MOISTURE D2216								
Percent Moisture	38.0	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-10 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 3:37:00 PM
Lab ID:	1801151-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1′-Biphenyl	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,4,5-Trichlorophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,4,6-Trichlorophenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,4-Dichlorophenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,4-Dimethylphenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,4-Dinitrophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,4-Dinitrotoluene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2,6-Dinitrotoluene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2-Chloronaphthalene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2-Chlorophenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2-Methylnaphthalene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2-Methylphenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2-Nitroaniline	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
2-Nitrophenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
3,3′-Dichlorobenzidine	BRL	0.98		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
3-Nitroaniline	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4,6-Dinitro-2-methylphenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Bromophenyl phenyl ether	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Chloro-3-methylphenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Chloroaniline	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Chlorophenyl phenyl ether	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Methylphenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Nitroaniline	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
4-Nitrophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Acenaphthene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Acenaphthylene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Acetophenone	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Anthracene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Atrazine	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Benz(a)anthracene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Benzaldehyde	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Benzo(a)pyrene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Benzo(b)fluoranthene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Benzo(g,h,i)perylene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Benzo(k)fluoranthene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Bis(2-chloroethoxy)methane	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Bis(2-chloroethyl)ether	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Bis(2-chloroisopropyl)ether	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Bis(2-ethylhexyl)phthalate	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Butyl benzyl phthalate	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Caprolactam	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH

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:** 9-Jan-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-10 0"-6"
Project Name	Key Investments	**Collection Date:**	1/3/2018 3:37:00 PM
Lab ID:	1801151-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D (SW3550C)								
Carbazole	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Chrysene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Di-n-butyl phthalate	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Di-n-octyl phthalate	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Dibenz(a,h)anthracene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Dibenzofuran	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Diethyl phthalate	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Dimethyl phthalate	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Fluoranthene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Fluorene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Hexachlorobenzene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Hexachlorobutadiene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Hexachlorocyclopentadiene	BRL	0.97		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Hexachloroethane	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Indeno(1,2,3-cd)pyrene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Isophorone	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
N-Nitrosodi-n-propylamine	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
N-Nitrosodiphenylamine	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Naphthalene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Nitrobenzene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Pentachlorophenol	BRL	2.5		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Phenanthrene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Phenol	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Pyrene	BRL	0.48		mg/Kg-dry	253860	1	01/08/2018 15:37	YH
Surr: 2,4,6-Tribromophenol	102	48.2-133		%REC	253860	1	01/08/2018 15:37	YH
Surr: 2-Fluorobiphenyl	84.5	50.2-120		%REC	253860	1	01/08/2018 15:37	YH
Surr: 2-Fluorophenol	84.5	41.6-120		%REC	253860	1	01/08/2018 15:37	YH
Surr: 4-Terphenyl-d14	110	52.1-122		%REC	253860	1	01/08/2018 15:37	YH
Surr: Nitrobenzene-d5	80	41.4-120		%REC	253860	1	01/08/2018 15:37	YH
Surr: Phenol-d5	86.4	45.7-120		%REC	253860	1	01/08/2018 15:37	YH
PERCENT MOISTURE D2216								
Percent Moisture	31.9	0		wt%	R360435	1	01/05/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC. AES

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **Sailors Engineering Associates** AES Work Order Number: **1801150**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ■ Courier ☐ Other _____

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

13. Cooler 1 Temperature 5.1 °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). TR 1/3/17

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

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). AJJ 1/4/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	○	○	○		
29.	Containers meet preservation guidelines?	○	○	○		
30.	Was pH adjusted at Sample Receipt?	○	○	○		

* 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). AJJ 1/4/18

Checklist 6.9.17 Rev 2

Locked

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801151

ANALYTICAL QC SUMMARY REPORT

BatchID: 253860

Sample ID: **MB-253860** Client ID: Units: **ug/Kg** Prep Date: **01/08/2018** Run No: **360537**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **253860** Analysis Date: **01/08/2018** Seq No: **7958902**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	330									
2,4,5-Trichlorophenol	BRL	1700									
2,4,6-Trichlorophenol	BRL	330									
2,4-Dichlorophenol	BRL	330									
2,4-Dimethylphenol	BRL	330									
2,4-Dinitrophenol	BRL	1700									
2,4-Dinitrotoluene	BRL	330									
2,6-Dinitrotoluene	BRL	330									
2-Chloronaphthalene	BRL	330									
2-Chlorophenol	BRL	330									
2-Methylnaphthalene	BRL	330									
2-Methylphenol	BRL	330									
2-Nitroaniline	BRL	1700									
2-Nitrophenol	BRL	330									
3,3´-Dichlorobenzidine	BRL	670									
3-Nitroaniline	BRL	1700									
4,6-Dinitro-2-methylphenol	BRL	1700									
4-Bromophenyl phenyl ether	BRL	330									
4-Chloro-3-methylphenol	BRL	330									
4-Chloroaniline	BRL	330									
4-Chlorophenyl phenyl ether	BRL	330									
4-Methylphenol	BRL	330									
4-Nitroaniline	BRL	1700									
4-Nitrophenol	BRL	1700									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									
Acetophenone	BRL	330									

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		

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801151

ANALYTICAL QC SUMMARY REPORT

BatchID: 253860

Sample ID: **MB-253860** Client ID: Units: **ug/Kg** Prep Date: **01/08/2018** Run No: **360537**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **253860** Analysis Date: **01/08/2018** Seq No: **7958902**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	330									
Atrazine	BRL	330									
Benz(a)anthracene	BRL	330									
Benzaldehyde	BRL	330									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Bis(2-chloroethoxy)methane	BRL	330									
Bis(2-chloroethyl)ether	BRL	330									
Bis(2-chloroisopropyl)ether	BRL	330									
Bis(2-ethylhexyl)phthalate	BRL	330									
Butyl benzyl phthalate	BRL	330									
Caprolactam	BRL	330									
Carbazole	BRL	330									
Chrysene	BRL	330									
Di-n-butyl phthalate	BRL	330									
Di-n-octyl phthalate	BRL	330									
Dibenz(a,h)anthracene	BRL	330									
Dibenzofuran	BRL	330									
Diethyl phthalate	BRL	330									
Dimethyl phthalate	BRL	330									
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Hexachlorobenzene	BRL	330									
Hexachlorobutadiene	BRL	330									
Hexachlorocyclopentadiene	BRL	660									

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		

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801151

ANALYTICAL QC SUMMARY REPORT

BatchID: 253860

Sample ID: **MB-253860** Client ID: Units: **ug/Kg** Prep Date: **01/08/2018** Run No: **360537**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **253860** Analysis Date: **01/08/2018** Seq No: **7958902**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	330									
Indeno(1,2,3-cd)pyrene	BRL	330									
Isophorone	BRL	330									
N-Nitrosodi-n-propylamine	BRL	330									
N-Nitrosodiphenylamine	BRL	330									
Naphthalene	BRL	330									
Nitrobenzene	BRL	330									
Pentachlorophenol	BRL	1700									
Phenanthrene	BRL	330									
Phenol	BRL	330									
Pyrene	BRL	330									
Surr: 2,4,6-Tribromophenol	2816	0	3333		84.5	48.2	133				
Surr: 2-Fluorobiphenyl	1498	0	1667		89.9	50.2	120				
Surr: 2-Fluorophenol	2955	0	3333		88.7	41.6	120				
Surr: 4-Terphenyl-d14	1823	0	1667		109	52.1	122				
Surr: Nitrobenzene-d5	1392	0	1667		83.5	41.4	120				
Surr: Phenol-d5	3064	0	3333		91.9	45.7	120				

Sample ID: **LCS-253860** Client ID: Units: **ug/Kg** Prep Date: **01/08/2018** Run No: **360537**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **253860** Analysis Date: **01/08/2018** Seq No: **7958903**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2846	330	3333		85.4	54.6	120				
2-Chlorophenol	2975	330	3333		89.2	57	120				
4-Chloro-3-methylphenol	3144	330	3333		94.3	60.4	120				
4-Nitrophenol	2676	1700	3333		80.3	45.4	120				
Acenaphthene	3146	330	3333		94.4	60.6	120				
N-Nitrosodi-n-propylamine	3165	330	3333		95.0	62	117				

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		

Client: Sailors Engineering Associates
Project Name Key Investments
Workorder: 1801151

ANALYTICAL QC SUMMARY REPORT

BatchID: 253860

Sample ID: **LCS-253860** Client ID: Units: **ug/Kg** Prep Date: **01/08/2018** Run No: **360537**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **253860** Analysis Date: **01/08/2018** Seq No: **7958903**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	1734	1700	3333		52.0	43.4	119				
Phenol	3002	330	3333		90.1	50.5	120				
Pyrene	3523	330	3333		106	61.2	124				
Surr: 2,4,6-Tribromophenol	3231	0	3333		96.9	48.2	133				
Surr: 2-Fluorobiphenyl	1618	0	1667		97.1	50.2	120				
Surr: 2-Fluorophenol	3115	0	3333		93.4	41.6	120				
Surr: 4-Terphenyl-d14	1905	0	1667		114	52.1	122				
Surr: Nitrobenzene-d5	1497	0	1667		89.8	41.4	120				
Surr: Phenol-d5	3401	0	3333		102	45.7	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		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 14, 2018

Michael Haller
Sailors Engineering Associates

1675 Spectrum Drive
Lawrenceville GA 30043

RE: Bright Hour Trust Property

Dear Michael Haller: Order No: 1803750

Analytical Environmental Services, Inc. received 15 samples on 3/7/2018 6:10:00 PM
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 07/01/17-06/30/18.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-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,

Paris Masoudi

Paris Masoudi

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

CHAIN OF CUSTODY

Work Order: 1803750

Date: 3-7-18 Page 1 of 2

COMPANY: SEA
ADDRESS: 1675 Spectrum Drive Lawrenceville
PHONE: (770) 962-5922
EMAIL:
SAMPLED BY: Joe Kinard
SIGNATURE: Joe Kinard

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)
1	HA-12	3-7-18	1:38		✓	SO
2	HA-13		1:54		✓	
3	HA-14		4:38		✓	
4	HA-15		4:44		✓	
5	HA-16		4:51		✓	
6	HA-17		4:57		✓	
7	HA-18		5:10		✓	
8	HA-19		5:07		✓	
9	HA-20		5:01		✓	
10	HA-21		5:14		✓	
11	HA-22		5:17		✓	
12	HA-23		5:21		✓	
13	HA-24		5:34		✓	
14	HA-25		5:31		✓	

ANALYSIS REQUESTED: RCRA Metals
PRESERVATION (see codes)

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

REMARKS

Number of Containers: 1 1 1 1 1 1 1 1 1 1 1 1 1 1

RELINQUISHED BY: DATE/TIME:
1. Joe Kinard 3-7-18/6:10pm
2.
3.

RECEIVED BY: DATE/TIME:
1. 3/7/18 6:10
2.
3.

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
client FedEx UPS US mail courier Greyhound
other: _____

PROJECT INFORMATION
PROJECT NAME: Bright Hour Trust Property
PROJECT #: 152-079
SITE ADDRESS: 340 Armour Drive Atlanta
SEND REPORT TO: Mik Haller
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: _____ PO#: _____

RECEIPT
Total # of Containers: 14

Turnaround Time (TAT) Request
☐ Standard 5 Business Days
☐ 2 Business Day Rush
☐ Next Business Day Rush
☐ Same-Day Rush (auth req.)
☑ Other 3 day Rush

STATE PROGRAM (if any): _____
E-mail? ☑ Fax? ☐
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or 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 arangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

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

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive Atlanta, GA 30340-3704
Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1803750

Date: 3-7-18 Page 2 of 2

COMPANY: SEA
ADDRESS: 1675 Spectrum Drive
PHONE:
EMAIL:
SAMPLED BY: Joe Kinard
SIGNATURE: Joseph Kinard

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	RCRA metals	REMARKS	Number of Containers
1	HA-26	3-7-18	5:26		✓	SO	✓		1
2	Temp Blank								
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

ANALYSIS REQUESTED

PRESERVATION (see codes)

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

REMARKS

Number of Containers

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Joseph Kinard	3-7-18/6:10pm	1.	3/9/18 6:12
2.		2.	
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
client FedEx UPS US mail courier Greyhound
other:

PROJECT INFORMATION
PROJECT NAME: Bright Hour Trust Property
PROJECT #: 152-079
SITE ADDRESS: 340 Armour Drive Atlanta
SEND REPORT TO: Mike Haller
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 15

Turnaround Time (TAT) Request
- ☐ Standard 5 Business Days
- ☐ 2 Business Day Rush
- ☐ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☑ Other 3 day Rush

STATE PROGRAM (if any):
E-mail? ☑ Fax? ☐
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or 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 arangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

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

White Copy - Original; Yellow Copy - Client

Client: Sailors Engineering Associates
Project: Bright Hour Trust Property
Lab ID: 1803750

Case Narrative

Per Mike Haller via phone on 3/08/18, laboratory proceeded with RCRA Metals minus Mercury.

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-12
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 1:38:00 PM
Lab ID:	1803750-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	23.4	3.89		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
Barium	385	3.89		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
Cadmium	BRL	1.95		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
Chromium	19.8	1.95		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
Lead	321	3.89		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
Selenium	BRL	3.89		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
Silver	BRL	1.95		mg/Kg-dry	257056	1	03/12/2018 20:38	IO
PERCENT MOISTURE D2216								
Percent Moisture	19.7	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-13
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 1:54:00 PM
Lab ID:	1803750-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	7.26	4.41		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
Barium	187	4.41		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
Cadmium	BRL	2.21		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
Chromium	38.5	2.21		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
Lead	84.1	4.41		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
Selenium	BRL	4.41		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
Silver	BRL	2.21		mg/Kg-dry	257056	1	03/12/2018 20:42	IO
PERCENT MOISTURE D2216								
Percent Moisture	26.9	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-14
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 4:38:00 PM
Lab ID:	1803750-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	12.1	5.61		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
Barium	153	5.61		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
Cadmium	BRL	2.80		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
Chromium	71.1	2.80		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
Lead	131	5.61		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
Selenium	BRL	5.61		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
Silver	BRL	2.80		mg/Kg-dry	257056	1	03/12/2018 20:46	IO
PERCENT MOISTURE D2216								
Percent Moisture	26.2	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-15
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 4:44:00 PM
Lab ID:	1803750-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	20.9	6.18		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
Barium	213	6.18		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
Cadmium	BRL	3.09		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
Chromium	34.5	3.09		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
Lead	108	6.18		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
Selenium	BRL	6.18		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
Silver	BRL	3.09		mg/Kg-dry	257056	1	03/12/2018 20:50	IO
PERCENT MOISTURE D2216								
Percent Moisture	28.9	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-16
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 4:51:00 PM
Lab ID:	1803750-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	5.82		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
Barium	230	5.82		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
Cadmium	BRL	2.91		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
Chromium	53.5	2.91		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
Lead	24.8	5.82		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
Selenium	BRL	5.82		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
Silver	BRL	2.91		mg/Kg-dry	257056	1	03/12/2018 20:54	IO
PERCENT MOISTURE D2216								
Percent Moisture	35.6	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-17
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 4:57:00 PM
Lab ID:	1803750-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	7.85	4.80		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
Barium	202	4.80		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
Cadmium	BRL	2.40		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
Chromium	25.0	2.40		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
Lead	121	4.80		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
Selenium	BRL	4.80		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
Silver	BRL	2.40		mg/Kg-dry	257056	1	03/12/2018 20:58	IO
PERCENT MOISTURE D2216								
Percent Moisture	33.8	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-18
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:10:00 PM
Lab ID:	1803750-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	54.3	4.15		mg/Kg-dry	257056	1	03/12/2018 21:02	IO
Barium	1990	41.5		mg/Kg-dry	257056	10	03/13/2018 11:56	IO
Cadmium	3.17	2.08		mg/Kg-dry	257056	1	03/12/2018 21:02	IO
Chromium	58.8	2.08		mg/Kg-dry	257056	1	03/12/2018 21:02	IO
Lead	393	4.15		mg/Kg-dry	257056	1	03/12/2018 21:02	IO
Selenium	BRL	4.15		mg/Kg-dry	257056	1	03/12/2018 21:02	IO
Silver	BRL	2.08		mg/Kg-dry	257056	1	03/12/2018 21:02	IO
PERCENT MOISTURE D2216								
Percent Moisture	34.8	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-19
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:07:00 PM
Lab ID:	1803750-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	60.7	5.42		mg/Kg-dry	257056	1	03/12/2018 21:09	IO
Barium	818	27.1		mg/Kg-dry	257056	5	03/13/2018 12:00	IO
Cadmium	BRL	2.71		mg/Kg-dry	257056	1	03/12/2018 21:09	IO
Chromium	49.3	2.71		mg/Kg-dry	257056	1	03/12/2018 21:09	IO
Lead	470	5.42		mg/Kg-dry	257056	1	03/12/2018 21:09	IO
Selenium	BRL	5.42		mg/Kg-dry	257056	1	03/12/2018 21:09	IO
Silver	BRL	2.71		mg/Kg-dry	257056	1	03/12/2018 21:09	IO
PERCENT MOISTURE D2216								
Percent Moisture	43.3	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-20
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:01:00 PM
Lab ID:	1803750-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	23.1	5.09		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
Barium	288	5.09		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
Cadmium	BRL	2.54		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
Chromium	60.7	2.54		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
Lead	135	5.09		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
Selenium	BRL	5.09		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
Silver	BRL	2.54		mg/Kg-dry	257056	1	03/12/2018 21:20	IO
PERCENT MOISTURE D2216								
Percent Moisture	36.7	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-21
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:14:00 PM
Lab ID:	1803750-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	46.2	6.16		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
Barium	461	6.16		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
Cadmium	BRL	3.08		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
Chromium	71.7	3.08		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
Lead	387	6.16		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
Selenium	BRL	6.16		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
Silver	BRL	3.08		mg/Kg-dry	257056	1	03/12/2018 21:24	IO
PERCENT MOISTURE D2216								
Percent Moisture	37.2	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-22
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:17:00 PM
Lab ID:	1803750-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	382	6.23		mg/Kg-dry	257056	1	03/12/2018 21:28	IO
Barium	1000	31.1		mg/Kg-dry	257056	5	03/13/2018 12:03	IO
Cadmium	4.68	3.11		mg/Kg-dry	257056	1	03/12/2018 21:28	IO
Chromium	79.3	3.11		mg/Kg-dry	257056	1	03/12/2018 21:28	IO
Lead	640	6.23		mg/Kg-dry	257056	1	03/12/2018 21:28	IO
Selenium	BRL	6.23		mg/Kg-dry	257056	1	03/12/2018 21:28	IO
Silver	BRL	3.11		mg/Kg-dry	257056	1	03/12/2018 21:28	IO
PERCENT MOISTURE D2216								
Percent Moisture	41.3	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-23
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:21:00 PM
Lab ID:	1803750-012	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	811	23.8		mg/Kg-dry	257056	5	03/13/2018 12:06	IO
Barium	1060	23.8		mg/Kg-dry	257056	5	03/13/2018 12:06	IO
Cadmium	6.60	2.38		mg/Kg-dry	257056	1	03/12/2018 21:32	IO
Chromium	67.7	2.38		mg/Kg-dry	257056	1	03/12/2018 21:32	IO
Lead	1000	4.77		mg/Kg-dry	257056	1	03/12/2018 21:32	IO
Selenium	BRL	4.77		mg/Kg-dry	257056	1	03/12/2018 21:32	IO
Silver	2.59	2.38		mg/Kg-dry	257056	1	03/12/2018 21:32	IO
PERCENT MOISTURE D2216								
Percent Moisture	30.9	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-24
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:34:00 PM
Lab ID:	1803750-013	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	100	3.96		mg/Kg-dry	257056	1	03/12/2018 21:37	IO
Barium	908	19.8		mg/Kg-dry	257056	5	03/13/2018 12:10	IO
Cadmium	3.66	1.98		mg/Kg-dry	257056	1	03/12/2018 21:37	IO
Chromium	54.5	1.98		mg/Kg-dry	257056	1	03/12/2018 21:37	IO
Lead	1790	3.96		mg/Kg-dry	257056	1	03/12/2018 21:37	IO
Selenium	BRL	3.96		mg/Kg-dry	257056	1	03/12/2018 21:37	IO
Silver	BRL	1.98		mg/Kg-dry	257056	1	03/12/2018 21:37	IO
PERCENT MOISTURE D2216								
Percent Moisture	32.7	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-25
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:31:00 PM
Lab ID:	1803750-014	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	372	6.32		mg/Kg-dry	257056	1	03/12/2018 21:43	IO
Barium	1170	31.6		mg/Kg-dry	257056	5	03/13/2018 12:13	IO
Cadmium	5.81	3.16		mg/Kg-dry	257056	1	03/12/2018 21:43	IO
Chromium	80.8	3.16		mg/Kg-dry	257056	1	03/12/2018 21:43	IO
Lead	1490	6.32		mg/Kg-dry	257056	1	03/12/2018 21:43	IO
Selenium	BRL	6.32		mg/Kg-dry	257056	1	03/12/2018 21:43	IO
Silver	4.12	3.16		mg/Kg-dry	257056	1	03/12/2018 21:43	IO
PERCENT MOISTURE D2216								
Percent Moisture	46.5	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 14-Mar-18

Client:	Sailors Engineering Associates	**Client Sample ID:**	HA-26
Project Name	Bright Hour Trust Property	**Collection Date:**	3/7/2018 5:26:00 PM
Lab ID:	1803750-015	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	95.1	6.83		mg/Kg-dry	257056	1	03/12/2018 21:50	IO
Barium	878	34.1		mg/Kg-dry	257056	5	03/13/2018 12:17	IO
Cadmium	BRL	3.41		mg/Kg-dry	257056	1	03/12/2018 21:50	IO
Chromium	71.4	3.41		mg/Kg-dry	257056	1	03/12/2018 21:50	IO
Lead	862	6.83		mg/Kg-dry	257056	1	03/12/2018 21:50	IO
Selenium	BRL	6.83		mg/Kg-dry	257056	1	03/12/2018 21:50	IO
Silver	4.81	3.41		mg/Kg-dry	257056	1	03/12/2018 21:50	IO
PERCENT MOISTURE D2216								
Percent Moisture	43.4	0		wt%	R365240	1	03/13/2018 13:00	OO

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC. AES

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **Sailors Engineering Associates** AES Work Order Number: **1801150**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ■ Courier ☐ Other _____

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

13. Cooler 1 Temperature 5.1 °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). TR 1/3/17

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

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). AJJ 1/4/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	○	○	○		
29.	Containers meet preservation guidelines?	○	○	○		
30.	Was pH adjusted at Sample Receipt?	○	○	○		

* 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). AJJ 1/4/18

Locked

Client: Sailors Engineering Associates
Project Name Bright Hour Trust Property
Workorder: 1803750

ANALYTICAL QC SUMMARY REPORT

BatchID: 257056

Sample ID: **MB-257056** Client ID: Units: **mg/Kg** Prep Date: **03/09/2018** Run No: **365142**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010D** BatchID: **257056** Analysis Date: **03/12/2018** Seq No: **8072140**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Lead	BRL	5.00									
Selenium	BRL	5.00									
Silver	BRL	2.50									

Sample ID: **LCS-257056** Client ID: Units: **mg/Kg** Prep Date: **03/09/2018** Run No: **365142**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010D** BatchID: **257056** Analysis Date: **03/12/2018** Seq No: **8072141**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	44.92	5.00	50.00		89.8	80	120				
Barium	47.34	5.00	50.00		94.7	80	120				
Cadmium	46.36	2.50	50.00		92.7	80	120				
Chromium	48.04	2.50	50.00		96.1	80	120				
Lead	45.97	5.00	50.00		91.9	80	120				
Selenium	44.94	5.00	50.00		89.9	80	120				
Silver	4.577	2.50	5.000		91.5	80	120				

Sample ID: **1803739-001AMS** Client ID: Units: **mg/Kg-dry** Prep Date: **03/09/2018** Run No: **365142**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010D** BatchID: **257056** Analysis Date: **03/12/2018** Seq No: **8072143**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	54.68	5.68	56.76	5.898	85.9	75	125				
Barium	585.4	5.68	56.76	409.9	309	75	125				S
Cadmium	51.41	2.84	56.76	0.1440	90.3	75	125				
Chromium	179.1	2.84	56.76	162.5	29.3	75	125				S

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		

Client: Sailors Engineering Associates
Project Name Bright Hour Trust Property
Workorder: 1803750

ANALYTICAL QC SUMMARY REPORT

BatchID: 257056

Sample ID: **1803739-001AMS**	Client ID:		Units: **mg/Kg-dry**	Prep Date: **03/09/2018**	Run No: **365142**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010D**		BatchID: **257056**	Analysis Date: **03/12/2018**	Seq No: **8072143**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	419.7	5.68	56.76	553.4	-236	75	125				S
Selenium	44.97	5.68	56.76		79.2	75	125				
Silver	5.137	2.84	5.676	0.05998	89.5	75	125				

Sample ID: **1803739-001AMSD**	Client ID:		Units: **mg/Kg-dry**	Prep Date: **03/09/2018**	Run No: **365142**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010D**		BatchID: **257056**	Analysis Date: **03/12/2018**	Seq No: **8072144**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	51.57	5.69	56.88	5.898	80.3	75	125	54.68	5.85	20	
Barium	519.9	5.69	56.88	409.9	193	75	125	585.4	11.8	20	S
Cadmium	48.89	2.84	56.88	0.1440	85.7	75	125	51.41	5.02	20	
Chromium	156.8	2.84	56.88	162.5	-10.1	75	125	179.1	13.3	20	S
Lead	345.2	5.69	56.88	553.4	-366	75	125	419.7	19.5	20	S
Selenium	43.48	5.69	56.88		76.4	75	125	44.97	3.37	20	
Silver	4.855	2.84	5.688	0.05998	84.3	75	125	5.137	5.65	20	

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		

Appendix 4 – Risk Reduction Standards Calculations

RRS Table 1
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

Type 5 Risk Reduction Standards Evaluation

CAS	Chemical	Carcinogenic Equ 6	Non-Carcinogenic Equ 7	Carcinogenic Equ 6 Acute Exposure	Non-Carcinogenic Equ 7 Acute Exposure	Georgia Adult Lead Model	95% UCL Value	Type 5 RRS <2' (mg/Kg)
7440-38-2	Arsenic, Inorganic	151.28	609.51	1512.76	7256.12		150.56	151.28
7440-39-3	Barium	NA	364690.56	NA	4341554.27		935.04	364690.56
7439-92-1	Lead	NA	NA	NA	NA	929.77	691.83	929.77

All concentrations in mg/Kg

RRS Table 2
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

Factors Summary

														RfDi=RfCi*20/70			Sfi=IUR*70/20*1000				
		MW	H'	HLC	VP	Density (g/cm^3)	Di,a	Di,w	Koc	Kd	S	VOC	VF	Inhalation RfC (mg/m^3)	Inhalation RfD - Chronic (mg/kg-day)	Oral RfD - Chronic (mg/kg-day)	IUR $(ug/m^3)^{-1}$	Inhalation Slope Factor [1/(mg/kg-day)]	Oral Slope Factor [1/(mg/kg-day)]	Carcinogen Class	Target Cancer Risk
7440-38-2	Arsenic, Inorganic	74.922		0.00E+00		4.9				2.90E+01	2.00E+05	0	NA	1.50E-05	4.29E-06	3.00E-04	4.30E-03	1.51E+01	1.50E+00	A	1.00E-05
7440-39-3	Barium	137.33		0.00E+00		3.62				4.10E+01	0.00E+00	0	NA	5.00E-04	1.43E-04	2.00E-01		0.00E+00			NA
7439-92-1	Lead	207.20		0.00E+00		11.3				9.00E+02	0.00E+00	0	NA		0.00E+00			0.00E+00			NA

RRS Table 3
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

RAGS Equation 6 Non-Residential Soil - Carcinogenic Effects

		Worker	
C	chemical concentration in soil (mg/kg)		calculated
TR	target cancer risk		chemical specific
SF_o	oral cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific
SF_i	inhalation cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	63	Site Specific
BW	body weight (Kg)	70	default
ED	exposure duration (yr)	25	default
IR_S	daily soil ingestion rate (L/day)	50	default
IR_a	daily inhalation rate (m^3/day)	20	default
PEF	Particulate emision factor (m^3/kg)	4.63e9	default
VF	soil to air volatilization factor (m^3/kg)		from RAGS eq. 8

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_o \times 10^{-6} \text{ kg/mg} \times IR_s) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	C_{worker}		SF_o	SF_i	VF	TR
Arsenic, Inorganic	1.51E+02		1.50E+00	1.51E+01	NA	1.00E-05
Barium	NA				NA	NA
Lead	NA				NA	NA

RRS Table 4
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

RAGS Equation 7 — Non-Residential Soil - Non-Carcinogenic Effects

		Maintenance Worker		
C	chemical concentration in soil (mg/L)		calculated	
THI	target hazard index	1	Default	
RfD_o	inhalation cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific	
RfD_i	oral cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific	
BW	body weight (Kg)	70	Worker Default	
AT	averaging time (yr)	25	equal to ED	
EF	exposure frequency (days/year)	250	Worker Default	
ED	exposure duration (yr)	25	Worker Default	
IR_s	soil ingestion rate (mg/day)	50	default	
IR_a	daily inhalation rate (m^3/day)	20	default	
PEF	Particulate emision factor (m^3/kg)	4.63E+09	default	
VF	soil to air volatilization factor (m^3/kg)		from RAGS eq. 8	

$$C = \frac{THI \times BW \times AT \times 365\ days/year}{EF \times ED \times [((1/RfD_o) \times 10^{-6}\ kg/mg \times IR_s) + ((1/RfD_i) \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	$C_{trespass}$		RfD_o	RfD_i	VF
Arsenic, Inorganic	6.10E+02		3.00E-04	4.29E-06	NA
Barium	3.65E+05		2.00E-01	1.43E-04	NA
Lead	NA				NA

RRS Table 5
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

RAGS Equation 6 Non-Residential Soil - Carcinogenic Effects Acute Exposure

		Worker	
C	chemical concentration in soil (mg/kg)		calculated
TR	target cancer risk		chemical specific
SF_o	oral cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific
SF_i	inhalation cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	63	Site Specific
BW	body weight (Kg)	70	default
ED	exposure duration (yr)	25	default
IR_S	daily soil ingestion rate (L/day)	50	default
IR_a	daily inhalation rate (m^3/day)	20	default
PEF	Particulate emision factor (m^3/kg)	4.63e9	default
VF	soil to air volatilization factor (m^3/kg)		from RAGS eq. 8

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_o \times 10^{-6} \text{ kg/mg} \times IR_s) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	$C_{trespass}$		SF_o	SF_i	VF	TR (Acute)
Arsenic, Inorganic	1.51E+03		1.50E+00	1.51E+01	NA	1.00E-04
Barium	NA				NA	NA
Cadmium	4.17E+06			6.30E+00	NA	1.00E-04
Chromium (total)	NA				NA	NA
Lead	NA				NA	NA
Mercury (inorganic)	NA				NA	NA
Selenium	NA				NA	NA
Silver	NA				NA	NA

RRS Table 6
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

RAGS Equation 7 — Non-Residential Soil - Non-Carcinogenic Effects Acute Exposure

Teen
Trespass

C	chemical concentration in soil (mg/L)		calculated	
THI	target hazard index	3	Acute Risk	
RfD_o	inhalation cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific	
RfD_i	oral cancer slope factor($(mg/kg\text{-}day)^{-1}$)		chemical specific	
BW	body weight (Kg)	70	default	
AT	averaging time (yr)	25	equal to ED	
EF	exposure frequency (days/year)	63	Site Specific	
ED	exposure duration (yr)	25	default	
IR_s	soil ingestion rate (mg/day)	50	default	
IR_a	daily inhalation rate (m^3/day)	20	default	
PEF	Particulate emision factor (m^3/kg)	4.63E+09	default	
VF	soil to air volatilization factor (m^3/kg)		from RAGS eq. 8	

$$C = \frac{THI \times BW \times AT \times 365\ days/year}{EF \times ED \times [((1/RfD_o) \times 10^{-6}\ kg/mg \times IR_s) + ((1/RfD_i) \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	$C_{trespass}$		RfD_o	RfD_i	VF
Arsenic, Inorganic	7.26E+03		3.00E-04	4.29E-06	NA
Barium	4.34E+06		2.00E-01	1.43E-04	NA
Cadmium	2.36E+04		1.00E-03	2.86E-06	NA
Chromium (total)	NA				NA
Lead	NA				NA
Mercury (inorganic)	7.30E+03		3.00E-04	8.57E-05	NA
Selenium	1.22E+05		5.00E-03	5.71E-03	NA
Silver	1.22E+05		5.00E-03		NA

RRS Table 7
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

95% UCL Calculations

Location	Type	Depth (ft)	Arsenic	Barium	Lead
	XRF		97		1139
HA-1	soil	0-0.5	98.5	827	961
HA-1	XRF	1'-2'	55		392
	XRF		11		89
HA-2	soil	0-0.5	8	172	61.1
	XRF		19		116
HA-2	soil	1'-2'	12.4	213	78.1
HA-3	XRF	1'-2'	141		1332
	XRF		95		832
HA-3	soil	0-0.5	94.4	1040	699
	XRF		209		1421
HA-4	soil	0-0.5	170	1210	1080
HA-4	XRF	1'-2'	160		458
	XRF		15		118
HA-5	soil	0-0.5	13.2	241	84.2
	XRF		35		492
HA-5	soil	1'-2'	41.5	393	378
	XRF		18		441
HA-6	soil	0-0.5	26.8	1130	418
HA-7	XRF		31		819
HA-7	XRF	0-0.5	417		934
	XRF		<7		37
HA-8	soil	0-0.5	<4.05	126	23.1
HA-9	XRF	0-0.5	<7		48
	XRF		17		95
HA-10	soil	0-0.5	9.76	243	67.4
	XRF		21		383
HA-11	soil	0-0.5	21.4	721	274
HA-17	soil	0-2	7.85	202	121
HA-18	soil	0-2	54.3	1990	393
HA-19	soil	0-2	60.7	818	470
HA-20	soil	0-2	23.1	288	135
HA-21	soil	0-2	46.2	461	387
HA-22	soil	0-2	382	1000	640
HA-23	soil	0-2	811	1060	1000
HA-24	soil	0-2	100	908	1790
HA-25	soil	0-2	372	1170	1490
HA-26	soil	0-2	95.1	878	862
Average			100.1911	718.619	540.9974
Std. Dev			158.4087	506.0015	474.4001
Sample Size			38	21	38
Confidence Coeff.			1.96	1.96	1.96
Margin of Error			50.36669	216.4204	150.8374
95% UCL			150.5577	935.0395	691.8348

Note: The reporting limit value was used in the calculation of the average for results below the reporting limit
Only samples within the top 2 feet were used in the calculations

RRS Table 8
Bright Hour Trust
340 Armour Drive
Atlanta, Fulton County, Georgia
SEA Job #152-079
HSI# 10894

Georgia Adult Lead Model

Equation 1: $PbB=PbB_{fetal}/R*GSD^{1.645}$

Equation 2: $Cs=[(PbB-PbB_b/BSF*(EF/AT)-(C_w*I_w*A_w))]*(I_s*A_s)^{-1}$

Where:

PbB_{fetal}	Fetus blood lead goal (ug/dL)	10	default
GSD	Geometric standard deviation	2.04	default
1.645	exponent value for 95th percentile	1.645	default
R	Constant	0.9	default
PbB	Calculated in Eq 1.	3.44	Calculated
PbB_b	Typical blood lead concentration	1.38	default
BSF	Biokenetik slope factor (ug/dL per ug/day)	0.4	default
EF	Exposure Frequency (days/yr)	219	default
AT	Averiging time (days/yr)	365	default
I_s	Intake rate soil (g/day)	0.05	default
A_s	Absolute gastrointestinal absorption - soil	0.12	default
C_w	Concentration of lead in groundwater (ug/L)	15	Type 1 RRS
I_w	Water intake (L/day)	1	default
A_w	Absolute gastrointestinal absorption - water	0.2	default
Cs	Target Soil Concetration (mg/Kg)	929.77	Calculated

Appendix 5 – Summary of Services and Professional Hours

Bright Hour Trust Property
340 Armour Drive
Atlanta, Fulton County, Georgia 30324
SEA Job #152-079
HSI# 10894

Summary of Activities and Professional Hours
2nd Semi-Annual Progress Report - July 2018

Activity	Professional Hours
Meetings and Site Visits	18
RRS Calculations	32
Semi-Annual Report Preparation	8