OHI Engineering, Inc.
Engineers & Environmental Scientists

IMMEDIATE RESPONSE ACTION PLAN

20 KRASEMAN STREET
DARTMOUTH, MASSACHUSETTS 02748
RTN 4-27576

Prepared for:

ROCKWOOD PROPERTIES, LLC
286 UNION STREET
NEW BEDFORD, MA 02740

Prepared by:

OHI ENGINEERING, INC.
44 WOOD AVENUE
MANSFIELD, MA 02048
508-339-3929
508-339-3140 (FAX)

OHI PROJECT # 19-1925

Report Date:

JANUARY 18, 2019

January 18, 2019

MassDEP – BWSC
20 Riverside Drive
Lakeville, MA 02347

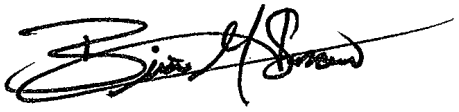
Re: Immediate Response Action (IRA) Plan
20 Kraseman Street
Dartmouth, MA 02748
RTN 4-27576

To Whom It May Concern:

On behalf of Rockwood Properties LLC, the property owner, OHI Engineering, Inc. (OHI) is forwarding the enclosed IRA Plan for detected concentrations of polychlorinated biphenyls (PCBs) that may be present in surface soil and may pose a potential Imminent Hazard (IH) tracked under Release Tracking Number (RTN) 4-27576 at the property known as 20 Kraseman Street, in Dartmouth, Massachusetts.

Sincerely,

OHI ENGINEERING, INC.



Brian G. Snow, P.G., LSP, LEP
Senior Project Manager

James R. Borrebach, P.E., L.S.P.
Principal

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1.0 SUMMARY

1.1 Purpose

In accordance with the requirements of 310 CMR 40.0424 of the Massachusetts Contingency Plan (MCP) Rockwood Properties, LLC (Rockwood) and OHI Engineering, Inc. (OHI) are submitting this Immediate Response Action (IRA) Plan for detected concentrations of polychlorinated biphenyls (PCBs) that may be present in surface soil and may pose a potential Imminent Hazard (IH) tracked under Release Tracking Number (RTN) 4-27576 at the property known as 20 Kraseman Street, in Dartmouth, Massachusetts 02748 (the "Site"), see **Figure 1 – Site Locus**. The release is located at 41º 37' 00.120" North and 70º 56' 25.198" West or UTM coordinates 4609047 mN and 338126 mE.

At approximately 3:34 PM on December 3, 2018, the Massachusetts Department of Environmental Protection (MassDEP) was orally notified of a detection of PCBs in Site soil, which could pose an IH condition, and represented a 2-hour reporting condition. MassDEP issued Release Tracking Number (RTN) 4-27576.

The Immediate Response Action Transmittal Form (BWSC-105) is being submitted concurrently with Release Notification and Retraction Form (BWSC-103) and this report electronically via eDEP.

1.2 Reason for Immediate Response Action

The IRA is being conducted to address detected concentrations of PCBs, metals and Polycyclic Aromatic Hydrocarbons (PAHs) in Urban Ash Fill observed at the Site to depths of approximately 4.5 feet. This IRA Plan has been prepared to: (1) document activities performed to date; and, (2) describe additional IRA activities to be conducted.

1.3 Background

Based discussions with representatives of Rockwood Properties, LLC (Rockwood) in late 2018 2018 MassDEP and the Dartmouth Board of Health (BOH) were walking the neighborhood during a Site visit of another property in the vicinity. BOH and MassDEP were investigating fill material consistent with urban ash fill material including drums at 85 McCabe Street (RTN 4-27363) discovered during the demolition and earthwork for the replacement of a single-family residence. Rockwood is not, nor has ever been an owner or operator of the 85 McCabe property. MassDEP was concerned that the surrounding area may have once been used as a landfill. MassDEP observed urban ash fill materials on 20 Kraseman and on 21 Kraseman and 31 McCabe Street, which are owned by Mason Realty & Development, LLC (Mason) MassDEP requested that Rockwood and Mason test the observed fill materials. Rockwood and Mason contracted East Coast Engineering, Inc. (East Coast) to characterize the urban ash fill soil. A brief summary of data collected by East Coast is outlined below.

OHI was contracted by Rockwood on January 16, 2019; evaluation of East Coast's data is

ongoing. As of the date of this IRA Plan,test pit and sampling logs were not available and received tables were labeled as draft. A complete review and tabulation of the Laboratory Reports was not complete at the time of this report. Further information and evaluation of these items may change the recommended actions.

Based on available draft information compiled by East Coast soil samples were collected as follows:

20 Kraseman Street:

- Soil Sample S-1 (0-3 ft) 11/19/2018
  - Volatile Organic Compounds (VOCs)
  - Semi-Volatile Organic Compounds (SVOCs)
  - RCRA-8 Metals
  - Toxicity Characteristic Leaching Procedure (TCLP) lead
  - Polychlorinated biphenyls (PCBs)
- Soil Sample S-1 (3-4 ft) 11/19/2018
  - RCRA-8 Metals
- Soil Sample S-2 (0-3 ft) 11/19/2018
  - VOCs
  - SVOCs
  - RCRA-8 Metals
  - TCLP lead
  - PCBs
- Soil Sample Composite S1 (0-3 ft)/S2 (0-3 ft) 11/19/2018
  - PCBs
  - Total Petroleum Hydrocarbons (TPH)

Reported detections of PCBs are above MassDEP Reportable Concentrations. The detection of PCBs at concentrations greater than 10 milligrams per kilogram (mg/kg) within 12 inches of the surface may represent a two-hour reporting condition to MassDEP as a potential Imminent Hazard (IH). MassDEP was notified by East Coast on December 3, 2018. MassDEP imposed an interim deadline of January 18, 2019 for the receipt of an Immediate Response Action (IRA) Plan and requested the lot be fenced. The lot was fenced in December 2018. The sampling procedures used do not differentiate concentrations of contaminants in the top 12 inches and therefore samples collected from 0-3 feet were used by East Coast to trigger the reporting requirement. The results of laboratory are included in the Laboratory Reports included as **Appendix A**. Tabulated data will be included in the IRA Status Report.

Based on OHI's preliminary review of the data, the urban ash fill is characterized by metals concentrations consistent with published background values for Urban Ash Fill. The majority of detected metals concentrations suggest metals and polycyclic aromatic hydrocarbons (PAHs) are likely exempt from reporting as due to the presence of coal, coal ash and/or wood ash. Further evaluation of existing and new site data is necessary to determine the applicability of potential exemptions and local background conditions.

Based on the limited sampling data from the property, the Disposal Site with respect to the PCB detections is currently limited to the 20 Krasemen Street.

OHI visited the Site with Rockwood on January 10, 2019. Based on observations of surrounding properties and neighborhood, the geomorphology of the area suggests a former wetland area was filled to create the neighborhoods along and around McCabe and Kraseman Streets. West of the Site and west of Grant Street, Kraseman Street terminates and restarts several times as one progresses west to Rockdale Heights and Buttonwood Brook to the west. At each of these breaks in the street, a wooded strip with characteristics of a wetland exists.

Fill material observed by OHI is typical of Urban Ash fill material. Ash, slag, brick, and glass bottles were observed in the fill material. According to Rockwood, the Urban Ash fill material extends to a depth of approximately 4.5 feet in the Site vicinity. Based on observations of surrounding properties, Urban Ash Fill material may extend throughout the surrounding area and properties.

During OHI's visit to the Site, 20 Kraseman was fenced. Based on discussions with Mr. Medeiros, MassDEP has inspected the fence and indicated it was adequate to mitigate the potential IH condition. MassDEP (see below) indicated the construction fencing was adequate in the short term to satisfy as a mitigation measure for the potential IH.

OHI contacted Andrew Jones at MassDEP on January 14, 2019 for a summary of events that lead to the sampling and reporting. Mr. Jones indicated MassDEP was contacted by the BOH to review Site conditions at 85 McCabe (now RTN 4-27363) as a result of buried waste including drums discovered in the summer of 2018. BOH also noted uncovering several newspaper (Standard Times) articles from 1939 noting dumping in the McCabe Street area. Copies of these articles are included as **Appendix B**. MassDEP walked the surrounding neighborhoods and observed site preparation activities at the subject parcels. MassDEP requested sampling of soil at the subject parcels.

MassDEP and BOH are currently formulating an investigation plan for the surrounding neighborhood to determine potential issues in the area as a whole. MassDEP has asked the United States Environmental Protection Agency (EPA) for support and assistance with these assessment activities. MassDEP is mobilizing to sample several drinking water wells in and around East Wordell Street. MassDEP and BOH are also in the process of sending Requests for Information (RFIs) to the City of New Bedford Public Works Department to determine if records of filling are available.

OHI conducted preliminary research of the Registry of Deeds Bristol South electronic records. Based on OHI's experience with other Sites in the New Bedford area, these records are useful to document the timeframe of subdivisions and developments in the area. Historic filling activities similar to these normally precede and/or coincide with subdivisions and/or development. Based on plans available from the Registry of Deeds, house lots were divided for 20 and 21 Kraseman

Street and the Rockdale Avenue end of Kraseman were laid out in a Plan of Land, December 7, 1922. A Plan and Profile for Sewer McCabe Street from Rockdale Ave. Westerly 475', 1923 was also available. Additional plans show sidewalks added to McCabe Street in or around 1955. These maps suggest filling of the subject properties occurred before or in the period around the 1920s assuming (consistent with practices of the time) sidewalks were added when established houses were already present. A plan from August 8, 1955 shows residential structures on lots on Kraseman Street. The Laurel Park Plan House Lots from August 1909 shows lot layouts west of Grant Street. Copies of several of these maps are included in **Appendix C**. While not the focus of this assessment, similar development maps were viewed on line at the Registry of Deeds for the neighborhoods to the west.

1.4 Site Address

The Site address is:

20 Kraseman Street
Dartmouth, MA 02748

The Site location is illustrated on **Figure 1 – Site Locus Map**.

1.5 Contact Information

The entity conducting the IRA is:

Rockwood Properties , LLC
Mr. Kevin Medeiros, Managing Member
286 Union Street
New Bedford, MA 02740
(508) 294-3472

The Licensed Site Professional is:

Brian G. Snow, P.G., LSP, LEP
OHI Engineering, Inc.
44 Wood Avenue
Mansfield, MA 02048
(508) 339-3929

2.0 RELEASE DESCRIPTION & PROPERTY CHARACTERISTICS

2.1 Release Description

On December 3, 2018, soil sampling data collected by East Coast at the Site was received and reviewed. The detections of PCBs which may be in surface soil constituted a potential IH condition. Christine LeBlanc of East Coast, verbally notified the MassDEP of a potential IH condition at the Site. The nature of the PCBs at the Site appears to be related to Urban Ash Fill identified at the Site and surrounding neighborhoods. Key features of the property are shown on the figure in **Appendix D**.

PCBs identified as Aroclor 1254 was detected in soil sample S1 (0-3ft.) at 25.9 Milligrams per Kilogram (mg/kg), in soil sample S2 (0-3ft.) at 40.7 mg/kg. PAHs and lead were also detected in excess of their respective RCS-1Reportable Concentrations. Given the nature of the Urban Ash Fill in the Site vicinity, these detections may be exempt from reporting and/or may represent regional background concentrations. They are included in the Release Notification Form; however, these compounds may be exempted in later filings after the nature and extent of impacts is better understood.

2.2 Property Characteristics

2.2.1 Property Description

Parcel identification from the City of Dartmouth Assessor was not immediately identifiable for the property and data is not current. The lot is currently owned by Rockwood.

The Site consists of approximately 8,300 square feet in one parcel located in a predominantly residential area of Dartmouth and is surrounded by residential properties. The Site is located on the South side of Kraseman Street. The Property is zoned as GR (residential) in Dartmouth, Massachusetts. A USGS topographical site locus is provided as **Figure 1**. A MassDEP Phase I Site Assessment Map is provided as **Figure 2**.

2.2.2 Current Uses of the Property

The construction of a single-family home is nearing completion. The Site is currently not occupied and is surrounded by fencing.

2.2.3 Owners and Occupants of the Property

The property is currently owned by the Rockwood.

2.2.4 Current Status of Property Vicinity

Properties in the immediate vicinity of the Site were visually examined from curbside and are all residential. The Site is surrounded as follows:

North – Kraseman Street and residential properties. Urban Ash Fill was observed in surface soil at 23 Kraseman Street across the Street from the Site. See Photos in **Appendix E**.

South – Urban Ash fill was observed at 29 and 31 McCabe Street properties. Soil samples by East Coast on this parcel did not identify PCBs at concentrations in excess of RCS-1. Urban Ash Fill was observed in the gardens of other residential properties on McCabe Street south of the Site. Based on conversations with MassDEP, private drinking water wells may be located southwest of the Site on East Wordell Street. As of the time of this report, OHI has not confirmed this information or located the wells.

East – Residences along Kraseman Street and Rockdale Avenue further east.

West – Single-family residences. Soil samples by East Coast on this parcel did not identify PCBs at concentrations in excess of RCS-1. Residential properties continue to the west and Grant Street beyond.

2.2.5 Soil and Groundwater Categories

2.2.5.1 Soil Categories

Currently the Site is under construction and fenced. Residential lots abut the Site and residential use is expected to return. Thereto; soil within three feet of the surface at the Site meets the criteria established for Soil Category S-1 as outlined in 310 CMR 40.0933 and as shown on Table 40.0933(9). RCS-1 applies to the Site

2.2.5.2 Groundwater Categories

Based on discussions with Rockwood, groundwater is encountered in shallow excavations at the Site and is anticipated to be less than five feet from surface grade. GW-2 applies to the Site. Groundwater at the Property meets the criteria for categorization as GW-3. The location of private wells has not been established at the time of this report. GW-1 will be applied to the Site until the location of potential wells can be verified. According to the DEP GIS map, drinking water supply wells are not located in the vicinity.

3.0 IRA ACTIVITIES COMPLETED TO DATE

An assessment only IRA Plan was initiated in December 2019 by East Coast. The data is discussed above. OHI is in the process of reviewing this data. Rockwood fenced the property in December 2018. MassDEP inspected the fencing and accepted the fencing as a means for restricting access to the Site with respect to the potential IH condition. OHI also inspected the fence on January 10, 2019 and it remains in good condition.

4.0 PROPOSED IMMEDIATE RESPONSE ACTIONS

4.1 Description of Proposed IRA

4.1.1 Investigation and Sampling

OHI intends to collect soil samples from the surface to 12 inches below grade for analysis of PCBs to determine if the potential IH conditions exist. Previous samples were collected from 0-3 feet. Soil samples will also be collected at various depths from the Site for analysis of PCBs, RCRA-8 Metals, lead, and Extractable Petroleum Hydrocarbons (EPH) with target analytes. The purpose of the sampling is to characterize the Urban Ash Fill at the property. As Rockwood did not cause or contribute to a release at the Site, they are an Eligible Person. To date, all lines of evidence suggest Urban Ash Fill was deposited over a wide area in the neighborhoods in the Site vicinity. Based on Registry of Deeds documents, it appears that the fill material was in place at all of these properties prior to the 1950's. Due to the unlikelihood of migration of contaminants from the property, off-property sampling is not proposed. OHI is in the process of identifying historical information that may date the bottles and bricks observed in the fill material.

OHI will also review publicly available data from the surrounding area that may identify the nature of fill material.

4.1.2 Excavation

Currently, excavation is not expected. However, as the property is under development as a single-family residence, OHI has included the excavation and off-site removal of up to 250 cubic yards of impacted soil to a proper disposal facility. This is included as an option to facilitate the installation of further structures (stairs, decks, etc.) in the event that removal of this material is needed.

4.2 Schedule

Soil sampling is expected in January 2019. The results/status of the proposed IRA activities described above will be included in the IRA Status Report #1, which is due for submittal to the MassDEP on or before April 2, 2019.

5.0 EVALUATION OF POTENTIAL SRM/CEP/IH CONDITIONS

Preliminary evaluations indicate that a potential IH condition may be present as a result of detections of PCBs (40.7 mg/kg) in soil at depths of 0-3 feet. The Site is now currently fenced. Further sampling of surface soil is being conducted to determine if these concentrations are present in the top 12 inches of soil at the Site. VOCs were not detected and the nature of Urban Ash Fill at the site suggest migration and/or groundwater impacts are not anticipated. Therefore, by definition under the MCP, a condition of SRM does not exist at the Site.

Ingestion, dermal absorption, or inhalation from drinking water do not appear to be potential CEPs at this time.

OHI will continue to evaluate the status of and the potential for SRM/CEP/IH conditions at the Site during on-going IRA activities. The results of these evaluations will be conveyed to MassDEP rapidly if potential CEP, SRM or IH conditions are indicated.

6.0 REMEDIAL WASTE

No remedial waste has been generated at the Site to date. Remediation waste including oil-impacted soil and debris will be removed from the Site under a Bill of Lading, Hazardous Waste Manifest, or other appropriate tracking forms.

7.0 ENVIRONMENTAL MONITORING PLAN, REQUIRED PERMITS & NOTICES

No other permits or notices are required.

OHI Engineering, Inc.
Engineers and Environmental Scientists

FIGURES

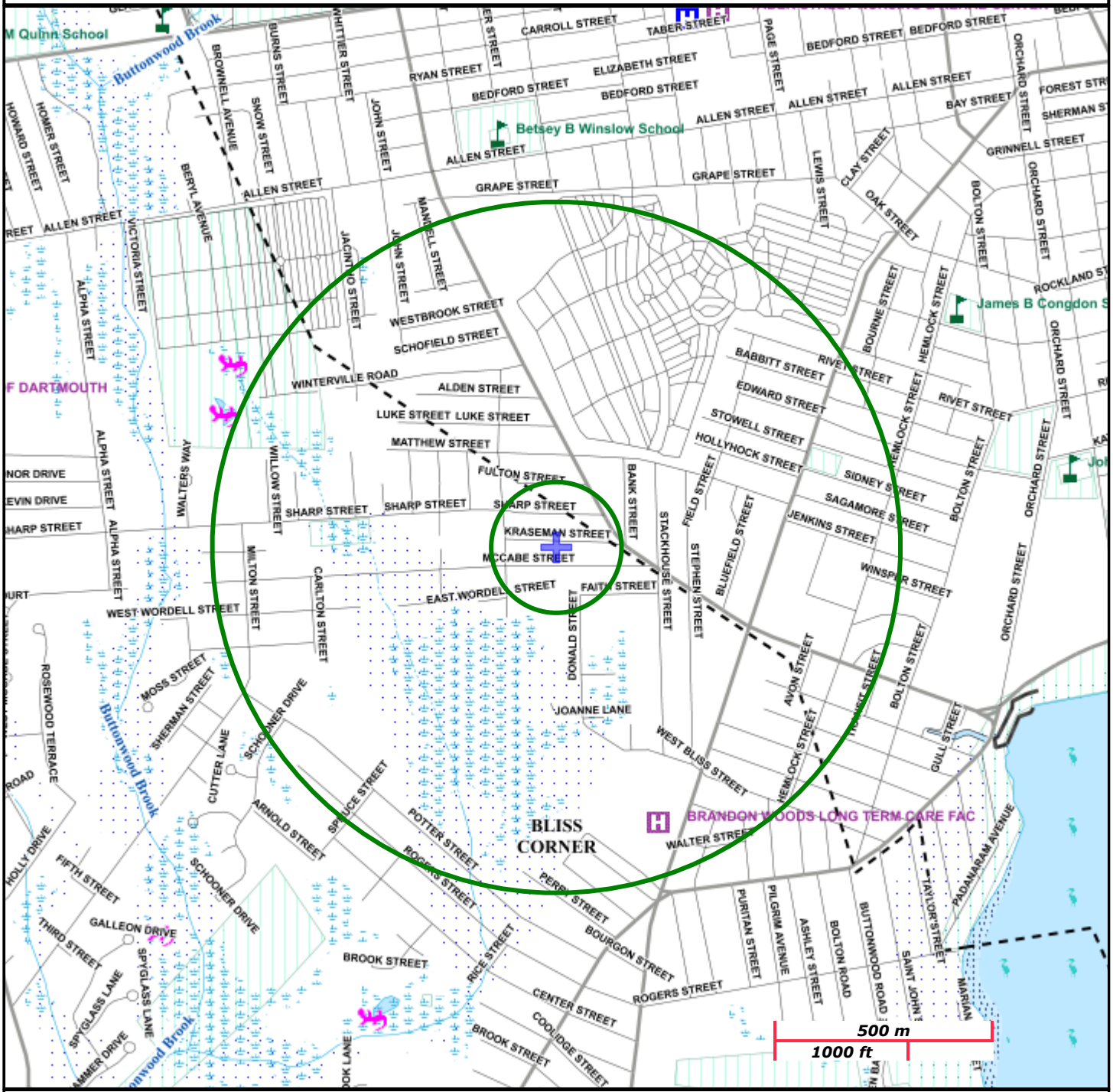
MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
20 KRASEMAN STREET
20 KRASEMAN STREET DARTMOUTH, MA
4-000027576
NAD83 UTM Meters:
4609047mN , 338126mE (Zone: 19)
January 18, 2019

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

OHI Engineering, Inc.
Engineers and Environmental Scientists

APPENDIX A

Laboratory Reports

CERTIFICATE OF ANALYSIS

Christine LeBlanc
East Coast Engineering
147 Bakerville Road
Dartmouth, MA 02748

RE: Rockwood Homes (N/A)
ESS Laboratory Work Order Number: 1811485

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 6:14 pm, Dec 07, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

SAMPLE RECEIPT

The following samples were received on November 19, 2018 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Low Level VOA vials were frozen by ESS Laboratory on November 19, 2018 at 21:47.

Question I: All samples for EPH and Metals were analyzed for a subset of the required MCP list per the client's request.

Revision 1 December 7, 2018: This report has been revised to include full list SVOA per client request.

Lab Number	Sample Name	Matrix	Analysis
1811485-01	S1 0-3ft 0 Kraseman	Soil	1311, 1311/6010C, 6010C, 7471B, 8260B Low, 8270D
1811485-02	S1 3-4ft 0 Kraseman	Soil	6010C, 7471B, 8260B Low
1811485-03	S2 0-3ft 0 Kraseman	Soil	1311, 1311/6010C, 6010C, 7471B, 8270D
1811485-04	Trip Blank	Solid	8260B Low
1811485-05	Composite S1 0-3ft S2 0-3ft	Soil	8082A, 8100M

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

C8K0358-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
1,4-Dioxane (26% @ 20%), 2-Butanone (21% @ 20%), 4-Methyl-2-Pentanone (24% @ 20%), Acetone (34% @ 20%), Bromomethane (22% @ 20%), Tetrahydrofuran (28% @ 20%)

8082A Polychlorinated Biphenyls (PCB)

1811485-05 **Elevated Method Reporting Limits due to sample matrix (EL).**

1811485-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

8270D Semi-Volatile Organic Compounds

C8K0331-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (125% @ 80-120%), Pentachlorophenol (106% @ 80-120%)

C8K0331-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
2,4-Dinitrophenol (25% @ 20%), 4-Nitrophenol (21% @ 20%)

C8K0362-CCV1 **Analyte does not meet the Relative Response Factor (RRF) criteria in the calibration**
2,4-Dinitrophenol (136% @ 80-120%)

C8K0362-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (136% @ 80-120%), Pentachlorophenol (117% @ 80-120%)

C8K0362-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
2,4-Dinitrophenol (36% @ 20%)

C8K0362-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
4-Chloroaniline (26% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1811485-01 through 1811485-05**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for '"Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes ( ) No (X)*
	***Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: November 29, 2018

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**12.5** (2.90)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031
Barium	**122** (2.90)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031
Cadmium	**0.61** (0.58)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031
Chromium	**7.25** (1.16)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031
Lead	**139** (5.81)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031
Mercury	**0.211** (0.022)		7471B		1	MJV	11/21/18 17:57	1.26	40	CK82032
Selenium	ND (5.81)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031
Silver	ND (0.58)		6010C		1	KJK	11/21/18 3:28	2.41	100	CK82031

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 1311

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	ND (0.050)		1311/6010C		1	KJK	11/28/18 3:31	50	50	CK82741

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 9.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,1,2,2-Tetrachloroethane	ND (0.0015)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2,4-Trimethylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
1,4-Dioxane	ND (0.0745)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
2-Butanone	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
2-Chlorotoluene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
2-Hexanone	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
4-Chlorotoluene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
4-Methyl-2-Pentanone	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Acetone	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Benzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Bromobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Bromochloromethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 9.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Bromoform	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Bromomethane	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Carbon Disulfide	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Chlorobenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Chloroethane	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Chloroform	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Chloromethane	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Dibromochloromethane	ND (0.0015)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Dibromomethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Dichlorodifluoromethane	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Diethyl Ether	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Di-isopropyl ether	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Ethylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Isopropylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Methylene Chloride	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Naphthalene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
n-Butylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
n-Propylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
sec-Butylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Styrene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
tert-Butylbenzene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Tetrachloroethene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Tetrahydrofuran	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Toluene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 9.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Trichloroethene	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Vinyl Chloride	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Xylene O	ND (0.0037)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Xylene P,M	ND (0.0074)		8260B Low		1	11/20/18 18:32	C8K0358	CK82009
Xylenes (Total)	ND (0.0074)		8260B Low		1	11/20/18 18:32		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*123 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*79 %*		*70-130*
Surrogate: Dibromofluoromethane	*119 %*		*70-130*
Surrogate: Toluene-d8	*105 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/20/18 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
1,2-Dichlorobenzene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
1,3-Dichlorobenzene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
1,4-Dichlorobenzene	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,4,5-Trichlorophenol	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,4,6-Trichlorophenol	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,4-Dichlorophenol	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,4-Dimethylphenol	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,4-Dinitrophenol	ND (1.82)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,4-Dinitrotoluene	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2,6-Dinitrotoluene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2-Chloronaphthalene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2-Chlorophenol	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2-Methylnaphthalene	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2-Methylphenol	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
2-Nitrophenol	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
3,3′-Dichlorobenzidine	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
3+4-Methylphenol	ND (1.82)		8270D		2	11/20/18 19:43	C8K0362	CK81914
4-Bromophenyl-phenylether	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
4-Chloroaniline	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
4-Nitrophenol	ND (4.55)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Acenaphthene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Acenaphthylene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Acetophenone	ND (1.82)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Aniline	ND (4.55)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Anthracene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Azobenzene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Benzo(a)anthracene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Benzo(a)pyrene	**0.628** (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Benzo(b)fluoranthene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Benzo(g,h,i)perylene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Benzo(k)fluoranthene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/20/18 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
bis(2-Chloroethyl)ether	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
bis(2-chloroisopropyl)Ether	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
bis(2-Ethylhexyl)phthalate	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Butylbenzylphthalate	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Carbazole	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Chrysene	**0.492** (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Dibenzo(a,h)Anthracene	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Dibenzofuran	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Diethylphthalate	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Dimethylphthalate	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Di-n-butylphthalate	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Di-n-octylphthalate	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Fluoranthene	**0.973** (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Fluorene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Hexachlorobenzene	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Hexachlorobutadiene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Hexachloroethane	ND (0.455)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Indeno(1,2,3-cd)Pyrene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Isophorone	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Naphthalene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Nitrobenzene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
N-Nitrosodimethylamine	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Pentachlorophenol	ND (1.82)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Phenanthrene	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Phenol	ND (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Pyrene	**1.32** (0.908)		8270D		2	11/20/18 19:43	C8K0362	CK81914
Pyridine	ND (4.55)		8270D		2	11/20/18 19:43	C8K0362	CK81914

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*60 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/20/18 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Chlorophenol-d4		*47 %*		*30-130*				
Surrogate: 2-Fluorobiphenyl		*52 %*		*30-130*				
Surrogate: 2-Fluorophenol		*45 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*41 %*		*30-130*				
Surrogate: Phenol-d6		*49 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*70 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 71
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-01
Sample Matrix: Soil
Units: °C
Analyst: NAR
Prepared: 11/26/18 11:40

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.4** (N/A)		1311		1	NAR	11/27/18 6:10	CK82128
Temperature (Max C)	**21.1** (N/A)		1311		1	NAR	11/27/18 6:10	CK82128
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 3-4ft 0 Kraseman
Date Sampled: 11/19/18 11:30
Percent Solids: 88

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (2.21)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031
Barium	**9.82** (2.21)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031
Cadmium	ND (0.44)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031
Chromium	**4.65** (0.89)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031
Lead	ND (4.43)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031
Mercury	ND (0.029)		7471B		1	MJV	11/21/18 17:59	0.77	40	CK82032
Selenium	ND (4.43)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031
Silver	ND (0.44)		6010C		1	KJK	11/21/18 3:33	2.56	100	CK82031

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 3-4ft 0 Kraseman
Date Sampled: 11/19/18 11:30
Percent Solids: 88
Initial Volume: 9.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,1,1-Trichloroethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,1,2,2-Tetrachloroethane	ND (0.0012)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,1,2-Trichloroethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,1-Dichloroethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,1-Dichloroethene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,1-Dichloropropene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2,3-Trichlorobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2,3-Trichloropropane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2,4-Trichlorobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2,4-Trimethylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2-Dibromo-3-Chloropropane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2-Dibromoethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2-Dichlorobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2-Dichloroethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,2-Dichloropropane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,3,5-Trimethylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,3-Dichlorobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,3-Dichloropropane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,4-Dichlorobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
1,4-Dioxane	ND (0.0584)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
2,2-Dichloropropane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
2-Butanone	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
2-Chlorotoluene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
2-Hexanone	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
4-Chlorotoluene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
4-Isopropyltoluene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
4-Methyl-2-Pentanone	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Acetone	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Benzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Bromobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Bromochloromethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 3-4ft 0 Kraseman
Date Sampled: 11/19/18 11:30
Percent Solids: 88
Initial Volume: 9.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Bromoform	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Bromomethane	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Carbon Disulfide	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Carbon Tetrachloride	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Chlorobenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Chloroethane	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Chloroform	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Chloromethane	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
cis-1,2-Dichloroethene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
cis-1,3-Dichloropropene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Dibromochloromethane	ND (0.0012)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Dibromomethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Dichlorodifluoromethane	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Diethyl Ether	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Di-isopropyl ether	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Ethyl tertiary-butyl ether	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Ethylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Hexachlorobutadiene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Isopropylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Methyl tert-Butyl Ether	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Methylene Chloride	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Naphthalene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
n-Butylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
n-Propylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
sec-Butylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Styrene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
tert-Butylbenzene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Tertiary-amyl methyl ether	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Tetrachloroethene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Tetrahydrofuran	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Toluene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 3-4ft 0 Kraseman
Date Sampled: 11/19/18 11:30
Percent Solids: 88
Initial Volume: 9.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
trans-1,3-Dichloropropene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Trichloroethene	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Trichlorofluoromethane	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Vinyl Chloride	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Xylene O	ND (0.0029)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Xylene P,M	ND (0.0058)		8260B Low		1	11/20/18 18:06	C8K0358	CK82009
Xylenes (Total)	ND (0.0058)		8260B Low		1	11/20/18 18:06		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*119 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*115 %*		*70-130*
Surrogate: Toluene-d8	*93 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:00
Percent Solids: 76

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**3.51** (2.87)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031
Barium	**72.3** (2.87)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031
Cadmium	**0.87** (0.57)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031
Chromium	**6.50** (1.15)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031
Lead	**151** (5.74)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031
Mercury	**0.137** (0.025)		7471B		1	MJV	11/21/18 18:01	1.05	40	CK82032
Selenium	ND (5.74)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031
Silver	**0.59** (0.57)		6010C		1	KJK	11/21/18 3:37	2.28	100	CK82031

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:00
Percent Solids: 76

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-03
Sample Matrix: Soil
Units: mg/L

Extraction Method: 1311

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.057** (0.050)		1311/6010C		1	KJK	11/28/18 3:35	50	50	CK82741

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:00
Percent Solids: 76
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/20/18 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
1,2-Dichlorobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
1,3-Dichlorobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
1,4-Dichlorobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,4,5-Trichlorophenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,4,6-Trichlorophenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,4-Dichlorophenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,4-Dimethylphenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,4-Dinitrophenol	ND (2.10)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,4-Dinitrotoluene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2,6-Dinitrotoluene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2-Chloronaphthalene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2-Chlorophenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2-Methylnaphthalene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2-Methylphenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
2-Nitrophenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
3,3′-Dichlorobenzidine	ND (0.839)		8270D		1	11/20/18 18:33	C8K0362	CK81914
3+4-Methylphenol	ND (0.839)		8270D		1	11/20/18 18:33	C8K0362	CK81914
4-Bromophenyl-phenylether	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
4-Chloroaniline	ND (0.839)		8270D		1	11/20/18 18:33	C8K0362	CK81914
4-Nitrophenol	ND (2.10)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Acenaphthene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Acenaphthylene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Acetophenone	ND (0.839)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Aniline	ND (2.10)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Anthracene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Azobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Benzo(a)anthracene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Benzo(a)pyrene	**0.253** (0.210)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Benzo(b)fluoranthene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Benzo(g,h,i)perylene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Benzo(k)fluoranthene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:00
Percent Solids: 76
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/20/18 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
bis(2-Chloroethyl)ether	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
bis(2-chloroisopropyl)Ether	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
bis(2-Ethylhexyl)phthalate	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Butylbenzylphthalate	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Carbazole	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Chrysene	**0.225** (0.210)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Dibenzo(a,h)Anthracene	ND (0.210)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Dibenzofuran	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Diethylphthalate	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Dimethylphthalate	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Di-n-butylphthalate	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Di-n-octylphthalate	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Fluoranthene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Fluorene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Hexachlorobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Hexachlorobutadiene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Hexachloroethane	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Indeno(1,2,3-cd)Pyrene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Isophorone	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Naphthalene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Nitrobenzene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
N-Nitrosodimethylamine	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Pentachlorophenol	ND (2.10)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Phenanthrene	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Phenol	ND (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Pyrene	**0.596** (0.419)		8270D		1	11/20/18 18:33	C8K0362	CK81914
Pyridine	ND (2.10)		8270D		1	11/20/18 18:33	C8K0362	CK81914

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*82 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:00
Percent Solids: 76
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/20/18 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Chlorophenol-d4		*90 %*		*30-130*				
Surrogate: 2-Fluorobiphenyl		*82 %*		*30-130*				
Surrogate: 2-Fluorophenol		*90 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*78 %*		*30-130*				
Surrogate: Phenol-d6		*97 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*101 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3ft 0 Kraseman
Date Sampled: 11/19/18 11:00
Percent Solids: 76
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-03
Sample Matrix: Soil
Units: °C
Analyst: NAR
Prepared: 11/26/18 11:40

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.4** (N/A)		1311		1	NAR	11/27/18 6:10	CK82128
Temperature (Max C)	**21.1** (N/A)		1311		1	NAR	11/27/18 6:10	CK82128
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Trip Blank
Date Sampled: 11/19/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-04
Sample Matrix: Solid
Units: mg/kg
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,1,1-Trichloroethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,1,2,2-Tetrachloroethane	ND (0.0020)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,1,2-Trichloroethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,1-Dichloroethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,1-Dichloroethene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,1-Dichloropropene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2,3-Trichlorobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2,3-Trichloropropane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2,4-Trichlorobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2,4-Trimethylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2-Dibromoethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2-Dichlorobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2-Dichloroethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,2-Dichloropropane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,3,5-Trimethylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,3-Dichlorobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,3-Dichloropropane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,4-Dichlorobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
1,4-Dioxane	ND (0.100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
2,2-Dichloropropane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
2-Butanone	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
2-Chlorotoluene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
2-Hexanone	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
4-Chlorotoluene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
4-Isopropyltoluene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
4-Methyl-2-Pentanone	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Acetone	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Benzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Bromobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Bromochloromethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Trip Blank
Date Sampled: 11/19/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-04
Sample Matrix: Solid
Units: mg/kg
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Bromoform	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Bromomethane	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Carbon Disulfide	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Carbon Tetrachloride	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Chlorobenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Chloroethane	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Chloroform	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Chloromethane	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
cis-1,2-Dichloroethene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
cis-1,3-Dichloropropene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Dibromochloromethane	ND (0.0020)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Dibromomethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Dichlorodifluoromethane	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Diethyl Ether	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Di-isopropyl ether	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Ethyl tertiary-butyl ether	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Ethylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Hexachlorobutadiene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Isopropylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Methyl tert-Butyl Ether	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Methylene Chloride	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Naphthalene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
n-Butylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
n-Propylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
sec-Butylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Styrene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
tert-Butylbenzene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Tertiary-amyl methyl ether	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Tetrachloroethene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Tetrahydrofuran	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Toluene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Trip Blank
Date Sampled: 11/19/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-04
Sample Matrix: Solid
Units: mg/kg
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
trans-1,3-Dichloropropene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Trichloroethene	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Trichlorofluoromethane	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Vinyl Chloride	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Xylene O	ND (0.0050)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Xylene P,M	ND (0.0100)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009
Xylenes (Total)	ND (0.0075)		8260B Low		1	11/20/18 13:50	C8K0358	CK82009

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*113 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*109 %*		*70-130*
Surrogate: Toluene-d8	*94 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Composite S1 0-3ft S2 0-3ft
Date Sampled: 11/19/18 11:56
Percent Solids: 83
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 11/21/18 18:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1221	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1232	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1242	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1248	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1254 [2C]	**15.4** (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1260	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1262	ND (1.2)		8082A		20	11/27/18 10:22		CK82107
Aroclor 1268	ND (1.2)		8082A		20	11/27/18 10:22		CK82107

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Composite S1 0-3ft S2 0-3ft
Date Sampled: 11/19/18 11:56
Percent Solids: 83
Initial Volume: 20.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1811485
ESS Laboratory Sample ID: 1811485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SMR
Prepared: 11/21/18 13:59

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**52.8** (12.0)		8100M		1	11/22/18 9:40	C8K0391	CK82116

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*82 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CK82031 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	60.3	8.06	mg/kg wet	59.00		102	85-115			
Barium	251	8.06	mg/kg wet	233.0		108	83-116			
Cadmium	87.9	1.61	mg/kg wet	98.70		89	84-116			
Chromium	243	3.23	mg/kg wet	240.0		101	85-115			
Lead	262	16.1	mg/kg wet	276.0		95	84-116			
Selenium	93.6	16.1	mg/kg wet	100.0		94	86-115			
Silver	40.9	1.61	mg/kg wet	39.70		103	81-120			
LCS Dup										
Arsenic	61.8	9.43	mg/kg wet	59.00		105	85-115	3	20	
Barium	246	9.43	mg/kg wet	233.0		106	83-116	2	20	
Cadmium	89.0	1.89	mg/kg wet	98.70		90	84-116	1	20	
Chromium	243	3.77	mg/kg wet	240.0		101	85-115	0.2	20	
Lead	274	18.9	mg/kg wet	276.0		99	84-116	5	20	
Selenium	97.5	18.9	mg/kg wet	100.0		97	86-115	4	20	
Silver	41.2	1.89	mg/kg wet	39.70		104	81-120	0.7	20	
Batch CK82032 - 7471B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	3.09	0.367	mg/kg wet	4.850		64	50-103			
LCS Dup										
Mercury	3.29	0.325	mg/kg wet	4.850		68	50-103	6	20	
1311 TCLP Metals										
Batch CK82741 - 1311										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.478	0.050	mg/L	0.5000		96	80-120			
LCS Dup										
Lead	0.479	0.050	mg/L	0.5000		96	80-120	0.4	20	
5035/8260B Volatile Organic Compounds / Low Level										

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82009 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82009 - 5035										
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0573*		mg/kg wet	*0.05000*		*115*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0474*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0547*		mg/kg wet	*0.05000*		*109*	*70-130*			
Surrogate: Toluene-d8	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
1,1,1-Trichloroethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,1,2,2-Tetrachloroethane	0.0467	0.0020	mg/kg wet	0.05000		93	70-130			
1,1,2-Trichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloroethane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,1-Dichloroethene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,1-Dichloropropene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,3-Trichlorobenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
1,2,3-Trichloropropane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,4-Trichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,4-Trimethylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
1,2-Dibromo-3-Chloropropane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromoethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82009 - 5035										
1,2-Dichlorobenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,3,5-Trimethylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,3-Dichlorobenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
1,3-Dichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
1,4-Dichlorobenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dioxane	1.03	0.100	mg/kg wet	1.000		103	70-130			
2,2-Dichloropropane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
2-Butanone	0.253	0.0100	mg/kg wet	0.2500		101	70-130			
2-Chlorotoluene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
2-Hexanone	0.223	0.0100	mg/kg wet	0.2500		89	70-130			
4-Chlorotoluene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
4-Isopropyltoluene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130			
Acetone	0.254	0.0100	mg/kg wet	0.2500		102	70-130			
Benzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Bromobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
Bromochloromethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Bromodichloromethane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Bromoform	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Bromomethane	0.0553	0.0100	mg/kg wet	0.05000		111	70-130			
Carbon Disulfide	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
Carbon Tetrachloride	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
Chlorobenzene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Chloroethane	0.0509	0.0100	mg/kg wet	0.05000		102	70-130			
Chloroform	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0504	0.0100	mg/kg wet	0.05000		101	70-130			
cis-1,2-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
cis-1,3-Dichloropropene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Dibromochloromethane	0.0401	0.0020	mg/kg wet	0.05000		80	70-130			
Dibromomethane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Dichlorodifluoromethane	0.0566	0.0100	mg/kg wet	0.05000		113	70-130			
Diethyl Ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Di-isopropyl ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Ethyl tertiary-butyl ether	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Ethylbenzene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Hexachlorobutadiene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Isopropylbenzene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
Methyl tert-Butyl Ether	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Methylene Chloride	0.0448	0.0100	mg/kg wet	0.05000		90	70-130			
Naphthalene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
n-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
n-Propylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
sec-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82009 - 5035										
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
tert-Butylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Tertiary-amyl methyl ether	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrachloroethene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Tetrahydrofuran	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
Toluene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
trans-1,2-Dichloroethene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
trans-1,3-Dichloropropene	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
Trichloroethene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Trichlorofluoromethane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Vinyl Chloride	0.0542	0.0100	mg/kg wet	0.05000		108	70-130			
Xylene O	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Xylene P,M	0.0917	0.0100	mg/kg wet	0.1000		92	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0490*		mg/kg wet	*0.05000*		*98*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0514*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	4	20	
1,1,1-Trichloroethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
1,1,2,2-Tetrachloroethane	0.0489	0.0020	mg/kg wet	0.05000		98	70-130	5	20	
1,1,2-Trichloroethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	3	20	
1,1-Dichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	3	20	
1,1-Dichloroethene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
1,1-Dichloropropene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	3	20	
1,2,3-Trichlorobenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
1,2,3-Trichloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
1,2,4-Trichlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
1,2,4-Trimethylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
1,2-Dibromo-3-Chloropropane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	9	20	
1,2-Dibromoethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
1,2-Dichlorobenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	7	20	
1,2-Dichloroethane	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
1,2-Dichloropropane	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
1,3,5-Trimethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	7	20	
1,3-Dichlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	9	20	
1,3-Dichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	3	20	
1,4-Dichlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
1,4-Dioxane	1.11	0.100	mg/kg wet	1.000		111	70-130	7	20	
2,2-Dichloropropane	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	2	20	
2-Butanone	0.259	0.0100	mg/kg wet	0.2500		104	70-130	3	20	
2-Chlorotoluene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	5	20	
2-Hexanone	0.231	0.0100	mg/kg wet	0.2500		92	70-130	4	20	
4-Chlorotoluene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
4-Isopropyltoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	7	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82009 - 5035										
4-Methyl-2-Pentanone	0.257	0.0100	mg/kg wet	0.2500		103	70-130	5	20	
Acetone	0.267	0.0100	mg/kg wet	0.2500		107	70-130	5	20	
Benzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Bromobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
Bromochloromethane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
Bromodichloromethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
Bromoform	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	5	20	
Bromomethane	0.0480	0.0100	mg/kg wet	0.05000		96	70-130	14	20	
Carbon Disulfide	0.0542	0.0050	mg/kg wet	0.05000		108	70-130	3	20	
Carbon Tetrachloride	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
Chlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	5	20	
Chloroethane	0.0519	0.0100	mg/kg wet	0.05000		104	70-130	2	20	
Chloroform	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
Chloromethane	0.0506	0.0100	mg/kg wet	0.05000		101	70-130	0.5	20	
cis-1,2-Dichloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
cis-1,3-Dichloropropene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
Dibromochloromethane	0.0426	0.0020	mg/kg wet	0.05000		85	70-130	6	20	
Dibromomethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	5	20	
Dichlorodifluoromethane	0.0573	0.0100	mg/kg wet	0.05000		115	70-130	1	20	
Diethyl Ether	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	3	20	
Di-isopropyl ether	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
Ethyl tertiary-butyl ether	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	4	20	
Ethylbenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	6	20	
Hexachlorobutadiene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	8	20	
Isopropylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
Methyl tert-Butyl Ether	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	4	20	
Methylene Chloride	0.0460	0.0100	mg/kg wet	0.05000		92	70-130	3	20	
Naphthalene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
n-Butylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	7	20	
n-Propylbenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
sec-Butylbenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
Styrene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	7	20	
tert-Butylbenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	7	20	
Tertiary-amyl methyl ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
Tetrachloroethene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	4	20	
Tetrahydrofuran	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	4	20	
Toluene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
trans-1,2-Dichloroethene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
trans-1,3-Dichloropropene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	5	20	
Trichloroethene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	1	20	
Trichlorofluoromethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
Vinyl Chloride	0.0547	0.0100	mg/kg wet	0.05000		109	70-130	1	20	
Xylene O	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	6	20	
Xylene P,M	0.0969	0.0100	mg/kg wet	0.1000		97	70-130	5	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0478*		mg/kg wet	*0.05000*		*96*	*70-130*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82009 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0504*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0463*		mg/kg wet	*0.05000*		*93*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CK82107 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0189*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		81	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		73	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		73	40-140			
Surrogate: Decachlorobiphenyl	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0189*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140	11	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		95	40-140	11	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		82	40-140	11	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CK82107 - 3540C										
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140	12	30	
Surrogate: Decachlorobiphenyl	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch CK82116 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Hexatriacontane (C36)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.02*		mg/kg wet	*5.000*		*80*	*40-140*			
LCS										
Decane (C10)	1.6	0.2	mg/kg wet	2.500		64	40-140			
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		86	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		86	40-140			
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Hexatriacontane (C36)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Nonadecane (C19)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		60	30-140			
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Total Petroleum Hydrocarbons	29.6	10.0	mg/kg wet	35.00		85	40-140			
Triacontane (C30)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Surrogate: O-Terphenyl	*4.20*		mg/kg wet	*5.000*		*84*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CK82116 - 3546										
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		74	40-140	14	25	
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		83	40-140	16	25	
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		92	40-140	7	25	
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		89	40-140	11	25	
Hexatriacontane (C36)	2.5	0.2	mg/kg wet	2.500		99	40-140	5	25	
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		100	40-140	8	25	
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		68	30-140	13	25	
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Octadecane (C18)	2.2	0.2	mg/kg wet	2.500		90	40-140	8	25	
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		93	40-140	7	25	
Tetradecane (C14)	2.1	0.2	mg/kg wet	2.500		85	40-140	12	25	
Total Petroleum Hydrocarbons	32.1	10.0	mg/kg wet	35.00		92	40-140	8	25	
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Surrogate: O-Terphenyl	*4.38*		mg/kg wet	*5.000*		*88*	*40-140*			
8270D Semi-Volatile Organic Compounds										
Batch CK81914 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.167	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.167	mg/kg wet							
2,4-Dichlorophenol	ND	0.167	mg/kg wet							
2,4-Dimethylphenol	ND	0.167	mg/kg wet							
2,4-Dinitrophenol	ND	0.667	mg/kg wet							
2,4-Dinitrotoluene	ND	0.167	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.167	mg/kg wet							
2-Methylnaphthalene	ND	0.167	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.333	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK81914 - 3546										
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.167	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.167	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.167	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.667	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.05*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.29*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.30*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.05*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: 2-Fluorophenol	*3.24*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.31*		mg/kg wet	*3.333*		*69*	*30-130*			
Surrogate: Phenol-d6	*3.59*		mg/kg wet	*5.000*		*72*	*30-130*			

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Client Name: East Coast Engineering
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ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK81914 - 3546										
Surrogate: p-Terphenyl-d14	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.77	0.333	mg/kg wet	3.333		53	40-140			
1,2-Dichlorobenzene	1.72	0.333	mg/kg wet	3.333		52	40-140			
1,3-Dichlorobenzene	1.68	0.333	mg/kg wet	3.333		50	40-140			
1,4-Dichlorobenzene	1.68	0.333	mg/kg wet	3.333		50	40-140			
2,4,5-Trichlorophenol	2.25	0.333	mg/kg wet	3.333		67	30-130			
2,4,6-Trichlorophenol	2.11	0.333	mg/kg wet	3.333		63	30-130			
2,4-Dichlorophenol	2.17	0.333	mg/kg wet	3.333		65	30-130			
2,4-Dimethylphenol	2.16	0.333	mg/kg wet	3.333		65	30-130			
2,4-Dinitrophenol	3.02	0.667	mg/kg wet	3.333		91	30-130			
2,4-Dinitrotoluene	2.59	0.333	mg/kg wet	3.333		78	40-140			
2,6-Dinitrotoluene	2.33	0.333	mg/kg wet	3.333		70	40-140			
2-Chloronaphthalene	1.85	0.333	mg/kg wet	3.333		55	40-140			
2-Chlorophenol	1.92	0.333	mg/kg wet	3.333		58	30-130			
2-Methylnaphthalene	1.98	0.333	mg/kg wet	3.333		59	40-140			
2-Methylphenol	2.06	0.333	mg/kg wet	3.333		62	30-130			
2-Nitrophenol	1.95	0.333	mg/kg wet	3.333		58	30-130			
3,3´-Dichlorobenzidine	2.16	0.333	mg/kg wet	3.333		65	40-140			
3+4-Methylphenol	4.61	0.667	mg/kg wet	6.667		69	30-130			
4-Bromophenyl-phenylether	2.02	0.333	mg/kg wet	3.333		61	40-140			
4-Chloroaniline	1.73	0.333	mg/kg wet	3.333		52	40-140			
4-Nitrophenol	3.01	1.67	mg/kg wet	3.333		90	30-130			
Acenaphthene	2.03	0.333	mg/kg wet	3.333		61	40-140			
Acenaphthylene	1.93	0.333	mg/kg wet	3.333		58	40-140			
Acetophenone	2.41	0.667	mg/kg wet	3.333		72	40-140			
Aniline	1.89	1.67	mg/kg wet	3.333		57	40-140			
Anthracene	2.23	0.333	mg/kg wet	3.333		67	40-140			
Azobenzene	2.27	0.333	mg/kg wet	3.333		68	40-140			
Benzo(a)anthracene	2.26	0.333	mg/kg wet	3.333		68	40-140			
Benzo(a)pyrene	2.26	0.167	mg/kg wet	3.333		68	40-140			
Benzo(b)fluoranthene	2.42	0.333	mg/kg wet	3.333		73	40-140			
Benzo(g,h,i)perylene	2.04	0.333	mg/kg wet	3.333		61	40-140			
Benzo(k)fluoranthene	2.16	0.333	mg/kg wet	3.333		65	40-140			
bis(2-Chloroethoxy)methane	2.02	0.333	mg/kg wet	3.333		61	40-140			
bis(2-Chloroethyl)ether	1.82	0.333	mg/kg wet	3.333		55	40-140			
bis(2-chloroisopropyl)Ether	1.79	0.333	mg/kg wet	3.333		54	40-140			
bis(2-Ethylhexyl)phthalate	2.26	0.333	mg/kg wet	3.333		68	40-140			
Butylbenzylphthalate	2.27	0.333	mg/kg wet	3.333		68	40-140			
Carbazole	2.43	0.333	mg/kg wet	3.333		73	40-140			
Chrysene	2.16	0.167	mg/kg wet	3.333		65	40-140			
Dibenzo(a,h)Anthracene	2.08	0.167	mg/kg wet	3.333		62	40-140			
Dibenzofuran	2.12	0.333	mg/kg wet	3.333		64	40-140			
Diethylphthalate	2.59	0.333	mg/kg wet	3.333		78	40-140			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK81914 - 3546										
Dimethylphthalate	2.29	0.333	mg/kg wet	3.333		69	40-140			
Di-n-butylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140			
Di-n-octylphthalate	2.34	0.333	mg/kg wet	3.333		70	40-140			
Fluoranthene	2.37	0.333	mg/kg wet	3.333		71	40-140			
Fluorene	2.33	0.333	mg/kg wet	3.333		70	40-140			
Hexachlorobenzene	2.05	0.333	mg/kg wet	3.333		61	40-140			
Hexachlorobutadiene	1.78	0.333	mg/kg wet	3.333		53	40-140			
Hexachloroethane	1.75	0.333	mg/kg wet	3.333		53	40-140			
Indeno(1,2,3-cd)Pyrene	2.10	0.333	mg/kg wet	3.333		63	40-140			
Isophorone	2.01	0.333	mg/kg wet	3.333		60	40-140			
Naphthalene	1.86	0.333	mg/kg wet	3.333		56	40-140			
Nitrobenzene	1.99	0.333	mg/kg wet	3.333		60	40-140			
N-Nitrosodimethylamine	1.80	0.333	mg/kg wet	3.333		54	40-140			
Pentachlorophenol	2.53	0.667	mg/kg wet	3.333		76	30-130			
Phenanthrene	2.13	0.333	mg/kg wet	3.333		64	40-140			
Phenol	2.09	0.333	mg/kg wet	3.333		63	30-130			
Pyrene	2.34	0.333	mg/kg wet	3.333		70	40-140			
Pyridine	1.72	1.67	mg/kg wet	3.333		52	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.21*		mg/kg wet	*3.333*		*66*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.05*		mg/kg wet	*5.000*		*81*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.68*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.34*		mg/kg wet	*3.333*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*3.54*		mg/kg wet	*5.000*		*71*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.63*		mg/kg wet	*3.333*		*79*	*30-130*			
Surrogate: Phenol-d6	*3.98*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.67	0.333	mg/kg wet	3.333		50	40-140	6	30	
1,2-Dichlorobenzene	1.68	0.333	mg/kg wet	3.333		50	40-140	2	30	
1,3-Dichlorobenzene	1.67	0.333	mg/kg wet	3.333		50	40-140	0.5	30	
1,4-Dichlorobenzene	1.68	0.333	mg/kg wet	3.333		50	40-140	0.06	30	
2,4,5-Trichlorophenol	2.04	0.333	mg/kg wet	3.333		61	30-130	10	30	
2,4,6-Trichlorophenol	1.94	0.333	mg/kg wet	3.333		58	30-130	8	30	
2,4-Dichlorophenol	1.96	0.333	mg/kg wet	3.333		59	30-130	11	30	
2,4-Dimethylphenol	1.96	0.333	mg/kg wet	3.333		59	30-130	10	30	
2,4-Dinitrophenol	2.75	0.667	mg/kg wet	3.333		83	30-130	9	30	
2,4-Dinitrotoluene	2.39	0.333	mg/kg wet	3.333		72	40-140	8	30	
2,6-Dinitrotoluene	2.11	0.333	mg/kg wet	3.333		63	40-140	10	30	
2-Chloronaphthalene	1.73	0.333	mg/kg wet	3.333		52	40-140	7	30	
2-Chlorophenol	1.80	0.333	mg/kg wet	3.333		54	30-130	6	30	
2-Methylnaphthalene	1.78	0.333	mg/kg wet	3.333		53	40-140	11	30	
2-Methylphenol	1.86	0.333	mg/kg wet	3.333		56	30-130	10	30	
2-Nitrophenol	1.78	0.333	mg/kg wet	3.333		53	30-130	9	30	
3,3´-Dichlorobenzidine	2.14	0.333	mg/kg wet	3.333		64	40-140	0.9	30	
3+4-Methylphenol	4.13	0.667	mg/kg wet	6.667		62	30-130	11	30	

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Client Name: East Coast Engineering
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK81914 - 3546										
4-Bromophenyl-phenylether	1.92	0.333	mg/kg wet	3.333		58	40-140	5	30	
4-Chloroaniline	1.52	0.333	mg/kg wet	3.333		46	40-140	13	30	
4-Nitrophenol	2.76	1.67	mg/kg wet	3.333		83	30-130	8	30	
Acenaphthene	1.85	0.333	mg/kg wet	3.333		56	40-140	9	30	
Acenaphthylene	1.78	0.333	mg/kg wet	3.333		53	40-140	9	30	
Acetophenone	2.20	0.667	mg/kg wet	3.333		66	40-140	9	30	
Aniline	1.72	1.67	mg/kg wet	3.333		52	40-140	9	30	
Anthracene	2.15	0.333	mg/kg wet	3.333		65	40-140	4	30	
Azobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140	4	30	
Benzo(a)anthracene	2.21	0.333	mg/kg wet	3.333		66	40-140	2	30	
Benzo(a)pyrene	2.19	0.167	mg/kg wet	3.333		66	40-140	3	30	
Benzo(b)fluoranthene	2.41	0.333	mg/kg wet	3.333		72	40-140	0.6	30	
Benzo(g,h,i)perylene	2.03	0.333	mg/kg wet	3.333		61	40-140	0.5	30	
Benzo(k)fluoranthene	2.10	0.333	mg/kg wet	3.333		63	40-140	3	30	
bis(2-Chloroethoxy)methane	1.86	0.333	mg/kg wet	3.333		56	40-140	8	30	
bis(2-Chloroethyl)ether	1.73	0.333	mg/kg wet	3.333		52	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.69	0.333	mg/kg wet	3.333		51	40-140	5	30	
bis(2-Ethylhexyl)phthalate	2.25	0.333	mg/kg wet	3.333		67	40-140	0.8	30	
Butylbenzylphthalate	2.22	0.333	mg/kg wet	3.333		67	40-140	2	30	
Carbazole	2.39	0.333	mg/kg wet	3.333		72	40-140	2	30	
Chrysene	2.12	0.167	mg/kg wet	3.333		64	40-140	2	30	
Dibenzo(a,h)Anthracene	2.06	0.167	mg/kg wet	3.333		62	40-140	0.9	30	
Dibenzofuran	1.92	0.333	mg/kg wet	3.333		58	40-140	10	30	
Diethylphthalate	2.36	0.333	mg/kg wet	3.333		71	40-140	9	30	
Dimethylphthalate	2.09	0.333	mg/kg wet	3.333		63	40-140	9	30	
Di-n-butylphthalate	2.54	0.333	mg/kg wet	3.333		76	40-140	0.8	30	
Di-n-octylphthalate	2.32	0.333	mg/kg wet	3.333		70	40-140	0.8	30	
Fluoranthene	2.38	0.333	mg/kg wet	3.333		72	40-140	0.5	30	
Fluorene	2.10	0.333	mg/kg wet	3.333		63	40-140	10	30	
Hexachlorobenzene	1.97	0.333	mg/kg wet	3.333		59	40-140	4	30	
Hexachlorobutadiene	1.70	0.333	mg/kg wet	3.333		51	40-140	5	30	
Hexachloroethane	1.74	0.333	mg/kg wet	3.333		52	40-140	0.9	30	
Indeno(1,2,3-cd)Pyrene	2.09	0.333	mg/kg wet	3.333		63	40-140	0.7	30	
Isophorone	1.85	0.333	mg/kg wet	3.333		55	40-140	9	30	
Naphthalene	1.73	0.333	mg/kg wet	3.333		52	40-140	7	30	
Nitrobenzene	1.87	0.333	mg/kg wet	3.333		56	40-140	6	30	
N-Nitrosodimethylamine	1.85	0.333	mg/kg wet	3.333		55	40-140	3	30	
Pentachlorophenol	2.43	0.667	mg/kg wet	3.333		73	30-130	4	30	
Phenanthrene	2.05	0.333	mg/kg wet	3.333		62	40-140	4	30	
Phenol	1.90	0.333	mg/kg wet	3.333		57	30-130	10	30	
Pyrene	2.22	0.333	mg/kg wet	3.333		67	40-140	5	30	
Pyridine	1.64	1.67	mg/kg wet	3.333		49	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.08*		mg/kg wet	*3.333*		*62*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.75*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.32*		mg/kg wet	*5.000*		*66*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK81914 - 3546										
Surrogate: 2-Fluorobiphenyl	*2.14*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: 2-Fluorophenol	*3.27*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.37*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: Phenol-d6	*3.52*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.71*		mg/kg wet	*3.333*		*81*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
RRF	Analyte does not meet the Relative Response Factor (RRF) criteria in the calibration
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811485

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: East Coast Engineering - KPB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1811485
Date Received: 11/19/2018
Project Due Date: 11/28/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Added sample 5 Comp of 498 1-2

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	291543	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
01	291548	Yes	NA	Yes	VOA Vial - Other	Other	
01	291549	Yes	NA	Yes	VOA Vial - Other	Other	
01	291552	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	291554	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
02	291542	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
02	291546	Yes	NA	Yes	VOA Vial - Other	Other	
02	291547	Yes	NA	Yes	VOA Vial - Other	Other	
02	291551	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	291553	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
03	291550	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
04	291541	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
04	291544	Yes	NA	Yes	VOA Vial - Other	Other	
05	291593	Yes	NA	Yes	8 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No
Are all necessary stickers attached? Yes / No

Completed By: Date & Time: 11/20/18 1730
Reviewed By: Date & Time: 11/20/18 1735
Delivered By: 11/20/18 1735

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # K1811455

Turn Time: Rush

Regulatory State: MA

Reporting Limits: MCP S1 soil standards

Is this project for any of the following?: ○CT RCP ●MA MCP ○RGP

Electonic Deliverables: ☐Limit Checker ☐Standard Excel ☐Other (Please Specify →)

Company Name: East Coast ENG.	Project #:	Project Name: Rockwood Homes	
Contact Person: Christine LeBlanc		Address: ~~[illegible]~~ Ø Kraseman St. Dart.	
City: Dartmouth	State: MA	Zip Code: 02748	PO #:
Telephone Number: 508-789-0089	FAX Number:	Email Address: cleblanc@eastcoastengineering.com	

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCBs/TPH	Metals	VOC 8260	PAHs 8270	TPH	%Solids
1	11/9/18	11:10	Grab	Soil	S1 0-3' (Ø Kraseman)		✓	✓	✓		✓
2	11/9/18	11:30	Grab	Soil	S1 3-4' (Ø Kraseman)		✓	✓			✓
3	11/9/18	11:00	Grab	Soil	S2 0-3' (Ø KRASEMAN)		✓		✓		
~~5~~	11/9/18	11:10	~~Composite~~ Discrete	Soil	S1 ~~[illegible]~~ (0-3') (Ø Kraseman	✓				✓	
~~6~~	11/9/18	11:00	~~Composite~~	~~Soil~~	~~S2 (0-3') Ø Kraseman~~	~~✓~~			~~✓~~	~~✓~~	CEP 11/9/18
4	11/9/18	11:50	Discrete	Soil	S2 (0-3') Ø Kraseman	✓				✓	
					Trip blank n 11/9/18						

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*

Number of Containers per Sample:

Laboratory Use Only
Cooler Present: N/A
Seals Intact: N/A
Cooler Temperature: ~~[illegible]~~ °C

Sampled by :

Comments: Please specify "Other" preservative and containers types in this space
Metals: As, BA, Cd, Cr, Pb, Hg, Se, Ag
~~Composite S1(0-3') & S2(0-3') for PCBs and TPH; Hold Discrete Samples~~ CEP
~~Composite S1(0-3') & S2 (0-3') for PCB & TPH; Hold Discrites~~

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
11/9/18 1458	11/9/18 1458		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Christine LeBlanc
East Coast Engineering
147 Bakerville Road
Dartmouth, MA 02748

RE: Rockwood Homes (N/A)
ESS Laboratory Work Order Number: 1811498

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:03 pm, Dec 13, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

SAMPLE RECEIPT

The following samples were received on November 19, 2018 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
1811498-01	S1 0-3FT 0 Kraseman	Soil	8082A
1811498-02	S2 0-3FT 0 Kraseman	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1811498-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
1811498-01	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1811498-02	**Elevated Method Reporting Limits due to sample matrix (EL).**
1811498-02	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1811498-01 through 1811498-02**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for '"Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes ( ) No (X)*
	***Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: December 13, 2018

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S1 0-3FT 0 Kraseman
Date Sampled: 11/19/18 11:10
Percent Solids: 73
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1811498
ESS Laboratory Sample ID: 1811498-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 12/10/18 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1221	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1232	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1242	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1248	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1254 [2C]	**25.9** (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1260	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1262	ND (1.4)		8082A		20	12/11/18 23:59		CL81008
Aroclor 1268	ND (1.4)		8082A		20	12/11/18 23:59		CL81008

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: S2 0-3FT 0 Kraseman
Date Sampled: 11/19/18 11:56
Percent Solids: 81
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1811498
ESS Laboratory Sample ID: 1811498-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 12/10/18 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1221	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1232	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1242	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1248	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1254 [2C]	**40.7** (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1260	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1262	ND (2.4)		8082A		40	12/12/18 11:30		CL81008
Aroclor 1268	ND (2.4)		8082A		40	12/12/18 11:30		CL81008

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CL81008 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0276*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		88	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		83	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		85	40-140			
Surrogate: Decachlorobiphenyl	*0.0194*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0221*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		106	40-140	18	30	
Aroclor 1016 [2C]	0.6	0.02	mg/kg wet	0.5000		111	40-140	18	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		101	40-140	19	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		102	40-140	18	30	
Surrogate: Decachlorobiphenyl	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0292*		mg/kg wet	*0.02500*		*117*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0274*		mg/kg wet	*0.02500*		*110*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811498

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: East Coast Engineering - KPB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1811498
Date Received: 11/19/2018
Project Due Date: 11/28/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / (No)
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

On Hold

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	291569	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	291568	Yes	NA	Yes	8 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? (Yes) / No
Are all necessary stickers attached? (Yes) / No

Completed By: Date & Time: 11/19/18 2136
Reviewed By: Date & Time: 11/19/18 2203
Delivered By: 11/19/18 2200

CHAIN OF CUSTODY

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

ESS Lab # ~~181165~~ 1811498

Turn Time: Rush

Regulatory State: MA

Is this project for any of the following?: ○CT RCP ●MA MCP ○RGP

Reporting Limits: MCP S1 soil standards

Electonic Deliverables: ☐Limit Checker ☐Standard Excel ☐Other (Please Specify →)

Company Name	Project #	Project Name
East Coast ENG.		Rockwood Homes
Contact Person		**Address**
Christine LeBlanc		~~[illegible]~~ Ø Kraseman St. Dart.
City	**State**	**Zip Code**	**PO #**
Dartmouth	MA	02748	
Telephone Number	**FAX Number**	**Email Address**
508-789-0089		cleblanc@eastcoastengineering.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCB's / EPH	metals	VOC 8260	PAH's 8270	TPH	% Solids
	11/9/18	11:10	Grab	Soil	S1, 0-3' (Ø Kraseman)		✓	✓	✓		✓
	11/9/18	11:30	Grab	Soil	S1, 3-4' (Ø Kraseman)		✓	✓			✓
	11/9/18	11:00	Grab	Soil	S2 0-3' (Ø Kraseman)		✓		✓		
1	11/9/18	11:10	~~Composite~~ Discrete	Soil	S1, ~~S2~~ (0-3'), (Ø Kraseman	✓				✓	
	~~11/9/18~~	~~11:00~~	~~Composite~~	~~Soil~~	~~S2 (0-3') Ø Kraseman~~	~~✓~~			~~✓~~		CRP 11/9/18
2	11/9/18	11:50	Discrete	Soil	S2 (0-3') Ø Kraseman	✓				✓	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*

Number of Containers per Sample:

Laboratory Use Only

Cooler Present:

Seals Intact: N/A

Cooler Temperature: ~~[illegible]~~ °C

Sampled by :

Please specify "Other" preservative and containers types in this space

Comments: Metals: As, BA, Cd, Cr, Pb, Hg, Se, Ag
~~Composite S1 (0-3') & S2 (0-3') for PCB's and TPH; Hold Discrete Sample~~
~~Composite S1 (0-3') & S2 (0-3') for PAH & TPH; Hold Discrete~~

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Christine LeBlanc 11/9/18 1458	11/9/18 1458		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Christine LeBlanc
East Coast Engineering
147 Bakerville Road
Dartmouth, MA 02748

RE: Rockwood Homes (N/A)
ESS Laboratory Work Order Number: 1811501

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:07 pm, Nov 30, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

SAMPLE RECEIPT

The following samples were received on November 19, 2018 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH and Metals were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
1811501-01	Loam Pile	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045
1811501-02	Overburden Pile	Soil	1010, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045
1811501-03	Loam Pile	Soil	8260B Low
1811501-04	Overburden Pile	Soil	8260B Low

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

C8K0413-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
1,4-Dioxane (23% @ 20%), 2-Butanone (22% @ 20%), 4-Methyl-2-Pentanone (25% @ 20%), Acetone (32% @ 20%), Tetrahydrofuran (28% @ 20%)

CK82626-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (132% @ 70-130%)

8081B Organochlorine Pesticides

1811501-01 **Lower value is used due to matrix interferences (LC).**
4,4′-DDT , Endosulfan II

1811501-01 **Percent difference between primary and confirmation results exceeds 40% (P).**
4,4′-DDT , Endosulfan II

1811501-02 **Lower value is used due to matrix interferences (LC).**
4,4′-DDT

1811501-02 **Percent difference between primary and confirmation results exceeds 40% (P).**
4,4′-DDT

C8K0407-CCV5 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
Heptachlor [2C] (29% @ 20%)

8082A Polychlorinated Biphenyls (PCB)

C8K0429-CCV6 **Surrogate recovery(ies) above upper control limit (S+).**
Decachlorobiphenyl [2C] (138% @ 80-120%), Tetrachloro-m-xylene [2C] (121% @ 80-120%)

C8K0429-CCV9 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
Aroclor 1016 [2C] (22% @ 20%)

8151A Chlorinated Herbicides

C8K0408-CCV2 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
MCPP (17% @ 15%), MCPP [2C] (18% @ 15%)

8270D Semi-Volatile Organic Compounds

C8K0389-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (95% @ 80-120%), Pentachlorophenol (91% @ 80-120%)

Classical Chemistry

1811501-01 **Test performed from a previously opened container**
Flashpoint

1811501-02 **Test performed from a previously opened container**
Flashpoint

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1811501-01 through 1811501-04**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	(X) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) MassDEP EPH CAM IV B	(X) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for '"Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: November 30, 2018

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**4.38** (2.19)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052
Barium	**100** (2.19)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052
Cadmium	ND (0.44)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052
Chromium	**8.59** (0.88)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052
Lead	**296** (4.38)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052
Mercury	**0.262** (0.027)		7471B		1	MJV	11/21/18 18:59	0.9	40	CK82053
Selenium	ND (4.38)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052
Silver	ND (0.44)		6010C		1	KJK	11/21/18 18:05	2.79	100	CK82052

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 1311

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.140** (0.050)		1311/6010C		1	KJK	11/28/18 6:07	50	50	CK82743

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 20.4
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 11/25/18 16:55

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
4,4´-DDE	**0.174** (0.0299)		8081B		10	11/27/18 13:46	C8K0407	CK82502
4,4´-DDT	**LC, P 0.134** (0.0599)		8081B		20	11/27/18 13:15	C8K0407	CK82502
Aldrin	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
alpha-BHC	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
alpha-Chlordane	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
beta-BHC	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Chlordane (Total)	ND (0.0240)		8081B		1	11/27/18 0:40	C8K0407	CK82502
delta-BHC	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Dieldrin	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Endosulfan I	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Endosulfan II	**LC, P 0.0425** (0.0299)		8081B		10	11/27/18 13:46	C8K0407	CK82502
Endosulfan Sulfate [2C]	**0.0863** (0.0299)		8081B		10	11/27/18 13:46	C8K0407	CK82502
Endrin	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Endrin Ketone	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
gamma-BHC (Lindane)	ND (0.0018)		8081B		1	11/27/18 0:40	C8K0407	CK82502
gamma-Chlordane	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Heptachlor	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Heptachlor Epoxide	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Hexachlorobenzene	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Methoxychlor	ND (0.0030)		8081B		1	11/27/18 0:40	C8K0407	CK82502
Toxaphene	ND (0.150)		8081B		1	11/27/18 0:40	C8K0407	CK82502

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 11/21/18 18:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1221	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1232	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1242	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1248	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1254 [2C]	**2.0** (0.3)		8082A		5	11/27/18 16:09		CK82108
Aroclor 1260	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1262	ND (0.06)		8082A		1	11/27/18 2:31		CK82108
Aroclor 1268	ND (0.06)		8082A		1	11/27/18 2:31		CK82108

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 20.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SMR
Prepared: 11/21/18 13:59

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**184** (11.9)		8100M		1	11/22/18 10:12	C8K0391	CK82116

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*83 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 10.2
Final Volume: 4
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 11/20/18 20:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	**0.055** (0.011)		8151A		1	11/26/18 20:03	C8K0408	CK82029
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	11/26/18 20:03	C8K0408	CK82029
2,4-D	ND (0.056)		8151A		1	11/26/18 20:03	C8K0408	CK82029
2,4-DB	ND (0.057)		8151A		1	11/26/18 20:03	C8K0408	CK82029
Dalapon	ND (0.055)		8151A		1	11/26/18 20:03	C8K0408	CK82029
Dicamba	ND (0.011)		8151A		1	11/26/18 20:03	C8K0408	CK82029
Dichlorprop	ND (0.056)		8151A		1	11/26/18 20:03	C8K0408	CK82029
Dinoseb	ND (0.057)		8151A		1	11/26/18 20:03	C8K0408	CK82029
MCPA	ND (2.78)		8151A		1	11/26/18 20:03	C8K0408	CK82029
MCPP	ND (2.81)		8151A		1	11/26/18 20:03	C8K0408	CK82029

	%Recovery	*Qualifier*	*Limits*
Surrogate: DCAA	*131 %*		*30-150*
Surrogate: DCAA [2C]	*137 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/21/18 11:20

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
1,2-Dichlorobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
1,3-Dichlorobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
1,4-Dichlorobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,4,5-Trichlorophenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,4,6-Trichlorophenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,4-Dichlorophenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,4-Dimethylphenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,4-Dinitrophenol	ND (2.19)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,4-Dinitrotoluene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2,6-Dinitrotoluene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2-Chloronaphthalene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2-Chlorophenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2-Methylnaphthalene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2-Methylphenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
2-Nitrophenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
3,3′-Dichlorobenzidine	ND (0.873)		8270D		1	11/21/18 19:21	C8K0389	CK82112
3+4-Methylphenol	ND (0.873)		8270D		1	11/21/18 19:21	C8K0389	CK82112
4-Bromophenyl-phenylether	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
4-Chloroaniline	ND (0.873)		8270D		1	11/21/18 19:21	C8K0389	CK82112
4-Nitrophenol	ND (2.19)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Acenaphthene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Acenaphthylene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Acetophenone	ND (0.873)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Aniline	ND (2.19)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Anthracene	**0.500** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Azobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Benzo(a)anthracene	**1.54** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Benzo(a)pyrene	**2.04** (0.219)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Benzo(b)fluoranthene	**1.75** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Benzo(g,h,i)perylene	**1.92** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Benzo(k)fluoranthene	**1.17** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/21/18 11:20

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
bis(2-Chloroethyl)ether	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
bis(2-chloroisopropyl)Ether	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
bis(2-Ethylhexyl)phthalate	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Butylbenzylphthalate	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Carbazole	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Chrysene	**1.60** (0.219)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Dibenzo(a,h)Anthracene	**0.452** (0.219)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Dibenzofuran	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Diethylphthalate	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Dimethylphthalate	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Di-n-butylphthalate	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Di-n-octylphthalate	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Fluoranthene	**3.41** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Fluorene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Hexachlorobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Hexachlorobutadiene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Hexachloroethane	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Indeno(1,2,3-cd)Pyrene	**1.43** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Isophorone	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Naphthalene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Nitrobenzene	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
N-Nitrosodimethylamine	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Pentachlorophenol	ND (2.19)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Phenanthrene	**2.01** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Phenol	ND (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Pyrene	**3.11** (0.436)		8270D		1	11/21/18 19:21	C8K0389	CK82112
Pyridine	ND (2.19)		8270D		1	11/21/18 19:21	C8K0389	CK82112

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*59 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/21/18 11:20

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Chlorophenol-d4		*66 %*		*30-130*				
Surrogate: 2-Fluorobiphenyl		*66 %*		*30-130*				
Surrogate: 2-Fluorophenol		*61 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*70 %*		*30-130*				
Surrogate: Phenol-d6		*68 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*82 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**6.05** (N/A)		9045		1	CCP	11/20/18 21:35	S.U.	CK82024
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.8 ºC.**								
Flashpoint	**>, O 200** (N/A)		1010		1	EEM	11/21/18 15:00	°F	CK82119
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	11/21/18 11:25	mg/kg	CK82120
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	11/21/18 11:25	mg/kg	CK82120

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:00
Percent Solids: 82
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-01
Sample Matrix: Soil
Units: °C
Analyst: NAR
Prepared: 11/26/18 21:00

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.2** (N/A)		1311		1	NAR	11/27/18 13:10	CK82660
Temperature (Max C)	**21.1** (N/A)		1311		1	NAR	11/27/18 13:10	CK82660
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**3.20** (2.00)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052
Barium	**42.3** (2.00)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052
Cadmium	**0.93** (0.40)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052
Chromium	**6.67** (0.80)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052
Lead	**69.9** (4.00)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052
Mercury	**0.074** (0.027)		7471B		1	MJV	11/21/18 19:01	0.85	40	CK82053
Selenium	ND (4.00)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052
Silver	ND (0.40)		6010C		1	KJK	11/21/18 18:09	2.89	100	CK82052

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 20
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 11/25/18 16:55

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
4,4´-DDE [2C]	**0.0130** (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
4,4´-DDT	**LC, P 0.0160** (0.0058)		8081B		2	11/27/18 12:43	C8K0407	CK82502
Aldrin	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
alpha-BHC	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
alpha-Chlordane	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
beta-BHC	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Chlordane (Total)	ND (0.0231)		8081B		1	11/27/18 1:11	C8K0407	CK82502
delta-BHC	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Dieldrin	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Endosulfan I	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Endosulfan II	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Endosulfan Sulfate	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Endrin	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Endrin Ketone	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
gamma-BHC (Lindane)	ND (0.0017)		8081B		1	11/27/18 1:11	C8K0407	CK82502
gamma-Chlordane	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Heptachlor	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Heptachlor Epoxide	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Hexachlorobenzene	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Methoxychlor	ND (0.0029)		8081B		1	11/27/18 1:11	C8K0407	CK82502
Toxaphene	ND (0.145)		8081B		1	11/27/18 1:11	C8K0407	CK82502

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 11/21/18 18:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1221	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1232	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1242	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1248	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1254 [2C]	**0.1** (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1260	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1262	ND (0.06)		8082A		1	11/27/18 16:28		CK82108
Aroclor 1268	ND (0.06)		8082A		1	11/27/18 16:28		CK82108

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 19.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SMR
Prepared: 11/21/18 13:59

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**798** (121)		8100M		10	11/28/18 9:04	C8K0424	CK82116

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*81 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 10.3
Final Volume: 4
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 11/20/18 20:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T [2C]	ND (0.011)		8151A		1	11/26/18 20:36	C8K0408	CK82029
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	11/26/18 20:36	C8K0408	CK82029
2,4-D	ND (0.053)		8151A		1	11/26/18 20:36	C8K0408	CK82029
2,4-DB	ND (0.053)		8151A		1	11/26/18 20:36	C8K0408	CK82029
Dalapon	ND (0.051)		8151A		1	11/26/18 20:36	C8K0408	CK82029
Dicamba	ND (0.011)		8151A		1	11/26/18 20:36	C8K0408	CK82029
Dichlorprop	ND (0.053)		8151A		1	11/26/18 20:36	C8K0408	CK82029
Dinoseb	ND (0.053)		8151A		1	11/26/18 20:36	C8K0408	CK82029
MCPA	ND (2.61)		8151A		1	11/26/18 20:36	C8K0408	CK82029
MCPP	ND (2.64)		8151A		1	11/26/18 20:36	C8K0408	CK82029

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*104 %*		*30-150*
Surrogate: DCAA [2C]	*108 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/21/18 11:20

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
1,2-Dichlorobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
1,3-Dichlorobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
1,4-Dichlorobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,4,5-Trichlorophenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,4,6-Trichlorophenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,4-Dichlorophenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,4-Dimethylphenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,4-Dinitrophenol	ND (1.88)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,4-Dinitrotoluene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2,6-Dinitrotoluene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2-Chloronaphthalene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2-Chlorophenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2-Methylnaphthalene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2-Methylphenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
2-Nitrophenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
3,3′-Dichlorobenzidine	ND (0.752)		8270D		1	11/21/18 19:55	C8K0389	CK82112
3+4-Methylphenol	ND (0.752)		8270D		1	11/21/18 19:55	C8K0389	CK82112
4-Bromophenyl-phenylether	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
4-Chloroaniline	ND (0.752)		8270D		1	11/21/18 19:55	C8K0389	CK82112
4-Nitrophenol	ND (1.88)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Acenaphthene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Acenaphthylene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Acetophenone	ND (0.752)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Aniline	ND (1.88)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Anthracene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Azobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Benzo(a)anthracene	**0.717** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Benzo(a)pyrene	**0.655** (0.188)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Benzo(b)fluoranthene	**0.614** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Benzo(g,h,i)perylene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Benzo(k)fluoranthene	**0.501** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/21/18 11:20

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
bis(2-Chloroethyl)ether	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
bis(2-chloroisopropyl)Ether	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
bis(2-Ethylhexyl)phthalate	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Butylbenzylphthalate	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Carbazole	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Chrysene	**0.756** (0.188)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Dibenzo(a,h)Anthracene	**0.191** (0.188)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Dibenzofuran	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Diethylphthalate	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Dimethylphthalate	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Di-n-butylphthalate	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Di-n-octylphthalate	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Fluoranthene	**1.35** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Fluorene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Hexachlorobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Hexachlorobutadiene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Hexachloroethane	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Indeno(1,2,3-cd)Pyrene	**0.377** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Isophorone	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Naphthalene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Nitrobenzene	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
N-Nitrosodimethylamine	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Pentachlorophenol	ND (1.88)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Phenanthrene	**0.551** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Phenol	ND (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Pyrene	**1.14** (0.375)		8270D		1	11/21/18 19:55	C8K0389	CK82112
Pyridine	ND (1.88)		8270D		1	11/21/18 19:55	C8K0389	CK82112

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*65 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/21/18 11:20

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Chlorophenol-d4		*73 %*		*30-130*				
Surrogate: 2-Fluorobiphenyl		*71 %*		*30-130*				
Surrogate: 2-Fluorophenol		*70 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*78 %*		*30-130*				
Surrogate: Phenol-d6		*77 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*84 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:41
Percent Solids: 86

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.13** (N/A)		9045		1	CCP	11/20/18 21:35	S.U.	CK82024
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.8 ºC.**								
Flashpoint	**>, O 200** (N/A)		1010		1	EEM	11/21/18 15:00	°F	CK82119
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	11/21/18 11:25	mg/kg	CK82120
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	11/21/18 11:25	mg/kg	CK82120

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:13
Percent Solids: 82
Initial Volume: 12.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,1,1-Trichloroethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,1,2,2-Tetrachloroethane	ND (0.0010)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,1,2-Trichloroethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,1-Dichloroethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,1-Dichloroethene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,1-Dichloropropene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2,3-Trichlorobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2,3-Trichloropropane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2,4-Trichlorobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2,4-Trimethylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2-Dibromo-3-Chloropropane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2-Dibromoethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2-Dichlorobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2-Dichloroethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,2-Dichloropropane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,3,5-Trimethylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,3-Dichlorobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,3-Dichloropropane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,4-Dichlorobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
1,4-Dioxane	ND (0.0485)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
2,2-Dichloropropane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
2-Butanone	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
2-Chlorotoluene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
2-Hexanone	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
4-Chlorotoluene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
4-Isopropyltoluene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
4-Methyl-2-Pentanone	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Acetone	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Benzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Bromobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Bromochloromethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:13
Percent Solids: 82
Initial Volume: 12.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Bromoform	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Bromomethane	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Carbon Disulfide	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Carbon Tetrachloride	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Chlorobenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Chloroethane	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Chloroform	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Chloromethane	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
cis-1,2-Dichloroethene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
cis-1,3-Dichloropropene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Dibromochloromethane	ND (0.0010)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Dibromomethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Dichlorodifluoromethane	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Diethyl Ether	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Di-isopropyl ether	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Ethyl tertiary-butyl ether	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Ethylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Hexachlorobutadiene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Isopropylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Methyl tert-Butyl Ether	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Methylene Chloride	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Naphthalene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
n-Butylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
n-Propylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
sec-Butylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Styrene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
tert-Butylbenzene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Tertiary-amyl methyl ether	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Tetrachloroethene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Tetrahydrofuran	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Toluene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Loam Pile
Date Sampled: 11/19/18 11:13
Percent Solids: 82
Initial Volume: 12.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
trans-1,3-Dichloropropene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Trichloroethene	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Trichlorofluoromethane	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Vinyl Chloride	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Xylene O	ND (0.0024)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Xylene P,M	ND (0.0048)		8260B Low		1	11/26/18 14:23	C8K0413	CK82626
Xylenes (Total)	ND (0.0048)		8260B Low		1	11/26/18 14:23		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*120 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*110 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:55
Percent Solids: 82
Initial Volume: 13.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,1,1-Trichloroethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,1,2,2-Tetrachloroethane	ND (0.0009)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,1,2-Trichloroethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,1-Dichloroethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,1-Dichloroethene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,1-Dichloropropene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2,3-Trichlorobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2,3-Trichloropropane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2,4-Trichlorobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2,4-Trimethylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2-Dibromo-3-Chloropropane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2-Dibromoethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2-Dichlorobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2-Dichloroethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,2-Dichloropropane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,3,5-Trimethylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,3-Dichlorobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,3-Dichloropropane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,4-Dichlorobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
1,4-Dioxane	ND (0.0456)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
2,2-Dichloropropane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
2-Butanone	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
2-Chlorotoluene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
2-Hexanone	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
4-Chlorotoluene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
4-Isopropyltoluene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
4-Methyl-2-Pentanone	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Acetone	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Benzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Bromobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Bromochloromethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:55
Percent Solids: 82
Initial Volume: 13.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Bromoform	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Bromomethane	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Carbon Disulfide	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Carbon Tetrachloride	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Chlorobenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Chloroethane	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Chloroform	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Chloromethane	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
cis-1,2-Dichloroethene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
cis-1,3-Dichloropropene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Dibromochloromethane	ND (0.0009)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Dibromomethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Dichlorodifluoromethane	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Diethyl Ether	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Di-isopropyl ether	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Ethyl tertiary-butyl ether	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Ethylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Hexachlorobutadiene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Isopropylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Methyl tert-Butyl Ether	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Methylene Chloride	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Naphthalene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
n-Butylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
n-Propylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
sec-Butylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Styrene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
tert-Butylbenzene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Tertiary-amyl methyl ether	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Tetrachloroethene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Tetrahydrofuran	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Toluene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes
Client Sample ID: Overburden Pile
Date Sampled: 11/19/18 10:55
Percent Solids: 82
Initial Volume: 13.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1811501
ESS Laboratory Sample ID: 1811501-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
trans-1,3-Dichloropropene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Trichloroethene	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Trichlorofluoromethane	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Vinyl Chloride	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Xylene O	ND (0.0023)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Xylene P,M	ND (0.0046)		8260B Low		1	11/21/18 16:42	C8K0388	CK82103
Xylenes (Total)	ND (0.0046)		8260B Low		1	11/21/18 16:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*130 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*84 %*		*70-130*
Surrogate: Dibromofluoromethane	*119 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CK82052 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	53.5	9.09	mg/kg wet	59.00		91	85-115			
Barium	214	9.09	mg/kg wet	233.0		92	83-116			
Cadmium	86.3	1.82	mg/kg wet	98.70		87	84-116			
Chromium	229	3.64	mg/kg wet	240.0		95	85-115			
Lead	258	18.2	mg/kg wet	276.0		93	84-116			
Selenium	94.4	18.2	mg/kg wet	100.0		94	86-115			
Silver	37.1	1.82	mg/kg wet	39.70		93	81-120			
LCS Dup										
Arsenic	55.2	9.62	mg/kg wet	59.00		94	85-115	3	20	
Barium	232	9.62	mg/kg wet	233.0		100	83-116	8	20	
Cadmium	89.9	1.92	mg/kg wet	98.70		91	84-116	4	20	
Chromium	237	3.85	mg/kg wet	240.0		99	85-115	3	20	
Lead	268	19.2	mg/kg wet	276.0		97	84-116	4	20	
Selenium	97.3	19.2	mg/kg wet	100.0		97	86-115	3	20	
Silver	38.1	1.92	mg/kg wet	39.70		96	81-120	3	20	
Batch CK82053 - 7471B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	3.34	0.388	mg/kg wet	4.850		69	50-103			
LCS Dup										
Mercury	3.39	0.325	mg/kg wet	4.850		70	50-103	2	20	
1311 TCLP Metals										
Batch CK82743 - 1311										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.455	0.050	mg/L	0.5000		91	80-120			
LCS Dup										
Lead	0.451	0.050	mg/L	0.5000		90	80-120	1	20	
5035/8260B Volatile Organic Compounds / Low Level										

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier

5035/8260B Volatile Organic Compounds / Low Level

Batch CK82103 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet
1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0100	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0100	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet
Acetone	ND	0.0100	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0020	mg/kg wet

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82103 - 5035										
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0592*		mg/kg wet	*0.05000*		*118*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0566*		mg/kg wet	*0.05000*		*113*	*70-130*			
Surrogate: Toluene-d8	*0.0460*		mg/kg wet	*0.05000*		*92*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,1-Trichloroethane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2,2-Tetrachloroethane	0.0497	0.0020	mg/kg wet	0.05000		99	70-130			
1,1,2-Trichloroethane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
1,1-Dichloroethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,1-Dichloroethene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
1,1-Dichloropropene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,3-Trichlorobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,2,3-Trichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,2,4-Trichlorobenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trimethylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dibromo-3-Chloropropane	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,2-Dibromoethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82103 - 5035										
1,2-Dichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
1,2-Dichloropropane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,3,5-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichlorobenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,3-Dichloropropane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
1,4-Dichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
1,4-Dioxane	1.19	0.100	mg/kg wet	1.000		119	70-130			
2,2-Dichloropropane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
2-Butanone	0.285	0.0100	mg/kg wet	0.2500		114	70-130			
2-Chlorotoluene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
2-Hexanone	0.255	0.0100	mg/kg wet	0.2500		102	70-130			
4-Chlorotoluene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
4-Isopropyltoluene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
4-Methyl-2-Pentanone	0.288	0.0100	mg/kg wet	0.2500		115	70-130			
Acetone	0.308	0.0100	mg/kg wet	0.2500		123	70-130			
Benzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Bromobenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Bromochloromethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Bromodichloromethane	0.0546	0.0050	mg/kg wet	0.05000		109	70-130			
Bromoform	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Bromomethane	0.0592	0.0100	mg/kg wet	0.05000		118	70-130			
Carbon Disulfide	0.0564	0.0050	mg/kg wet	0.05000		113	70-130			
Carbon Tetrachloride	0.0557	0.0050	mg/kg wet	0.05000		111	70-130			
Chlorobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Chloroethane	0.0538	0.0100	mg/kg wet	0.05000		108	70-130			
Chloroform	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Chloromethane	0.0535	0.0100	mg/kg wet	0.05000		107	70-130			
cis-1,2-Dichloroethene	0.0537	0.0050	mg/kg wet	0.05000		107	70-130			
cis-1,3-Dichloropropene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0424	0.0020	mg/kg wet	0.05000		85	70-130			
Dibromomethane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Dichlorodifluoromethane	0.0605	0.0100	mg/kg wet	0.05000		121	70-130			
Diethyl Ether	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
Di-isopropyl ether	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Ethyl tertiary-butyl ether	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Ethylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Hexachlorobutadiene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
Isopropylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Methyl tert-Butyl Ether	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
Methylene Chloride	0.0484	0.0100	mg/kg wet	0.05000		97	70-130			
Naphthalene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
n-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
n-Propylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
sec-Butylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			

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Client Name: East Coast Engineering
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82103 - 5035										
Styrene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
tert-Butylbenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Tertiary-amyl methyl ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Tetrachloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Tetrahydrofuran	0.0603	0.0050	mg/kg wet	0.05000		121	70-130			
Toluene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
trans-1,2-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
trans-1,3-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Trichloroethene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Trichlorofluoromethane	0.0560	0.0050	mg/kg wet	0.05000		112	70-130			
Vinyl Chloride	0.0578	0.0100	mg/kg wet	0.05000		116	70-130			
Xylene O	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Xylene P,M	0.0955	0.0100	mg/kg wet	0.1000		96	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0529*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0503*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0532*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0462*		mg/kg wet	*0.05000*		*92*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	3	20	
1,1,1-Trichloroethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	0.6	20	
1,1,2,2-Tetrachloroethane	0.0521	0.0020	mg/kg wet	0.05000		104	70-130	5	20	
1,1,2-Trichloroethane	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	2	20	
1,1-Dichloroethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.2	20	
1,1-Dichloroethene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	0.5	20	
1,1-Dichloropropene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	0.4	20	
1,2,3-Trichlorobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	7	20	
1,2,3-Trichloropropane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	7	20	
1,2,4-Trichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	6	20	
1,2,4-Trimethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	5	20	
1,2-Dibromo-3-Chloropropane	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	8	20	
1,2-Dibromoethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	4	20	
1,2-Dichlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
1,2-Dichloroethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
1,2-Dichloropropane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	1	20	
1,3,5-Trimethylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	5	20	
1,3-Dichlorobenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	7	20	
1,3-Dichloropropane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
1,4-Dichlorobenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	4	20	
1,4-Dioxane	1.18	0.100	mg/kg wet	1.000		118	70-130	0.7	20	
2,2-Dichloropropane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	0.4	20	
2-Butanone	0.289	0.0100	mg/kg wet	0.2500		115	70-130	1	20	
2-Chlorotoluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	6	20	
2-Hexanone	0.261	0.0100	mg/kg wet	0.2500		104	70-130	2	20	
4-Chlorotoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
4-Isopropyltoluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	4	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82103 - 5035										
4-Methyl-2-Pentanone	0.294	0.0100	mg/kg wet	0.2500		118	70-130	2	20	
Acetone	0.306	0.0100	mg/kg wet	0.2500		122	70-130	0.7	20	
Benzene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	0.4	20	
Bromobenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	7	20	
Bromochloromethane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Bromodichloromethane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	0.4	20	
Bromoform	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	5	20	
Bromomethane	0.0490	0.0100	mg/kg wet	0.05000		98	70-130	19	20	
Carbon Disulfide	0.0555	0.0050	mg/kg wet	0.05000		111	70-130	2	20	
Carbon Tetrachloride	0.0543	0.0050	mg/kg wet	0.05000		109	70-130	2	20	
Chlorobenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	3	20	
Chloroethane	0.0535	0.0100	mg/kg wet	0.05000		107	70-130	0.6	20	
Chloroform	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	0.2	20	
Chloromethane	0.0514	0.0100	mg/kg wet	0.05000		103	70-130	4	20	
cis-1,2-Dichloroethene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	0.2	20	
cis-1,3-Dichloropropene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Dibromochloromethane	0.0442	0.0020	mg/kg wet	0.05000		88	70-130	4	20	
Dibromomethane	0.0563	0.0050	mg/kg wet	0.05000		113	70-130	3	20	
Dichlorodifluoromethane	0.0571	0.0100	mg/kg wet	0.05000		114	70-130	6	20	
Diethyl Ether	0.0580	0.0050	mg/kg wet	0.05000		116	70-130	5	20	
Di-isopropyl ether	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
Ethyl tertiary-butyl ether	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	4	20	
Ethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
Hexachlorobutadiene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	4	20	
Isopropylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	5	20	
Methyl tert-Butyl Ether	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	5	20	
Methylene Chloride	0.0484	0.0100	mg/kg wet	0.05000		97	70-130	0.1	20	
Naphthalene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	9	20	
n-Butylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	4	20	
n-Propylbenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	5	20	
sec-Butylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	5	20	
Styrene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	5	20	
tert-Butylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
Tertiary-amyl methyl ether	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	4	20	
Tetrachloroethene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	0.5	20	
Tetrahydrofuran	0.0611	0.0050	mg/kg wet	0.05000		122	70-130	1	20	
Toluene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
trans-1,2-Dichloroethene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	0.7	20	
trans-1,3-Dichloropropene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	4	20	
Trichloroethene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	1	20	
Trichlorofluoromethane	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	3	20	
Vinyl Chloride	0.0556	0.0100	mg/kg wet	0.05000		111	70-130	4	20	
Xylene O	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Xylene P,M	0.0973	0.0100	mg/kg wet	0.1000		97	70-130	2	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0498*		mg/kg wet	*0.05000*		*100*	*70-130*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82103 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0514*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0456*		mg/kg wet	*0.05000*		*91*	*70-130*			
Batch CK82626 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82626 - 5035										
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0520*		mg/kg wet	*0.05000*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0512*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0468*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,1,1-Trichloroethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,1,2,2-Tetrachloroethane	0.0480	0.0020	mg/kg wet	0.05000		96	70-130			
1,1,2-Trichloroethane	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
1,1-Dichloroethane	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,1-Dichloroethene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
1,1-Dichloropropene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,2,3-Trichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82626 - 5035										
1,2,3-Trichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
1,2,4-Trichlorobenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trimethylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dibromo-3-Chloropropane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dibromoethane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dichlorobenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichloroethane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
1,2-Dichloropropane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,3,5-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichlorobenzene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,3-Dichloropropane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
1,4-Dichlorobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dioxane	1.16	0.100	mg/kg wet	1.000		116	70-130			
2,2-Dichloropropane	0.0519	0.0050	mg/kg wet	0.05000		104	70-130			
2-Butanone	0.271	0.0100	mg/kg wet	0.2500		109	70-130			
2-Chlorotoluene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
2-Hexanone	0.230	0.0100	mg/kg wet	0.2500		92	70-130			
4-Chlorotoluene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
4-Isopropyltoluene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
4-Methyl-2-Pentanone	0.271	0.0100	mg/kg wet	0.2500		108	70-130			
Acetone	0.294	0.0100	mg/kg wet	0.2500		118	70-130			
Benzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Bromobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
Bromochloromethane	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Bromodichloromethane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
Bromoform	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Bromomethane	0.0434	0.0100	mg/kg wet	0.05000		87	70-130			
Carbon Disulfide	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
Carbon Tetrachloride	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Chlorobenzene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
Chloroethane	0.0515	0.0100	mg/kg wet	0.05000		103	70-130			
Chloroform	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Chloromethane	0.0505	0.0100	mg/kg wet	0.05000		101	70-130			
cis-1,2-Dichloroethene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
cis-1,3-Dichloropropene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
Dibromochloromethane	0.0414	0.0020	mg/kg wet	0.05000		83	70-130			
Dibromomethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
Dichlorodifluoromethane	0.0540	0.0100	mg/kg wet	0.05000		108	70-130			
Diethyl Ether	0.0560	0.0050	mg/kg wet	0.05000		112	70-130			
Di-isopropyl ether	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Ethyl tertiary-butyl ether	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Ethylbenzene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
Hexachlorobutadiene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
Isopropylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Methyl tert-Butyl Ether	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82626 - 5035										
Methylene Chloride	0.0467	0.0100	mg/kg wet	0.05000		93	70-130			
Naphthalene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
n-Butylbenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Propylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
sec-Butylbenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Styrene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
tert-Butylbenzene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
Tertiary-amyl methyl ether	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrachloroethene	0.0416	0.0050	mg/kg wet	0.05000		83	70-130			
Tetrahydrofuran	0.0553	0.0050	mg/kg wet	0.05000		111	70-130			
Toluene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
trans-1,2-Dichloroethene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
trans-1,3-Dichloropropene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Trichloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Trichlorofluoromethane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Vinyl Chloride	0.0519	0.0100	mg/kg wet	0.05000		104	70-130			
Xylene O	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Xylene P,M	0.0919	0.0100	mg/kg wet	0.1000		92	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0502*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0500*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0505*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	6	20	
1,1,1-Trichloroethane	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
1,1,2,2-Tetrachloroethane	0.0499	0.0020	mg/kg wet	0.05000		100	70-130	4	20	
1,1,2-Trichloroethane	0.0558	0.0050	mg/kg wet	0.05000		112	70-130	6	20	
1,1-Dichloroethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
1,1-Dichloroethene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	3	20	
1,1-Dichloropropene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
1,2,3-Trichlorobenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	6	20	
1,2,3-Trichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	6	20	
1,2,4-Trichlorobenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	5	20	
1,2,4-Trimethylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	2	20	
1,2-Dibromo-3-Chloropropane	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	6	20	
1,2-Dibromoethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	7	20	
1,2-Dichlorobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
1,2-Dichloroethane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	5	20	
1,2-Dichloropropane	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	4	20	
1,3,5-Trimethylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	3	20	
1,3-Dichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
1,3-Dichloropropane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
1,4-Dichlorobenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
1,4-Dioxane	1.30	0.100	mg/kg wet	1.000		130	70-130	11	20	
2,2-Dichloropropane	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	2	20	

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Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82626 - 5035										
2-Butanone	0.289	0.0100	mg/kg wet	0.2500		116	70-130	6	20	
2-Chlorotoluene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	3	20	
2-Hexanone	0.258	0.0100	mg/kg wet	0.2500		103	70-130	12	20	
4-Chlorotoluene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
4-Methyl-2-Pentanone	0.292	0.0100	mg/kg wet	0.2500		117	70-130	7	20	
Acetone	0.331	0.0100	mg/kg wet	0.2500		132	70-130	12	20	B+
Benzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
Bromobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	5	20	
Bromochloromethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	4	20	
Bromodichloromethane	0.0555	0.0050	mg/kg wet	0.05000		111	70-130	3	20	
Bromoform	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	7	20	
Bromomethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130	2	20	
Carbon Disulfide	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	2	20	
Carbon Tetrachloride	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	1	20	
Chlorobenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	6	20	
Chloroethane	0.0530	0.0100	mg/kg wet	0.05000		106	70-130	3	20	
Chloroform	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	3	20	
Chloromethane	0.0505	0.0100	mg/kg wet	0.05000		101	70-130	0	20	
cis-1,2-Dichloroethene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	4	20	
cis-1,3-Dichloropropene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	6	20	
Dibromochloromethane	0.0445	0.0020	mg/kg wet	0.05000		89	70-130	7	20	
Dibromomethane	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	3	20	
Dichlorodifluoromethane	0.0534	0.0100	mg/kg wet	0.05000		107	70-130	1	20	
Diethyl Ether	0.0596	0.0050	mg/kg wet	0.05000		119	70-130	6	20	
Di-isopropyl ether	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	5	20	
Ethyl tertiary-butyl ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	5	20	
Ethylbenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	5	20	
Hexachlorobutadiene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	2	20	
Isopropylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
Methyl tert-Butyl Ether	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	6	20	
Methylene Chloride	0.0482	0.0100	mg/kg wet	0.05000		96	70-130	3	20	
Naphthalene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	9	20	
n-Butylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	2	20	
n-Propylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
sec-Butylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	2	20	
Styrene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	6	20	
tert-Butylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	3	20	
Tertiary-amyl methyl ether	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
Tetrachloroethene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	5	20	
Tetrahydrofuran	0.0611	0.0050	mg/kg wet	0.05000		122	70-130	10	20	
Toluene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	3	20	
trans-1,2-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
trans-1,3-Dichloropropene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
Trichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	2	20	

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Client Name: East Coast Engineering
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CK82626 - 5035										
Trichlorofluoromethane	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	0.8	20	
Vinyl Chloride	0.0525	0.0100	mg/kg wet	0.05000		105	70-130	1	20	
Xylene O	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	5	20	
Xylene P,M	0.0972	0.0100	mg/kg wet	0.1000		97	70-130	6	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0500*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0509*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Toluene-d8	*0.0457*		mg/kg wet	*0.05000*		*91*	*70-130*			
8081B Organochlorine Pesticides										
Batch CK82502 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch CK82502 - 3546										
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0137*		mg/kg wet	*0.01250*		*109*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0141*		mg/kg wet	*0.01250*		*113*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0118*		mg/kg wet	*0.01250*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0123*		mg/kg wet	*0.01250*		*99*	*30-150*			
LCS										
4,4´-DDD	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
4,4´-DDD [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
4,4´-DDE	0.0118	0.0025	mg/kg wet	0.01250		95	40-140			
4,4´-DDE [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
4,4´-DDT	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
4,4´-DDT [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140			
Aldrin	0.0117	0.0025	mg/kg wet	0.01250		94	40-140			
Aldrin [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
alpha-BHC	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
alpha-BHC [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
alpha-Chlordane	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			
alpha-Chlordane [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140			
beta-BHC	0.0118	0.0025	mg/kg wet	0.01250		95	40-140			
beta-BHC [2C]	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
delta-BHC	0.0092	0.0025	mg/kg wet	0.01250		74	40-140			
delta-BHC [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140			
Dieldrin	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Dieldrin [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
Endosulfan I	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Endosulfan I [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
Endosulfan II	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
Endosulfan II [2C]	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
Endosulfan Sulfate	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Endosulfan Sulfate [2C]	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			
Endrin	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Endrin [2C]	0.0134	0.0025	mg/kg wet	0.01250		108	40-140			
Endrin Ketone	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
Endrin Ketone [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
gamma-BHC (Lindane)	0.0125	0.0015	mg/kg wet	0.01250		100	40-140			
gamma-BHC (Lindane) [2C]	0.0130	0.0015	mg/kg wet	0.01250		104	40-140			

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Client Name: East Coast Engineering
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch CK82502 - 3546										
gamma-Chlordane	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
gamma-Chlordane [2C]	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
Heptachlor	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
Heptachlor [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Heptachlor Epoxide	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Heptachlor Epoxide [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
Hexachlorobenzene	0.0117	0.0025	mg/kg wet	0.01250		93	40-140			
Hexachlorobenzene [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Methoxychlor	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Methoxychlor [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Surrogate: Decachlorobiphenyl	*0.0134*		mg/kg wet	*0.01250*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0117*		mg/kg wet	*0.01250*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0118*		mg/kg wet	*0.01250*		*94*	*30-150*			
LCS Dup										
4,4´-DDD	0.0117	0.0025	mg/kg wet	0.01250		94	40-140	2	30	
4,4´-DDD [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	1	30	
4,4´-DDE	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	3	30	
4,4´-DDE [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140	6	30	
4,4´-DDT	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	0.6	30	
4,4´-DDT [2C]	0.0142	0.0025	mg/kg wet	0.01250		113	40-140	2	30	
Aldrin	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	2	30	
Aldrin [2C]	0.0136	0.0025	mg/kg wet	0.01250		108	40-140	3	30	
alpha-BHC	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	0.9	30	
alpha-BHC [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	5	30	
alpha-Chlordane	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	3	30	
alpha-Chlordane [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	4	30	
beta-BHC	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	5	30	
beta-BHC [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	4	30	
delta-BHC	0.0097	0.0025	mg/kg wet	0.01250		77	40-140	5	30	
delta-BHC [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	5	30	
Dieldrin	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	0.5	30	
Dieldrin [2C]	0.0140	0.0025	mg/kg wet	0.01250		112	40-140	3	30	
Endosulfan I	0.0122	0.0025	mg/kg wet	0.01250		98	40-140	2	30	
Endosulfan I [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140	4	30	
Endosulfan II	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	1	30	
Endosulfan II [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	2	30	
Endosulfan Sulfate	0.0118	0.0025	mg/kg wet	0.01250		95	40-140	1	30	
Endosulfan Sulfate [2C]	0.0124	0.0025	mg/kg wet	0.01250		100	40-140	2	30	
Endrin	0.0128	0.0025	mg/kg wet	0.01250		102	40-140	1	30	
Endrin [2C]	0.0138	0.0025	mg/kg wet	0.01250		111	40-140	3	30	
Endrin Ketone	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	0	30	
Endrin Ketone [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	0.4	30	
gamma-BHC (Lindane)	0.0129	0.0015	mg/kg wet	0.01250		103	40-140	4	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch CK82502 - 3546										
gamma-BHC (Lindane) [2C]	0.0136	0.0015	mg/kg wet	0.01250		109	40-140	5	30	
gamma-Chlordane	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	2	30	
gamma-Chlordane [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	3	30	
Heptachlor	0.0122	0.0025	mg/kg wet	0.01250		97	40-140	3	30	
Heptachlor [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	3	30	
Heptachlor Epoxide	0.0127	0.0025	mg/kg wet	0.01250		102	40-140	1	30	
Heptachlor Epoxide [2C]	0.0140	0.0025	mg/kg wet	0.01250		112	40-140	3	30	
Hexachlorobenzene	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	1	30	
Hexachlorobenzene [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	3	30	
Methoxychlor	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	3	30	
Methoxychlor [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0130*		mg/kg wet	*0.01250*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0136*		mg/kg wet	*0.01250*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0118*		mg/kg wet	*0.01250*		*94*	*30-150*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CK82108 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0187*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		89	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CK82108 - 3540C										
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		93	40-140			
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		85	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		83	40-140			
Surrogate: Decachlorobiphenyl	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		92	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		96	40-140	3	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		88	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		86	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch CK82116 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Hexatriacontane (C36)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.02*		mg/kg wet	*5.000*		*80*	*40-140*			
LCS										
Decane (C10)	1.6	0.2	mg/kg wet	2.500		64	40-140			
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		86	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		86	40-140			
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		87	40-140			

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CK82116 - 3546										
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Hexatriacontane (C36)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Nonadecane (C19)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		60	30-140			
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Total Petroleum Hydrocarbons	29.6	10.0	mg/kg wet	35.00		85	40-140			
Triacontane (C30)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Surrogate: O-Terphenyl	*4.20*		mg/kg wet	*5.000*		*84*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		74	40-140	14	25	
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		83	40-140	16	25	
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		92	40-140	7	25	
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		89	40-140	11	25	
Hexatriacontane (C36)	2.5	0.2	mg/kg wet	2.500		99	40-140	5	25	
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		100	40-140	8	25	
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		68	30-140	13	25	
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Octadecane (C18)	2.2	0.2	mg/kg wet	2.500		90	40-140	8	25	
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		93	40-140	7	25	
Tetradecane (C14)	2.1	0.2	mg/kg wet	2.500		85	40-140	12	25	
Total Petroleum Hydrocarbons	32.1	10.0	mg/kg wet	35.00		92	40-140	8	25	
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		92	40-140	6	25	
Surrogate: O-Terphenyl	*4.38*		mg/kg wet	*5.000*		*88*	*40-140*			
8151A Chlorinated Herbicides										
Batch CK82029 - 3546										
Blank										
2,4,5-T	ND	0.010	mg/kg wet							
2,4,5-T [2C]	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex)	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	0.010	mg/kg wet							
2,4-D	ND	0.047	mg/kg wet							
2,4-D [2C]	ND	0.047	mg/kg wet							
2,4-DB	ND	0.048	mg/kg wet							
2,4-DB [2C]	ND	0.048	mg/kg wet							
Dalapon	ND	0.046	mg/kg wet							
Dalapon [2C]	ND	0.046	mg/kg wet							
Dicamba	ND	0.009	mg/kg wet							

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch CK82029 - 3546										
Dicamba [2C]	ND	0.009	mg/kg wet							
Dichlorprop	ND	0.047	mg/kg wet							
Dichlorprop [2C]	ND	0.047	mg/kg wet							
Dinoseb	ND	0.048	mg/kg wet							
Dinoseb [2C]	ND	0.048	mg/kg wet							
MCPA	ND	2.32	mg/kg wet							
MCPA [2C]	ND	2.32	mg/kg wet							
MCPP	5.54	2.35	mg/kg wet							
MCPP [2C]	ND	2.35	mg/kg wet							
Surrogate: DCAA	*0.178*		mg/kg wet	*0.2000*		*89*	*30-150*			
Surrogate: DCAA [2C]	*0.166*		mg/kg wet	*0.2000*		*83*	*30-150*			
LCS										
2,4,5-T	0.017	0.010	mg/kg wet	0.01900		90	40-140			
2,4,5-T [2C]	0.014	0.010	mg/kg wet	0.01900		72	40-140			
2,4,5-TP (Silvex)	0.015	0.010	mg/kg wet	0.01900		80	40-140			
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		74	40-140			
2,4-D	0.183	0.047	mg/kg wet	0.1880		97	40-140			
2,4-D [2C]	0.172	0.047	mg/kg wet	0.1880		91	40-140			
2,4-DB	0.191	0.048	mg/kg wet	0.1900		101	40-140			
2,4-DB [2C]	0.162	0.048	mg/kg wet	0.1900		85	40-140			
Dalapon	0.262	0.046	mg/kg wet	0.4550		58	40-140			
Dalapon [2C]	0.306	0.046	mg/kg wet	0.4550		67	40-140			
Dicamba	0.015	0.009	mg/kg wet	0.01880		78	40-140			
Dicamba [2C]	0.015	0.009	mg/kg wet	0.01880		80	40-140			
Dichlorprop	0.161	0.047	mg/kg wet	0.1880		85	40-140			
Dichlorprop [2C]	0.155	0.047	mg/kg wet	0.1880		82	40-140			
Dinoseb	0.014	0.048	mg/kg wet	0.09500		15	10-100			
Dinoseb [2C]	0.018	0.048	mg/kg wet	0.09500		19	10-100			
MCPA	15.3	2.32	mg/kg wet	18.60		82	40-140			
MCPA [2C]	17.3	2.32	mg/kg wet	18.60		93	40-140			
MCPP	15.1	2.35	mg/kg wet	18.80		80	40-140			
MCPP [2C]	14.7	2.35	mg/kg wet	18.80		78	40-140			
Surrogate: DCAA	*0.198*		mg/kg wet	*0.2000*		*99*	*30-150*			
Surrogate: DCAA [2C]	*0.204*		mg/kg wet	*0.2000*		*102*	*30-150*			
LCS Dup										
2,4,5-T	0.016	0.010	mg/kg wet	0.01900		86	40-140	5	30	
2,4,5-T [2C]	0.012	0.010	mg/kg wet	0.01900		62	40-140	15	30	
2,4,5-TP (Silvex)	0.014	0.010	mg/kg wet	0.01900		74	40-140	8	30	
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		74	40-140	0	30	
2,4-D	0.162	0.047	mg/kg wet	0.1880		86	40-140	12	30	
2,4-D [2C]	0.147	0.047	mg/kg wet	0.1880		78	40-140	16	30	
2,4-DB	0.166	0.048	mg/kg wet	0.1900		87	40-140	14	30	
2,4-DB [2C]	0.135	0.048	mg/kg wet	0.1900		71	40-140	19	30	
Dalapon	0.273	0.046	mg/kg wet	0.4550		60	40-140	4	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch CK82029 - 3546										
Dalapon [2C]	0.310	0.046	mg/kg wet	0.4550		68	40-140	1	30	
Dicamba	0.014	0.009	mg/kg wet	0.01880		74	40-140	5	30	
Dicamba [2C]	0.014	0.009	mg/kg wet	0.01880		76	40-140	5	30	
Dichlorprop	0.143	0.047	mg/kg wet	0.1880		76	40-140	11	30	
Dichlorprop [2C]	0.140	0.047	mg/kg wet	0.1880		75	40-140	10	30	
Dinoseb	0.012	0.048	mg/kg wet	0.09500		13	10-100	14	30	
Dinoseb [2C]	0.016	0.048	mg/kg wet	0.09500		16	10-100	16	30	
MCPA	13.9	2.32	mg/kg wet	18.60		75	40-140	9	30	
MCPA [2C]	14.2	2.32	mg/kg wet	18.60		77	40-140	19	30	
MCPP	13.0	2.35	mg/kg wet	18.80		69	40-140	15	30	
MCPP [2C]	14.0	2.35	mg/kg wet	18.80		74	40-140	5	30	
Surrogate: DCAA	*0.186*		mg/kg wet	*0.2000*		*93*	*30-150*			
Surrogate: DCAA [2C]	*0.188*		mg/kg wet	*0.2000*		*94*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CK82112 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.167	mg/kg wet							
1,4-Dichlorobenzene	ND	0.167	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.167	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	0.666	mg/kg wet							
2,4-Dinitrotoluene	ND	0.167	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.167	mg/kg wet							
2-Methylnaphthalene	ND	0.167	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.167	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.167	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.167	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK82112 - 3546										
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.167	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.167	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.167	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.167	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.44*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.24*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.88*		mg/kg wet	*5.000*		*78*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.35*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: 2-Fluorophenol	*3.81*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.75*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: Phenol-d6	*4.10*		mg/kg wet	*5.000*		*82*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.12*		mg/kg wet	*3.333*		*94*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.88	0.333	mg/kg wet	3.333		56	40-140			
1,2-Dichlorobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			
1,3-Dichlorobenzene	1.90	0.333	mg/kg wet	3.333		57	40-140			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK82112 - 3546										
1,4-Dichlorobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			
2,4,5-Trichlorophenol	2.24	0.333	mg/kg wet	3.333		67	30-130			
2,4,6-Trichlorophenol	2.13	0.333	mg/kg wet	3.333		64	30-130			
2,4-Dichlorophenol	2.17	0.333	mg/kg wet	3.333		65	30-130			
2,4-Dimethylphenol	2.20	0.333	mg/kg wet	3.333		66	30-130			
2,4-Dinitrophenol	2.31	1.67	mg/kg wet	3.333		69	30-130			
2,4-Dinitrotoluene	2.52	0.333	mg/kg wet	3.333		76	40-140			
2,6-Dinitrotoluene	2.36	0.333	mg/kg wet	3.333		71	40-140			
2-Chloronaphthalene	1.96	0.333	mg/kg wet	3.333		59	40-140			
2-Chlorophenol	2.03	0.333	mg/kg wet	3.333		61	30-130			
2-Methylnaphthalene	2.03	0.333	mg/kg wet	3.333		61	40-140			
2-Methylphenol	2.09	0.333	mg/kg wet	3.333		63	30-130			
2-Nitrophenol	1.98	0.333	mg/kg wet	3.333		60	30-130			
3,3´-Dichlorobenzidine	2.31	0.667	mg/kg wet	3.333		69	40-140			
3+4-Methylphenol	4.52	0.667	mg/kg wet	6.667		68	30-130			
4-Bromophenyl-phenylether	2.22	0.333	mg/kg wet	3.333		66	40-140			
4-Chloroaniline	1.55	0.667	mg/kg wet	3.333		47	40-140			
4-Nitrophenol	2.79	1.67	mg/kg wet	3.333		84	30-130			
Acenaphthene	2.12	0.333	mg/kg wet	3.333		63	40-140			
Acenaphthylene	2.05	0.333	mg/kg wet	3.333		61	40-140			
Acetophenone	2.54	0.667	mg/kg wet	3.333		76	40-140			
Aniline	1.73	1.67	mg/kg wet	3.333		52	40-140			
Anthracene	2.46	0.333	mg/kg wet	3.333		74	40-140			
Azobenzene	2.65	0.333	mg/kg wet	3.333		79	40-140			
Benzo(a)anthracene	2.48	0.333	mg/kg wet	3.333		74	40-140			
Benzo(a)pyrene	2.50	0.167	mg/kg wet	3.333		75	40-140			
Benzo(b)fluoranthene	2.58	0.333	mg/kg wet	3.333		77	40-140			
Benzo(g,h,i)perylene	2.40	0.333	mg/kg wet	3.333		72	40-140			
Benzo(k)fluoranthene	2.40	0.333	mg/kg wet	3.333		72	40-140			
bis(2-Chloroethoxy)methane	2.14	0.333	mg/kg wet	3.333		64	40-140			
bis(2-Chloroethyl)ether	2.00	0.333	mg/kg wet	3.333		60	40-140			
bis(2-chloroisopropyl)Ether	1.95	0.333	mg/kg wet	3.333		59	40-140			
bis(2-Ethylhexyl)phthalate	2.53	0.333	mg/kg wet	3.333		76	40-140			
Butylbenzylphthalate	2.48	0.333	mg/kg wet	3.333		74	40-140			
Carbazole	2.69	0.333	mg/kg wet	3.333		81	40-140			
Chrysene	2.41	0.167	mg/kg wet	3.333		72	40-140			
Dibenzo(a,h)Anthracene	2.43	0.167	mg/kg wet	3.333		73	40-140			
Dibenzofuran	2.20	0.333	mg/kg wet	3.333		66	40-140			
Diethylphthalate	2.62	0.333	mg/kg wet	3.333		79	40-140			
Dimethylphthalate	2.38	0.333	mg/kg wet	3.333		71	40-140			
Di-n-butylphthalate	2.88	0.333	mg/kg wet	3.333		87	40-140			
Di-n-octylphthalate	2.55	0.333	mg/kg wet	3.333		76	40-140			
Fluoranthene	2.69	0.333	mg/kg wet	3.333		81	40-140			
Fluorene	2.37	0.333	mg/kg wet	3.333		71	40-140			
Hexachlorobenzene	2.22	0.333	mg/kg wet	3.333		67	40-140			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK82112 - 3546										
Hexachlorobutadiene	1.92	0.333	mg/kg wet	3.333		58	40-140			
Hexachloroethane	2.04	0.333	mg/kg wet	3.333		61	40-140			
Indeno(1,2,3-cd)Pyrene	2.45	0.333	mg/kg wet	3.333		74	40-140			
Isophorone	2.09	0.333	mg/kg wet	3.333		63	40-140			
Naphthalene	1.98	0.333	mg/kg wet	3.333		59	40-140			
Nitrobenzene	2.19	0.333	mg/kg wet	3.333		66	40-140			
N-Nitrosodimethylamine	1.96	0.333	mg/kg wet	3.333		59	40-140			
Pentachlorophenol	2.34	1.67	mg/kg wet	3.333		70	30-130			
Phenanthrene	2.33	0.333	mg/kg wet	3.333		70	40-140			
Phenol	2.31	0.333	mg/kg wet	3.333		69	30-130			
Pyrene	2.39	0.333	mg/kg wet	3.333		72	40-140			
Pyridine	2.10	1.67	mg/kg wet	3.333		63	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.47*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.27*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.91*		mg/kg wet	*5.000*		*78*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.51*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2-Fluorophenol	*3.87*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.85*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: Phenol-d6	*4.13*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.04*		mg/kg wet	*3.333*		*91*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.87	0.333	mg/kg wet	3.333		56	40-140	0.6	30	
1,2-Dichlorobenzene	1.90	0.333	mg/kg wet	3.333		57	40-140	2	30	
1,3-Dichlorobenzene	1.85	0.333	mg/kg wet	3.333		56	40-140	3	30	
1,4-Dichlorobenzene	1.89	0.333	mg/kg wet	3.333		57	40-140	2	30	
2,4,5-Trichlorophenol	2.32	0.333	mg/kg wet	3.333		70	30-130	4	30	
2,4,6-Trichlorophenol	2.19	0.333	mg/kg wet	3.333		66	30-130	3	30	
2,4-Dichlorophenol	2.14	0.333	mg/kg wet	3.333		64	30-130	1	30	
2,4-Dimethylphenol	2.20	0.333	mg/kg wet	3.333		66	30-130	0	30	
2,4-Dinitrophenol	2.27	1.67	mg/kg wet	3.333		68	30-130	2	30	
2,4-Dinitrotoluene	2.60	0.333	mg/kg wet	3.333		78	40-140	3	30	
2,6-Dinitrotoluene	2.45	0.333	mg/kg wet	3.333		74	40-140	4	30	
2-Chloronaphthalene	2.03	0.333	mg/kg wet	3.333		61	40-140	4	30	
2-Chlorophenol	2.04	0.333	mg/kg wet	3.333		61	30-130	0.4	30	
2-Methylnaphthalene	2.03	0.333	mg/kg wet	3.333		61	40-140	0.2	30	
2-Methylphenol	2.13	0.333	mg/kg wet	3.333		64	30-130	2	30	
2-Nitrophenol	1.94	0.333	mg/kg wet	3.333		58	30-130	2	30	
3,3´-Dichlorobenzidine	2.53	0.667	mg/kg wet	3.333		76	40-140	9	30	
3+4-Methylphenol	4.59	0.667	mg/kg wet	6.667		69	30-130	1	30	
4-Bromophenyl-phenylether	2.37	0.333	mg/kg wet	3.333		71	40-140	7	30	
4-Chloroaniline	1.59	0.667	mg/kg wet	3.333		48	40-140	2	30	
4-Nitrophenol	2.76	1.67	mg/kg wet	3.333		83	30-130	0.8	30	
Acenaphthene	2.18	0.333	mg/kg wet	3.333		65	40-140	3	30	
Acenaphthylene	2.09	0.333	mg/kg wet	3.333		63	40-140	2	30	
Acetophenone	2.54	0.667	mg/kg wet	3.333		76	40-140	0.3	30	

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK82112 - 3546										
Aniline	1.81	1.67	mg/kg wet	3.333		54	40-140	5	30	
Anthracene	2.59	0.333	mg/kg wet	3.333		78	40-140	5	30	
Azobenzene	2.84	0.333	mg/kg wet	3.333		85	40-140	7	30	
Benzo(a)anthracene	2.62	0.333	mg/kg wet	3.333		79	40-140	6	30	
Benzo(a)pyrene	2.66	0.167	mg/kg wet	3.333		80	40-140	6	30	
Benzo(b)fluoranthene	2.83	0.333	mg/kg wet	3.333		85	40-140	9	30	
Benzo(g,h,i)perylene	2.68	0.333	mg/kg wet	3.333		80	40-140	11	30	
Benzo(k)fluoranthene	2.40	0.333	mg/kg wet	3.333		72	40-140	0.03	30	
bis(2-Chloroethoxy)methane	2.14	0.333	mg/kg wet	3.333		64	40-140	0.3	30	
bis(2-Chloroethyl)ether	1.99	0.333	mg/kg wet	3.333		60	40-140	0.6	30	
bis(2-chloroisopropyl)Ether	1.95	0.333	mg/kg wet	3.333		59	40-140	0	30	
bis(2-Ethylhexyl)phthalate	2.65	0.333	mg/kg wet	3.333		79	40-140	5	30	
Butylbenzylphthalate	2.62	0.333	mg/kg wet	3.333		79	40-140	5	30	
Carbazole	2.77	0.333	mg/kg wet	3.333		83	40-140	3	30	
Chrysene	2.56	0.167	mg/kg wet	3.333		77	40-140	6	30	
Dibenzo(a,h)Anthracene	2.68	0.167	mg/kg wet	3.333		81	40-140	10	30	
Dibenzofuran	2.25	0.333	mg/kg wet	3.333		68	40-140	2	30	
Diethylphthalate	2.72	0.333	mg/kg wet	3.333		82	40-140	4	30	
Dimethylphthalate	2.49	0.333	mg/kg wet	3.333		75	40-140	5	30	
Di-n-butylphthalate	2.99	0.333	mg/kg wet	3.333		90	40-140	4	30	
Di-n-octylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140	0.4	30	
Fluoranthene	2.69	0.333	mg/kg wet	3.333		81	40-140	0.02	30	
Fluorene	2.43	0.333	mg/kg wet	3.333		73	40-140	3	30	
Hexachlorobenzene	2.38	0.333	mg/kg wet	3.333		72	40-140	7	30	
Hexachlorobutadiene	1.92	0.333	mg/kg wet	3.333		57	40-140	0.5	30	
Hexachloroethane	1.97	0.333	mg/kg wet	3.333		59	40-140	4	30	
Indeno(1,2,3-cd)Pyrene	2.71	0.333	mg/kg wet	3.333		81	40-140	10	30	
Isophorone	2.08	0.333	mg/kg wet	3.333		62	40-140	0.4	30	
Naphthalene	1.96	0.333	mg/kg wet	3.333		59	40-140	0.7	30	
Nitrobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140	0.7	30	
N-Nitrosodimethylamine	1.94	0.333	mg/kg wet	3.333		58	40-140	1	30	
Pentachlorophenol	2.37	1.67	mg/kg wet	3.333		71	30-130	1	30	
Phenanthrene	2.46	0.333	mg/kg wet	3.333		74	40-140	6	30	
Phenol	2.35	0.333	mg/kg wet	3.333		71	30-130	2	30	
Pyrene	2.62	0.333	mg/kg wet	3.333		79	40-140	9	30	
Pyridine	2.06	1.67	mg/kg wet	3.333		62	40-140	2	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.37*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.44*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.81*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.53*		mg/kg wet	*3.333*		*76*	*30-130*			
Surrogate: 2-Fluorophenol	*3.74*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.75*		mg/kg wet	*3.333*		*83*	*30-130*			
Surrogate: Phenol-d6	*4.06*		mg/kg wet	*5.000*		*81*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.22*		mg/kg wet	*3.333*		*96*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CK82119 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			
Batch CK82120 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.9	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
Z-10	Soil pH measured in water at 19.8 ºC.
U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
Q	Calibration required quadratic regression (Q).
P	Percent difference between primary and confirmation results exceeds 40% (P).
O	Test performed from a previously opened container
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B+	Blank Spike recovery is above upper control limit (B+).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: East Coast Engineering
Client Project ID: Rockwood Homes

ESS Laboratory Work Order: 1811501

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: East Coast Engineering - KPB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1811501
Date Received: 11/19/2018
Project Due Date: 11/28/2018
Days for Project: ~~5 Day~~ Hold

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? No
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? (Yes) / No / NA
13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: 11/9/18 Time: 2205 By:

Sample Receiving Notes:

Did not receive vials for Overburden Pile

~~On hold~~ Samples to be held for further analysis - PRB 11/20/18

14. Was there a need to contact Project Manager? (Yes) / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	291581	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	291582	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	291584	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	291579	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	291580	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	291583	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	291576	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
03	291577	Yes	NA	Yes	VOA Vial - Other	Other	
03	291578	Yes	NA	Yes	VOA Vial - Other	Other	

2nd Review
Are barcode labels on correct containers? (Yes) / No
Are all necessary stickers attached? (Yes) / No

Completed By: Date & Time: 11/19/18 2133
Reviewed By: Date & Time: 11/19/18 2205
Delivered By: 11/19/18 2205

ESS Laboratory Sample and Cooler Receipt Checklist

Client: East Coast Engineering - KPB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1811501
Date Received: 11/19/2018
Project Due Date: 11/28/2018
Days for Project: ~~5 Day~~ Hold

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? No
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? (Yes) / No / NA
13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: 11/9/18 Time: 2205 By:

Sample Receiving Notes:

Did not receive vials for Overburden Pile

On hold

14. Was there a need to contact Project Manager? (Yes) / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted: Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	291581	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	291582	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	291584	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	291579	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	291580	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	291583	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	291576	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
03	291577	Yes	NA	Yes	VOA Vial - Other	Other	
03	291578	Yes	NA	Yes	VOA Vial - Other	Other	

2nd Review

Are barcode labels on correct containers? (Yes / No)
Are all necessary stickers attached? (Yes / No)

Completed By: Date & Time: 11/19/18 2133
Reviewed By: Date & Time: 11/19/18 2205
Delivered By: 11/19/18 2205

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1811501

Turn Time: Standard Rush:

Regulatory State: MA

Reporting Limits: MCP S1

Is this project for any of the following?: ☑ MA-MCP ☐ CT-RCP ☐ RGP ☐ Remediation

Electonic Deliverables ☐ Limit Checker ☐ Excel ☐ Other (Please Specify) →

Company Name	Project #	Project Name
East Coast Engineering, Inc.		Rockwood Homes

Contact Person	Address
Christine LeBlanc	McCabe/Kraseman Street, Dartmouth

City	State	Zip Code	PO #
Dartmouth	MA	02748	

Telephone Number	FAX Number	Email Address
		cleblanc@eastCoastengineering.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	TPH	PCBs	VOAs (EPA Mehtod 8260)	SVOCs (EPA Method 8270)	Metas *	Reactive, Ignitable, Corrosive	Pesticides/Herbicides
1	11/9/18	11:00	Composite	Soil	Loam Pile	X	X		X	X	X	X
2	11/9/18	10:41	Composite	Soil	Overburden Pile	X	X		X	X	X	X
3	11/9/18	11:13	Grab	Soil	Loam Pile			X				
4	11/9/18	HA3 10:55	Grab	Soil	Overburden Pile			X				

Container Type: AG-Amber Glass B-BOD Bottle G-Glass P-Poly S-Sterile V-Vial O-Other

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

	TPH	PCBs	VOAs (EPA Mehtod 8260)	SVOCs (EPA Method 8270)	Metas *	Reactive, Ignitable, Corrosive	Pesticides/Herbicides
Number of Containers:	ag	ag					

Laboratory Use Only

Cooler Present: _____

Seals Intact: _____

Cooler Temperature: 1.1 °C

Sampled by :

Comments: Please specify "Other" preservative and containers types in this space

Metals: As, Ba, Cd, Cr, Pb, Hg; TCLP analysis for RCRA 8 Metals greater than 20x HOLD samples for further analyses

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
	11/9/18 1200		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

OHI Engineering, Inc.
Engineers and Environmental Scientists

APPENDIX B

Newspaper Articles

DEBRIS FILLS MANY VACANT LOTS OF CITY

Unsightly Dumps Spring Up In Several Sections Of New Bedford

This is the first of two stories on unsightly dumps that dot New Bedford.

* * *

In many vacant lots in all sections of New Bedford, unsightly and unsavory dumps have sprung up until it is impossible to walk or drive any distance without encountering one or more of these piles of rusty tin cans, parts of abandoned autos, torn mattresses and broken furniture.

City officials estimate that in addition to the 12 dumps used by the Department of Public Works, there are at least 50 vacant lots throughout the city used as neighborhood dumping grounds.

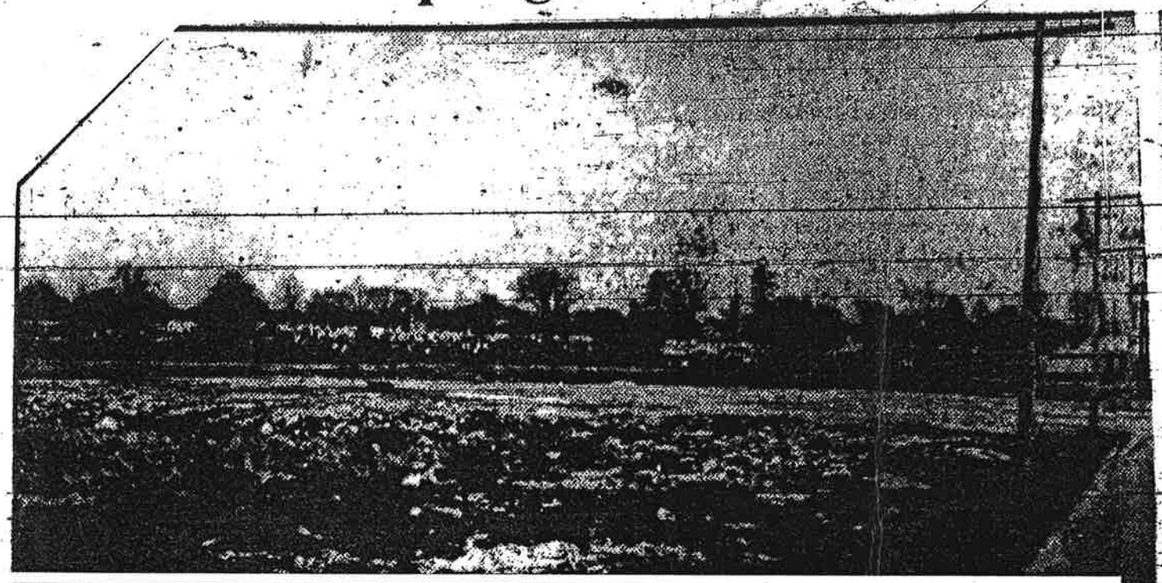
The success of South End residents in having their petition for the elimination of the Charles Street dump considered favorably and the place filled in by the Department of Public Works, is likely to result in many similar petitions from residents in the vicinity of roadside and streetside dumps.

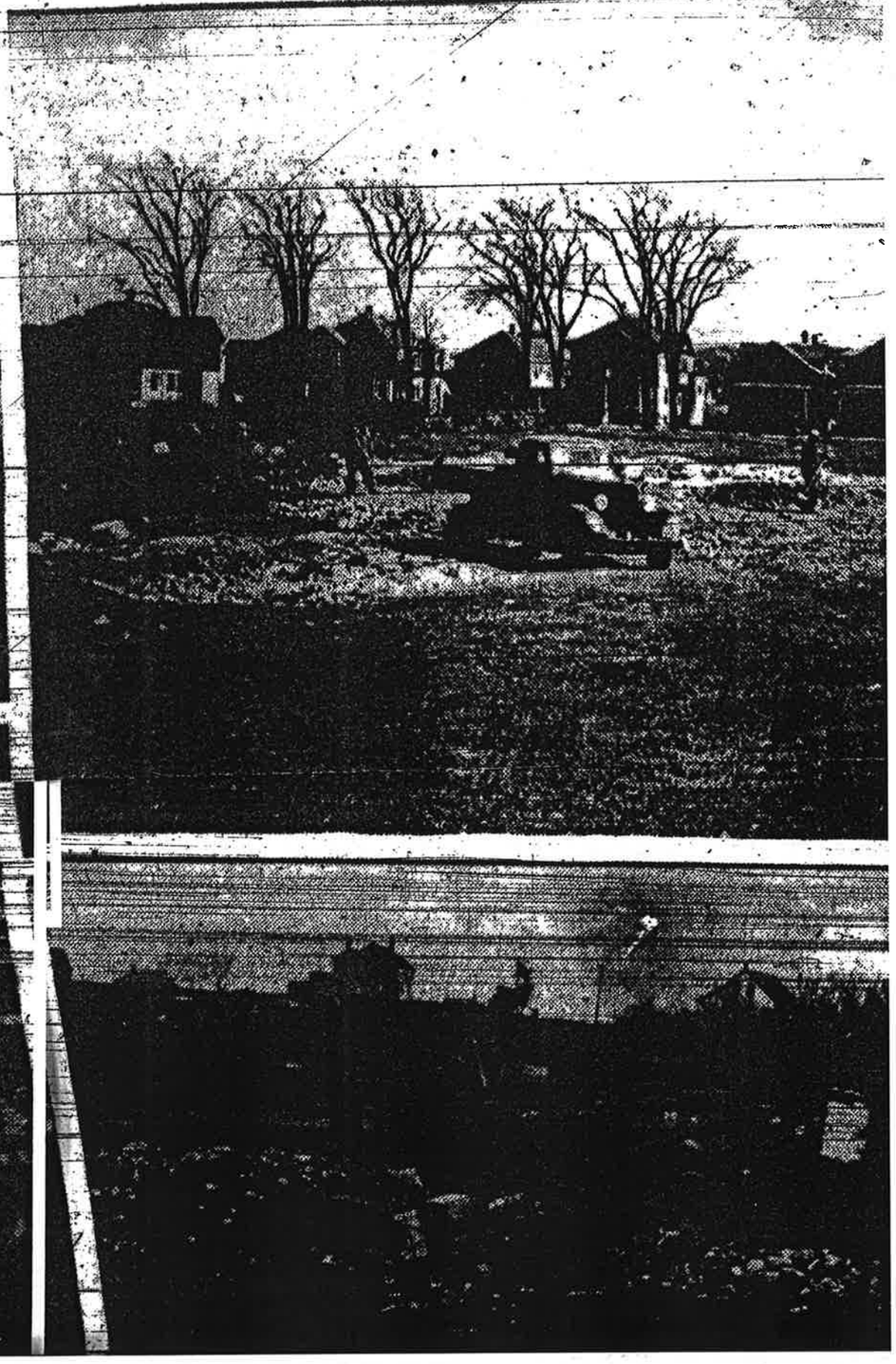
Dumps Ashes

The Department of Public Works daily sends its trucks, loaded with ashes and refuse, to 12 dumps located in every section of the city. Several of these quasi-official dumps, used exclusively by the Department of Public Works, are located in the yards of city-owned abandoned mills; others in spaciously settled sections but a few are found in well populated neighborhoods, as was the Charles Street dump.

Largest dump in the city at

One Dumping Ground Is Eliminated After Protest by Neigh





abandoned mills. Others in sparsely settled sections but a few are found in well populated neighborhoods, as was the Charles Street dump.

Largest dump in the city at present is located in the north side of Parker Street between Oak Grove Cemetery and Rockdale Avenue and extending north from Parker Street for a considerable distance. This dump covers several acres and is on property owned by the city.

The Department of Public Works uses this dump daily and its trucks bring ashes and rubbish from the large residential section surrounding the grounds. There is always a group of men, women and children delving into this dump for unused coal or articles which have been thrown away.

For 100 yards along the north side of Parker Street parts of abandoned cars, old auto seats, mattresses and every conceivable kind of rubbish is thrown.

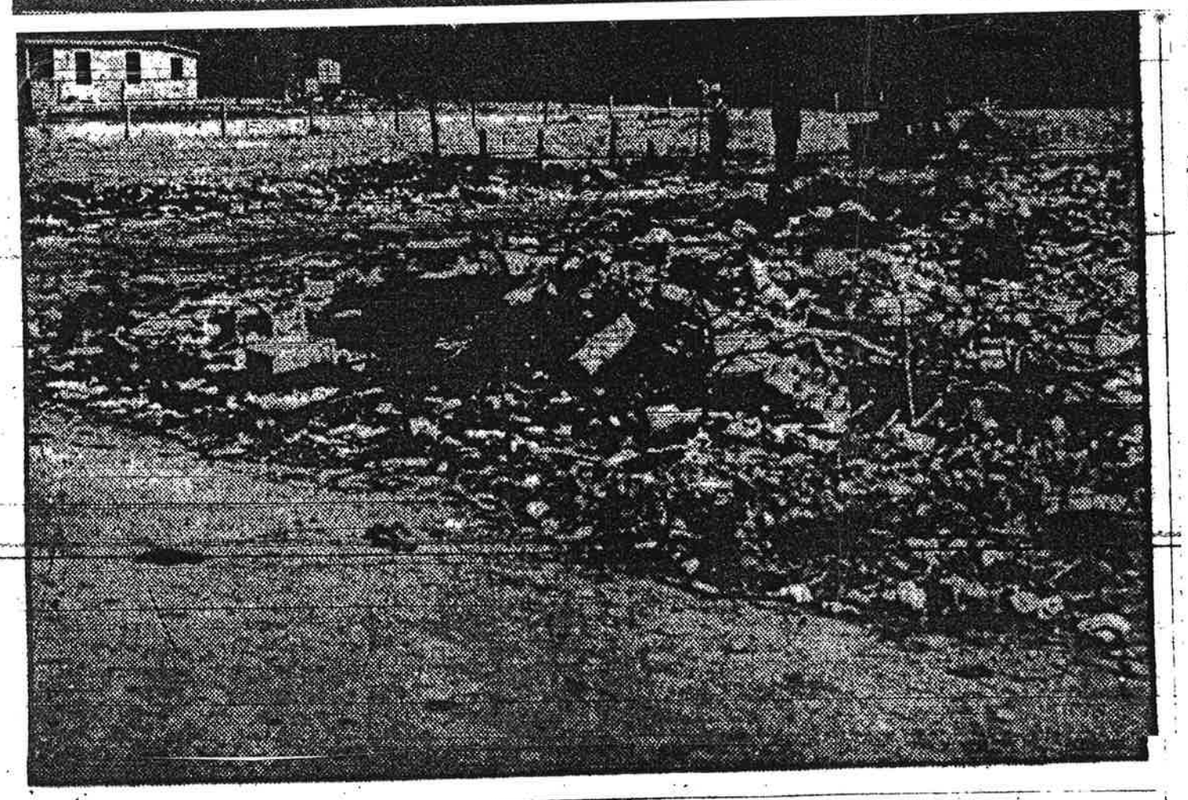
Fires Start

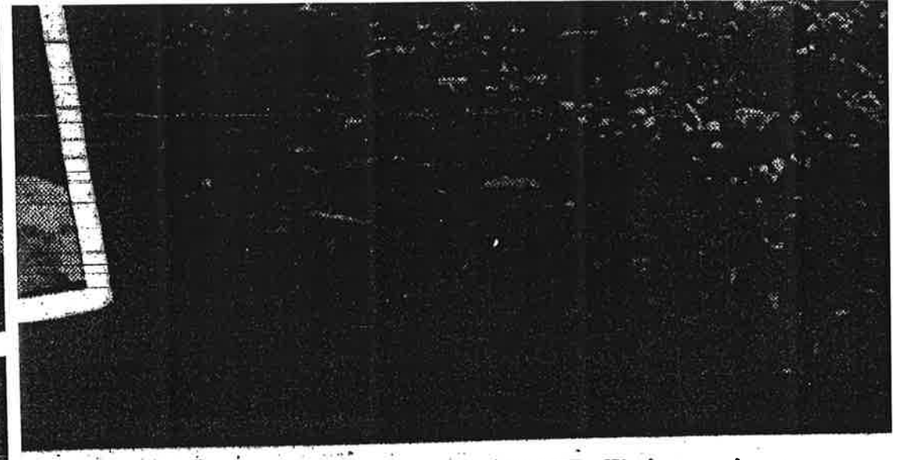
Frequently fires start there and until these fires are extinguished the smell of burning rubbish and the clouds of smoke cause great annoyance to nearby residents.

Drivers of ash-collecting trucks of the Department of Public Works declare rubbish is strewn along the side of Parker Street by individuals who make use of this dump to dispose of refuse, and not by men on city trucks. They say their orders are to drive their trucks far into the dumping grounds from Parker Street before unloading, and they insist they obey this order. Parker Street would not be lined with rubbish, they say, if citizens would follow their example and dump their rubbish a reasonable distance north of the street side.

Although not so large as the Parker Street dump, the dump, on both sides of McCabe Street, west of Rockdale Avenue, is an example of just what a dump inside the city limits should never be allowed to become.

Nobody using this dumping ground seems to have gone far north or south of McCabe Street to get rid of ashes, paper and every conceivable kind of junk and rubbish. Consequently, mounds of rusty tin cans, auto parts and old furniture crowd the sidewalks for nearly an eighth of a mile on either side of the street. The south side seems to be the favorite dumping ground, but every vacant lot on both sides of the street is filled completely with rubbish. The Department of Public Works uses the





UPPER RIGHT—Workmen clear Charles Street dump following protest from residents of vicinity.
UPPER LEFT and CENTER LEFT—Two views of Parker Street dump, near Oak Grove Cemetery.
CENTER RIGHT — Lexington Street dump, west of Jenny Lind Street.
BELOW—McCabe Street dump.

TOWN OFFICIAL TO GET SALARY

Fairhaven Meeting Votes To Pay Moderator For

stead of one was defeated by a 51 to 60 vote.

REPUBLICANS SEE SAVING IN STATES

Say Saltonstall Working 'Under Handicaps'

WASHINGTON, May 29 (AP)— By restoring "sanity" to unbal-

THOMAS RAPS SOVIET UNION

Socialist Says Russia Has Become Totalitarian

WALSH ASSAILS SCHOOL MEASURE

Opposes Bill for Federal Allotments

WASHINGTON, May 29 (AP)— Pending legislation to give states financial grants for education pur-

Phone
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TELEP
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through

get rid of ashes, paper and every conceivable kind of junk and rubbish. Consequently, mounds of rusty tin cans, auto parts and old furniture crowd the sidewalks for nearly an eighth of a mile on either side of the street. The south side seems to be the favorite dumping ground, but every vacant lot on both sides of the street is filled completely with rubbish. The Department of Public Works uses the McCabe Street lots for a dumping ground.

Favorite of Goats

Vacant lots at the head of Lexington Street, west of Jenny Lind Street, and east of the Oesting Farm, provide residents of the far West End with dumping "facilities." The city also uses this location to get rid of the rubbish it collects from homes in the neighborhood. This dump seems to be a favorite spot for goats.

Of all the dumps used by the Department of Public Works, the Lexington Street dump seems the best suited for the purpose, as houses are not close to the location, and it is at the end of a street, not at the side of a much-traveled highway.

Least objectionable of all dumps used by the Department of Public Works are the dumps maintained in the yards of mills which have been abandoned and are the property of the city. These dumps are not within view of pedestrians and auto drivers, and in most instances the mills are not near dwelling houses.

Mill yards are used as dumping grounds exclusively by the Department of Public Works, which has established official dumps in yards of the Fairhaven Mills and the Whitman Mills in the North End, and the Butler Mill in the South End.

* * *

Next: Reason ascribed for use of vacant lots here as neighborhood dumping grounds.

DROWN WHILE WADING

STAMFORD, Conn., May 29 (AP)—Funeral arrangements were being made today for two young brothers, Rodney, seven, and George Waterbury, four, who drowned while wading in a gravel pit beside the Noroton River. Rodney was one of a set of triplets and George one of a pair of twins.

REPUBLICANS SEE SAVING IN STATES

Say Saltonstall Working 'Under Handicaps'

WASHINGTON, May 29 (AP)—By restoring "sanity" to unbalanced budgets inherited from Democratic predecessors," Republican governors and legislators will save the states more than $100,000,000 in the next two years, the Republican National Committee estimated today.

In Massachusetts, the committee said, Governor Saltonstall is working under "handicaps." The statement added:

"Governor Saltonstall reports that $10,000,000 of the increase in the 1939 budget is traceable to 1938 alone. The preceding Governor left just $15,000 in the cash drawer. Last year he had $4,300,000 in free cash.

"There was an additional $1,500,000 for debt service incurred because of the hurricane and there was a $5,000,000 increase in welfare disbursements to cities and towns for money that had already been spent by them."

HOLY GHOST FEAST OBSERVANCE CLOSES

Solemn High Mass, offered yesterday by the Monsignor Antonio P. Vieira, pastor of Mt. Carmel Church, marked the close of a weekend observance of the Feast of the Holy Ghost, one of the major events in the Portuguese religious calendar. The Rev. John V. Resendes, deacon, and the Rev. Joseph V. Valerio, sub-deacon assisted in the ceremonies.

The Holy Ghost Club held an annual celebration of the occasion yesterday at its clubrooms in Bridge Street, Fairhaven. An impressive procession, including the Drill Team of the Portuguese-American Civic League and the State Band of New Bedford carried the Crown of the Holy Ghost. The crown has been exhibited throughout the week at the home of Manuel Caton, 86 Adams Street, Fairhaven.

THOMAS RAPS SOVIET UNION

Socialist Says Russia Has Become Totalitarian State

Norman Thomas, national leader of the Socialist Party, spoke at Labor Temple last night at a meeting presided over by Toby Mendes. International war dangers and American policies in relation to them were discussed.

The Soviet Union is not a fit country to lead a "United States of Europe," Mr. Thomas declared, in answer to a question. He said he never has been a Communist, but once had high hopes for Russia.

"After what I have seen and heard in Russia, and from my careful reading of the last two or three years, I am convinced now Russia is nothing more or less than another totalitarian state," the speaker asserted.

He said Lenin had started out to do great things for Russia Unde Stalin, however, Lenin's plans ar not being realized, he added. A nev bureaucracy is being built up, mor people have been slain, more throwi into concentration camps and mis treated brutally, than in any othe totalitarian state, Mr. Thomas de clared.

The Pittman "cash-and-carry" bill probably would lead to new loans to nations which have not re paid their borrowings of the las war," Mr. Thomas said.

ARCHBISHOP RETURNS

NEWTON, May 29 (UP)—Archbishop Francis J. Spellman of New York was visiting Sacred Heart Rectory here today to clean up minor affairs in connection with his former post as Auxiliary Bishop of Boston. He will remain several days and was expected to visit his mother's grave at St. Patrick's Cemetery, Rockland.

WALSH ASSAILS SCHOOL MEASURE

Opposes Bill for Federal Allotments

WASHINGTON, May 29 (AP)—Pending legislation to give states financial grants for education purposes will lead to domination of the public school system by the Federal Government, Senator Walsh (D.-Mass.) declared today.

"We cannot undertake to subsidize our public schools from the Federal Treasury," Walsh said, "and still leave the schools free of the taint of Federal control.

"The most potent weapon of dictators and revolutionists is the control of schools and the education of youth. The present bill is the opening wedge."

Walsh today was to file a minority report on the bill approved by the Senate Education Committee.

AUTHOR DIES

NEW YORK, May 29 (INS)—Funeral services will be held tomorrow for James Howard Bridge, 83, author and editor who was secretary to Herbert Spencer, the British philosopher, and Andrew

DUMP CONTROL LAW IS CALLED DIRE NECESSITY

City Councils of Past Held Responsible For Eyesores Here

This is the last of two stories on unsightly dumps that dot New Bedford.

* * *

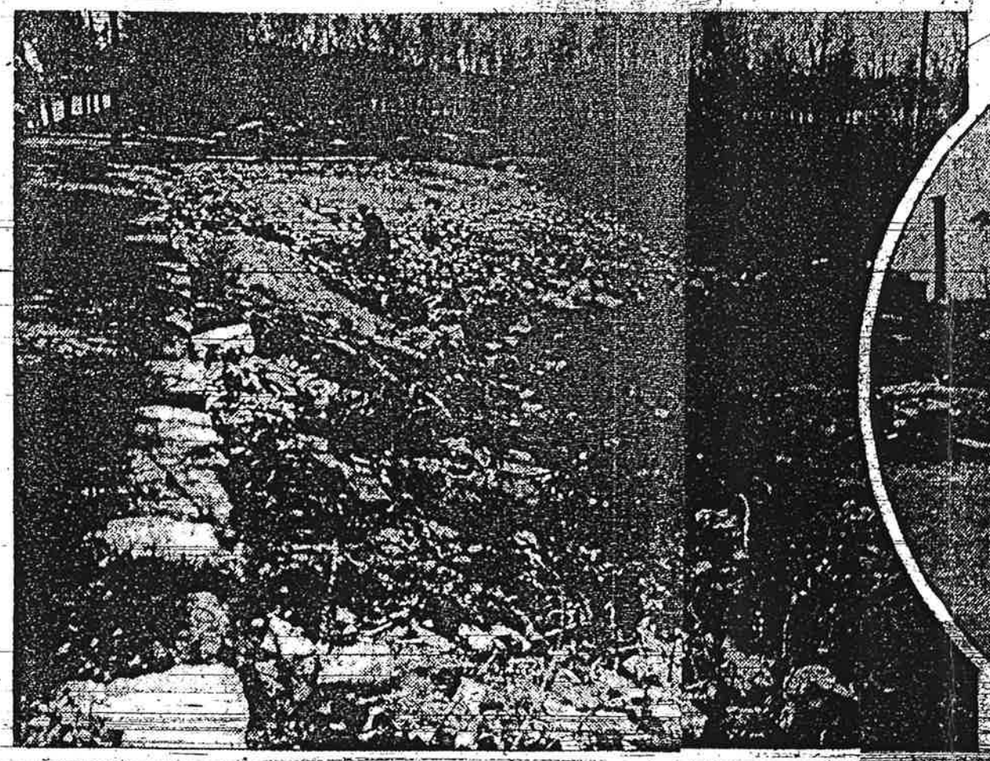
Failure of City Council of the past to provide an ordinance governing the establishment, maintenance and control of dumps within the city limits is held responsible by observers for the use of vacant lots in every section of New Bedford as neighborhood dumping grounds which not only are offensive to residents but also spoil the natural beauty of the city.

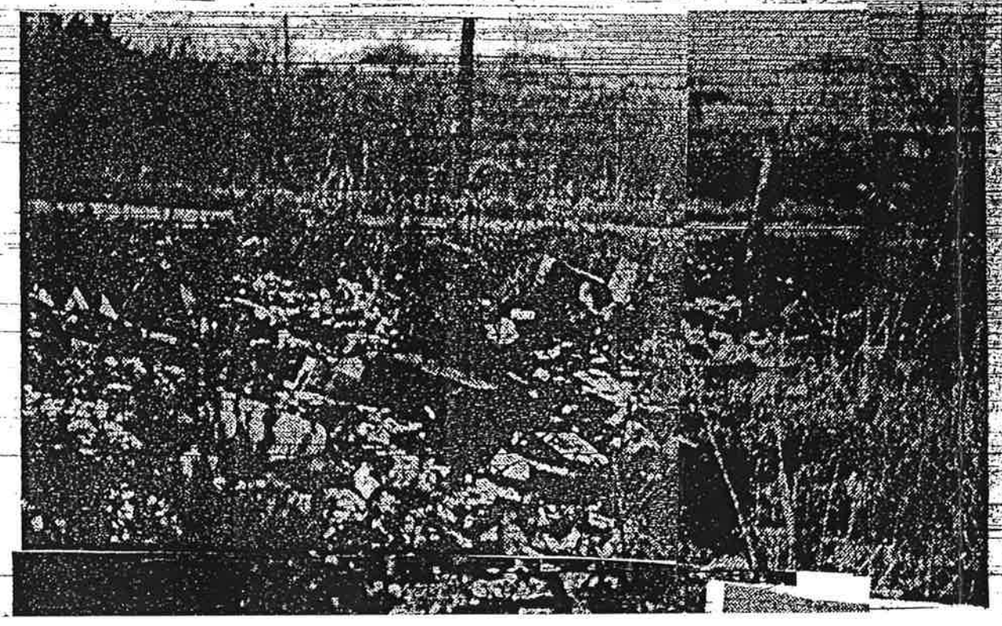
City Clerk Charles W. Deasy said today he had searched the ordinances but could find none prohibiting establishment of dumping grounds anywhere in the city.

Owners of vacant lots establish street-side dumps on their property, and invite the neighborhood to use such places for dumping grounds without fear of arrest or prosecution, it was pointed out.

Many owners of land graded below the street level invite dumping to provide a cheap way of filling in their property. Police are powerless to prevent such use of property no matter how strenuously citizens complain that such dumps are marring the appearance of the neighborhood. Only when the Health Department declares a dump a menace can dumping be prohibited.

No better example of property owners permitting vacant land below the grade of the street to be filled in by the promiscuous dumping of old tin cans, ashes and rubbish of every sort, can be found, perhaps, than a lot at the northwest corner of Ashley Boulevard and Dutton Street. The appearance of this unofficial dump is an eyesore to auto drivers and pedestrians using this main highway into New Bedford from Taunton and Boston.





Dumps Here Protested as Handicap In Progress

UPPER RIGHT—Belleville Avenue, foot of Perry Street, north of Nashawena B Mill; sign reads, "Dumping Here Prohibited."

UPPER LEFT—Ashley Boulevard and Dutton Street dump.

CENTER—Two views of Chaffee Street street-side dump.

BELOW—Parker Street dump, east of Rockdale Avenue.

Boston.

Act on Complaints

The Health Department has attempted to eliminate street-side dumps, officials pointed out. When complaints are lodged with the Health Department from persons in the vicinity of dump areas not listed by the Department of Public Works as being used by this department, a representative of the Health Department investigates.

If the representative reports to the Department that such dumps in vacant lots and by street-sides constitute an unhealthy nuisance, the Department takes action. The dump is marked by the Health Department with a printed board sign reading, "Dumping Here Prohibited." The Health Department then notifies the Police Department, and patrolmen on beats where these posted dumps are located are instructed to enforce the "no dumping" order.

Patrolmen assert, however, it is almost impossible to prevent persons from dumping ashes, rubbish and empty tin cans on lots which they are accustomed to use for this purpose, even though the lots are posted. The only difference posting lots makes, patrolmen say, is that rubbish is dumped there when the policeman on the beat is not in the immediate vicinity.

Some owners of lots formerly used as active dumps do not show any desire to clear them, make them fit for use and police declare they have no authority to order such lots cleaned.

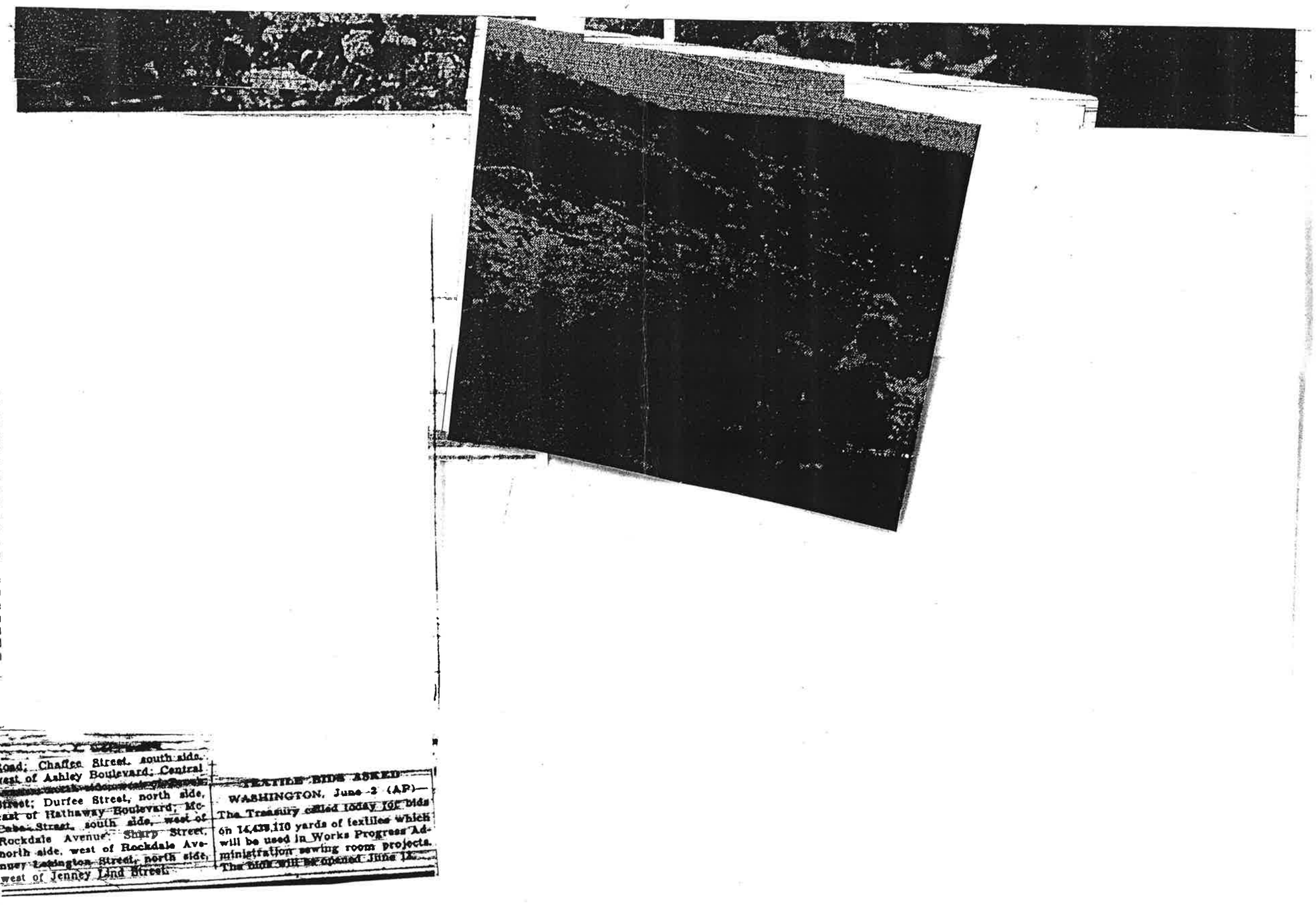
Chief Offers Solution

"Give the Police Department proper authority and these street-side dumps will disappear like chaff before the wind, and the owners of lots where they exist will cover the piles of rubbish with dirt," Police Chief Samuel D. McLeod promised.

"It is absolutely necessary that dumping grounds be maintained in different sections of New Bedford, otherwise rubbish collection trucks of the Department of Public Works would have to cart loads of rubbish long distances, the Department [illegible] work, and the cost of such long hauls would be prohibitive," said Edward T. Hodges, Commissioner of Public Works.

"The Department establishes dumps only where owners of vacant land request that their property be filled with ashes. If individuals who dump ashes and rubbish would dump only on land used by the Public Works Department and cease making dumping places of nearly every vacant lot, irrespective of the wish of the property owners and nearby residents, the city would not have such a large number of street-side and road-side dumps, and the community would look neater and cleaner to visitors, tourists and residents who have to walk or drive past these dumps in every section of the city."

The Department of Public Works also uses the following locations for the dumping of ashes and rubbish: Parker Street, north side, west of Liberty Street; Howard



Road; Chaffee Street, south side, west of Ashley Boulevard; Central Street; Durfee Street, north side, east of Hathaway Boulevard; McCabe Street, south side, west of Rockdale Avenue; Sharp Street, north side, west of Rockdale Avenue; Lexington Street, north side, west of Jenney Pond Street.

TEXTILE BIDS ASKED

WASHINGTON, June 2 (AP)—The Treasury called today for bids on 14,439,110 yards of textiles which will be used in Works Progress Administration sewing room projects. The bids will be opened June 12.

OHI Engineering, Inc.
Engineers and Environmental Scientists

APPENDIX C

Registry of Deeds Plans

Welcome to 20/20 Perfect Vision Land Records I2: ImageViewer - Google Chrome

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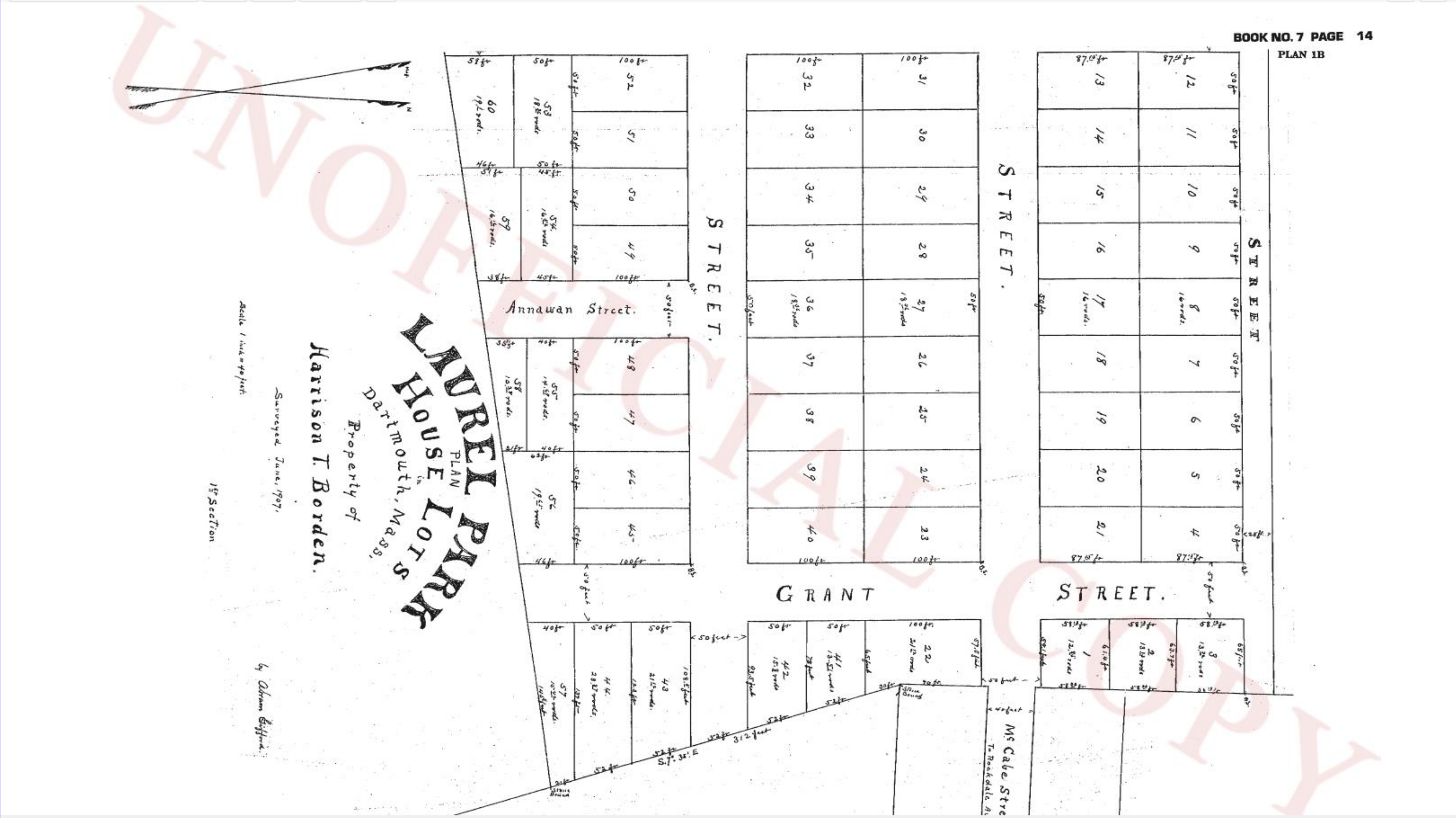

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1/14/2019

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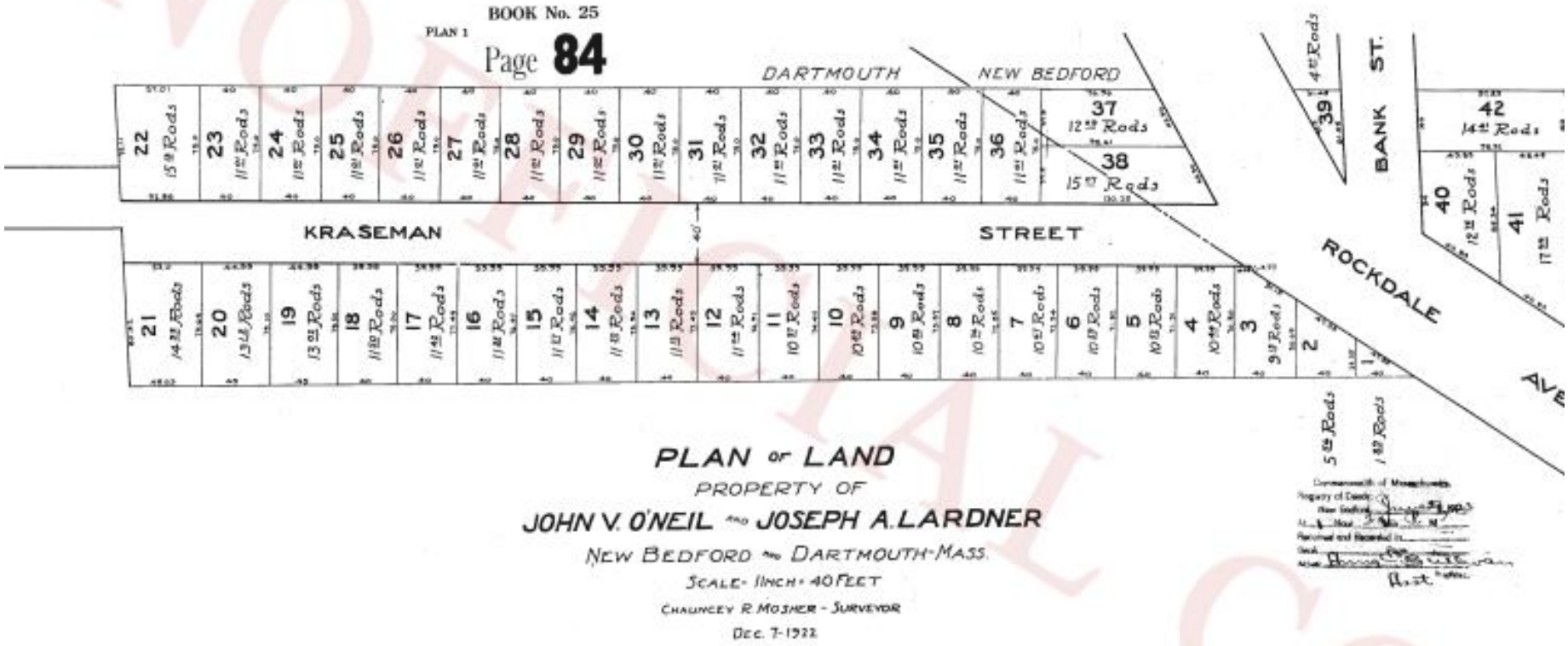

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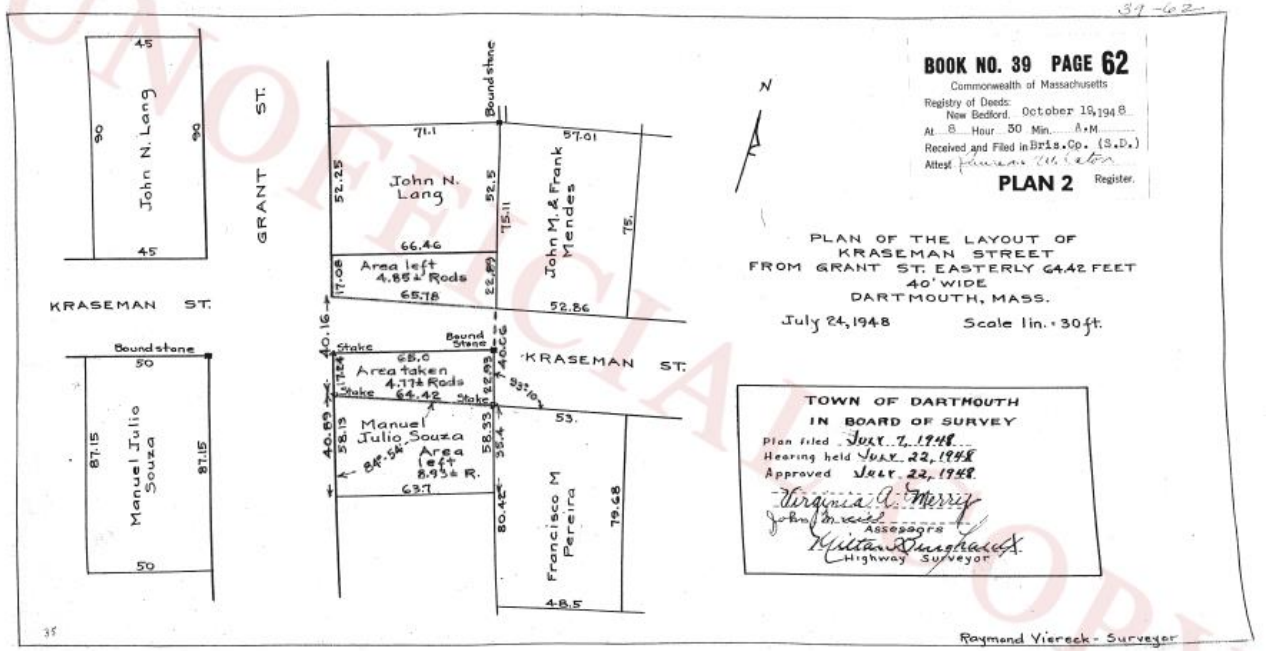
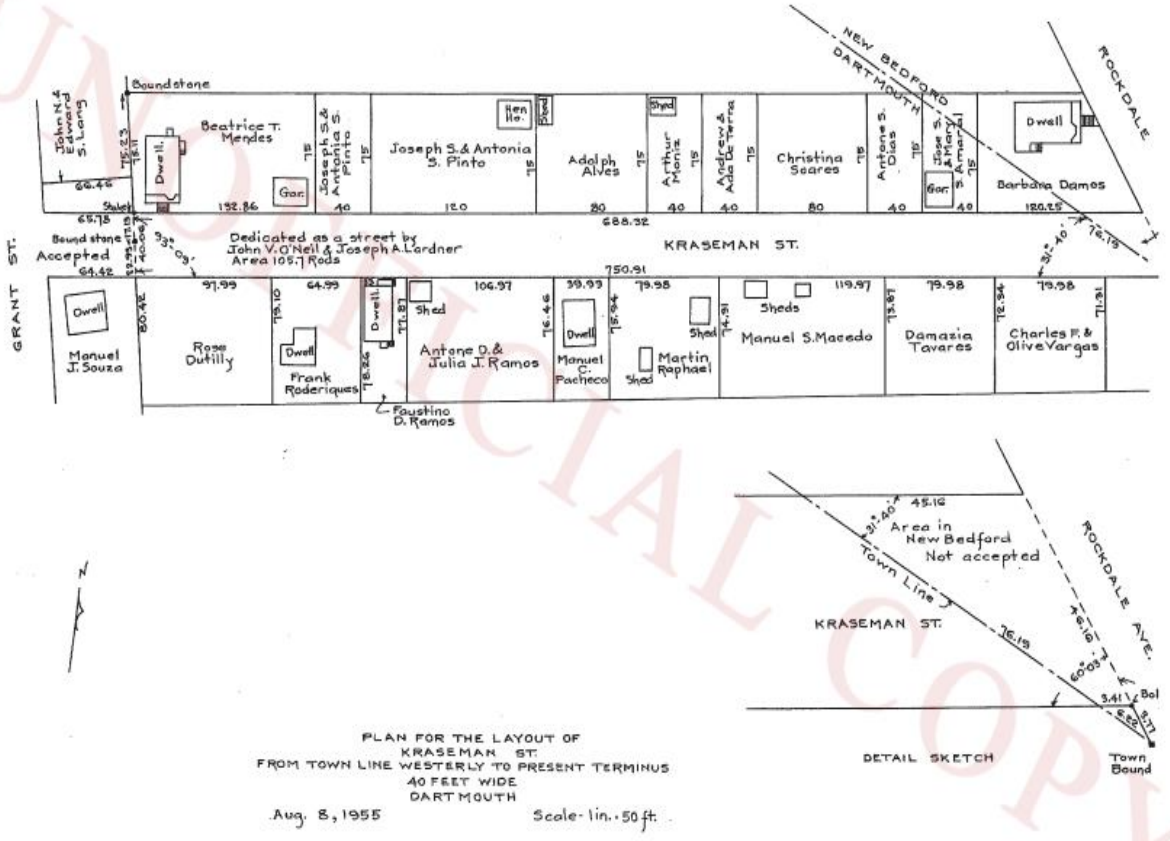


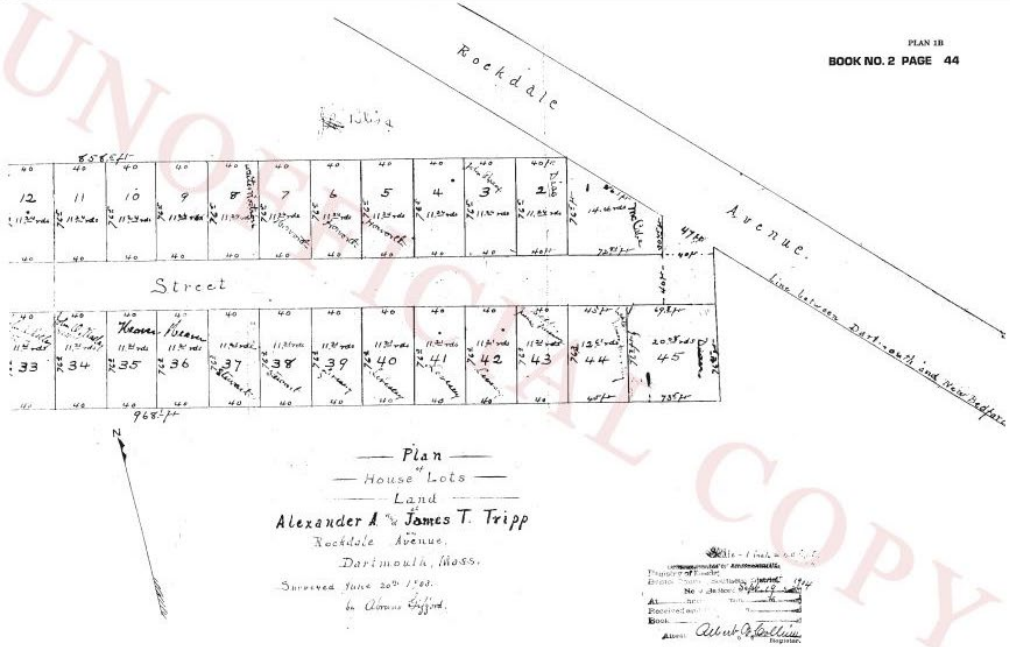


PLAN FOR THE LAYOUT OF
KRASEMAN ST.
FROM TOWN LINE WESTERLY TO PRESENT TERMINUS
40 FEET WIDE
DARTMOUTH

Aug. 8, 1955 Scale- 1in. - 50 ft.

52-31

PLAN 1B
BOOK NO. 2 PAGE 44



Plan
House Lots
Land
Alexander A. & James T. Tripp
Rockdale Avenue,
Dartmouth, Mass.
Surveyed June 20th 1908.
by Almus Gifford.

Welcome to 20/20 Perfect Vision Land Records I2: ImageViewer - Google Chrome

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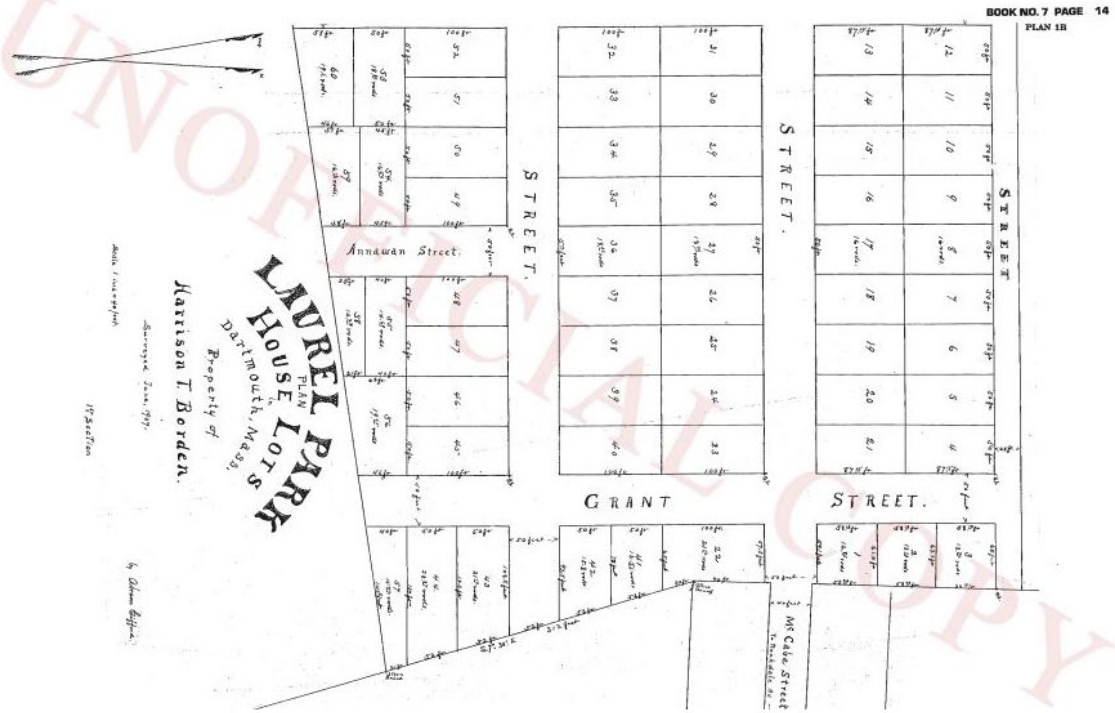

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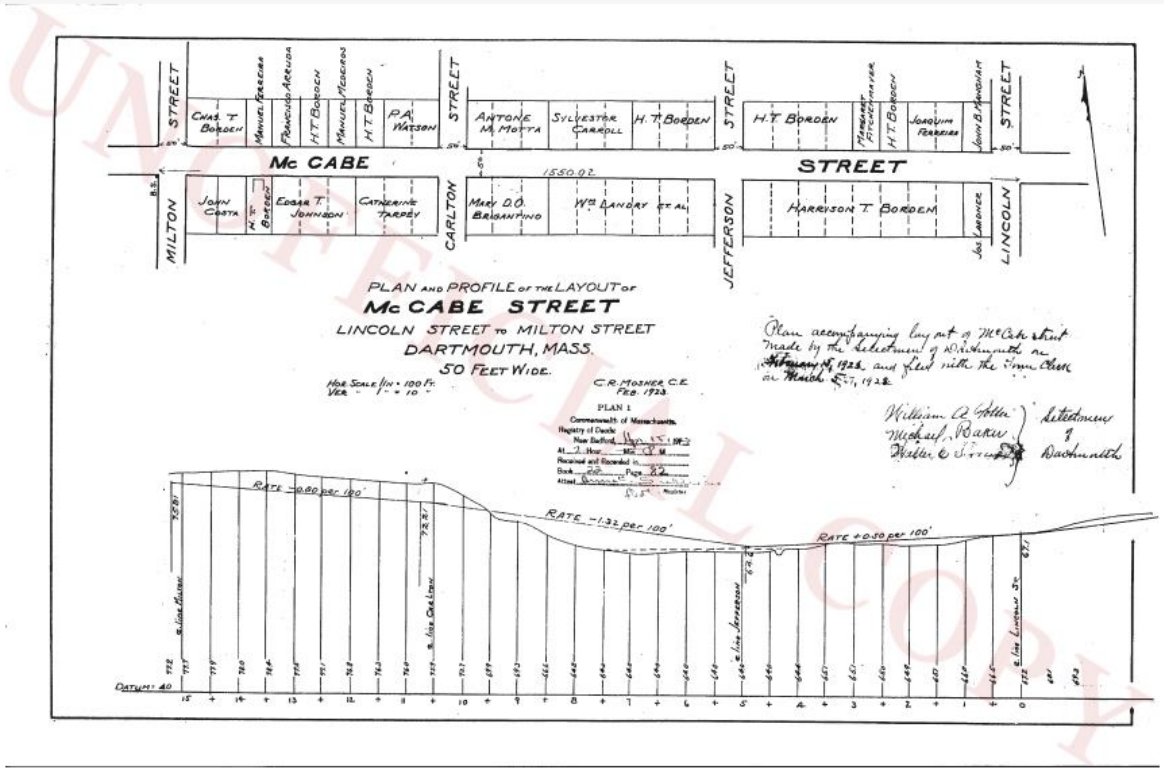

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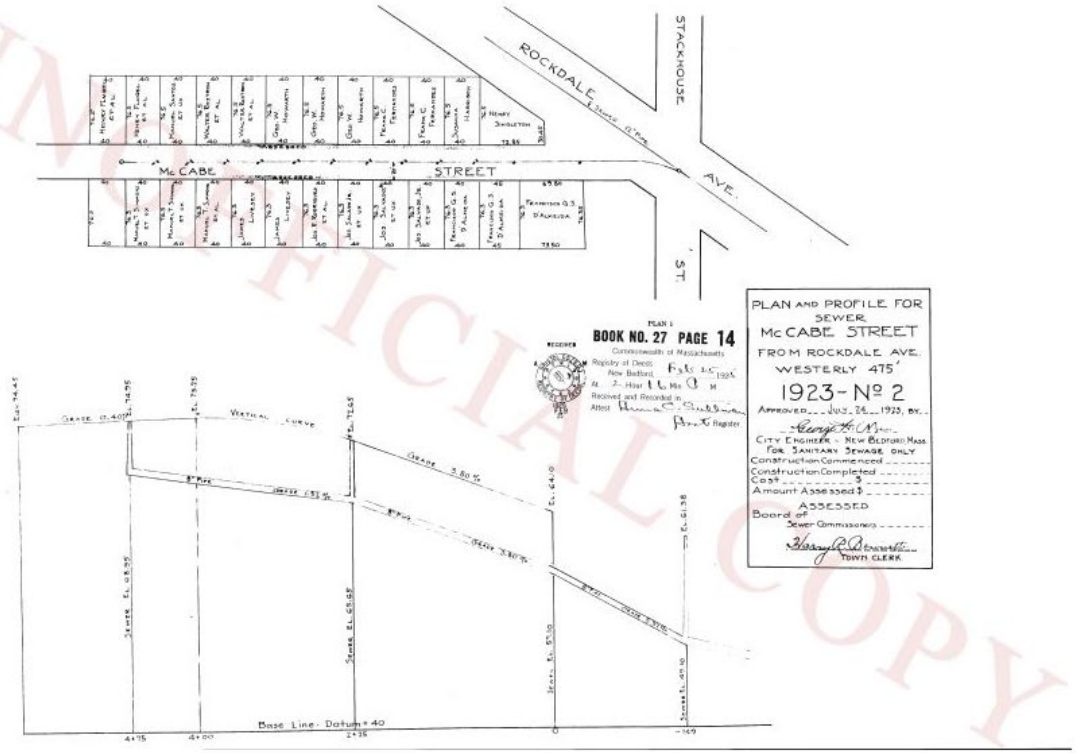

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5 of 9

PLAN 6

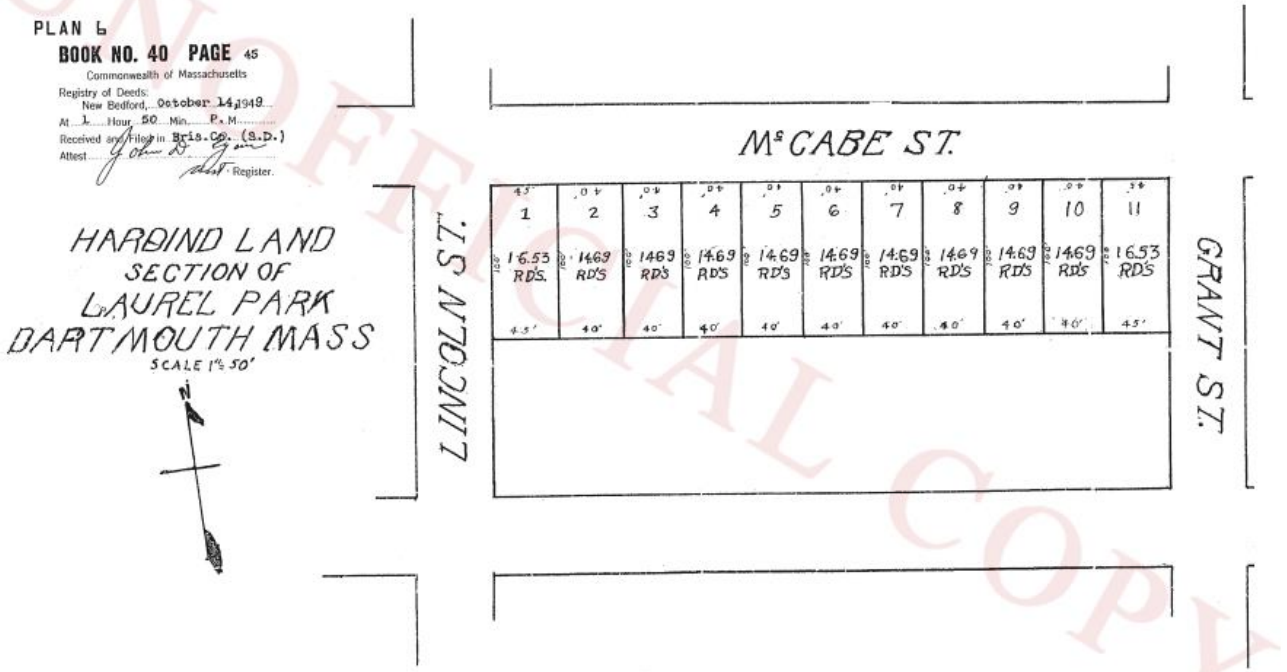
BOOK NO. 40 PAGE 45

Commonwealth of Massachusetts

Registry of Deeds:
New Bedford, October 14, 1949
At 1 Hour 20 Min P. M.
Received and Filed in Bris. Co. (S.D.)
Attest: John D. Egan
Register.

HARBIND LAND
SECTION OF
LAUREL PARK
DARTMOUTH MASS

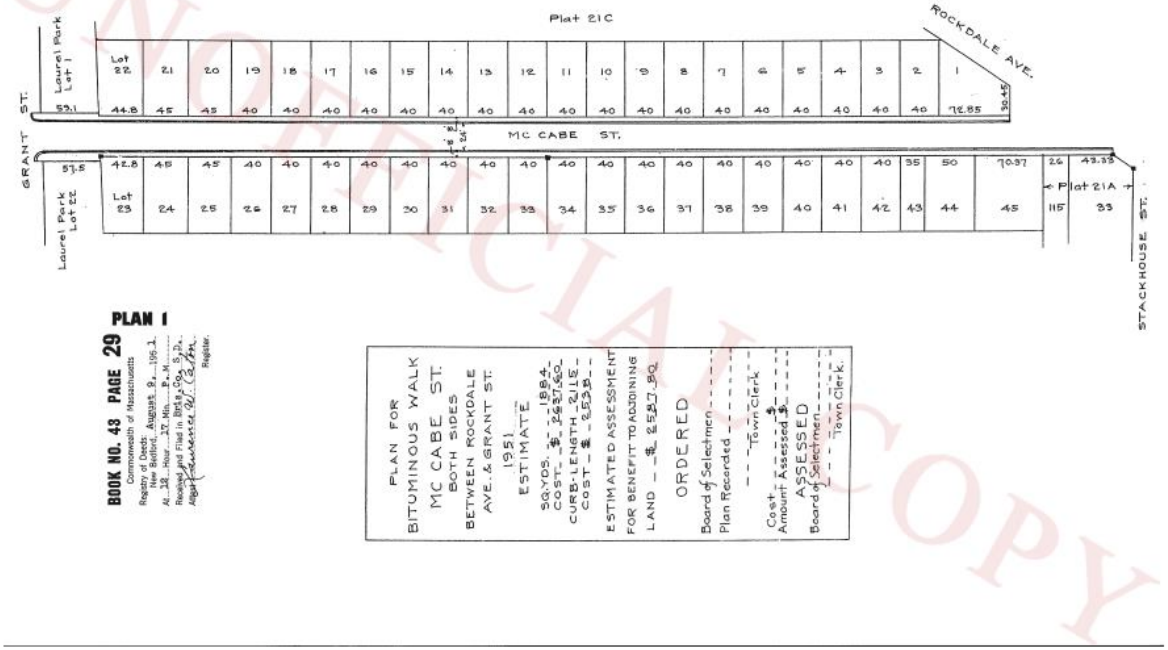
SCALE 1" = 50'



Welcome to 20/20 Perfect Vision Land Records I2: ImageViewer - Google Chrome

https://i2e.uslandrecords.com/MA/BristolSouth/(X(1)S(2jodzpiqhglwzi0kl1vw3p2v))/D/ImageViewerEx.aspx

1 of 1



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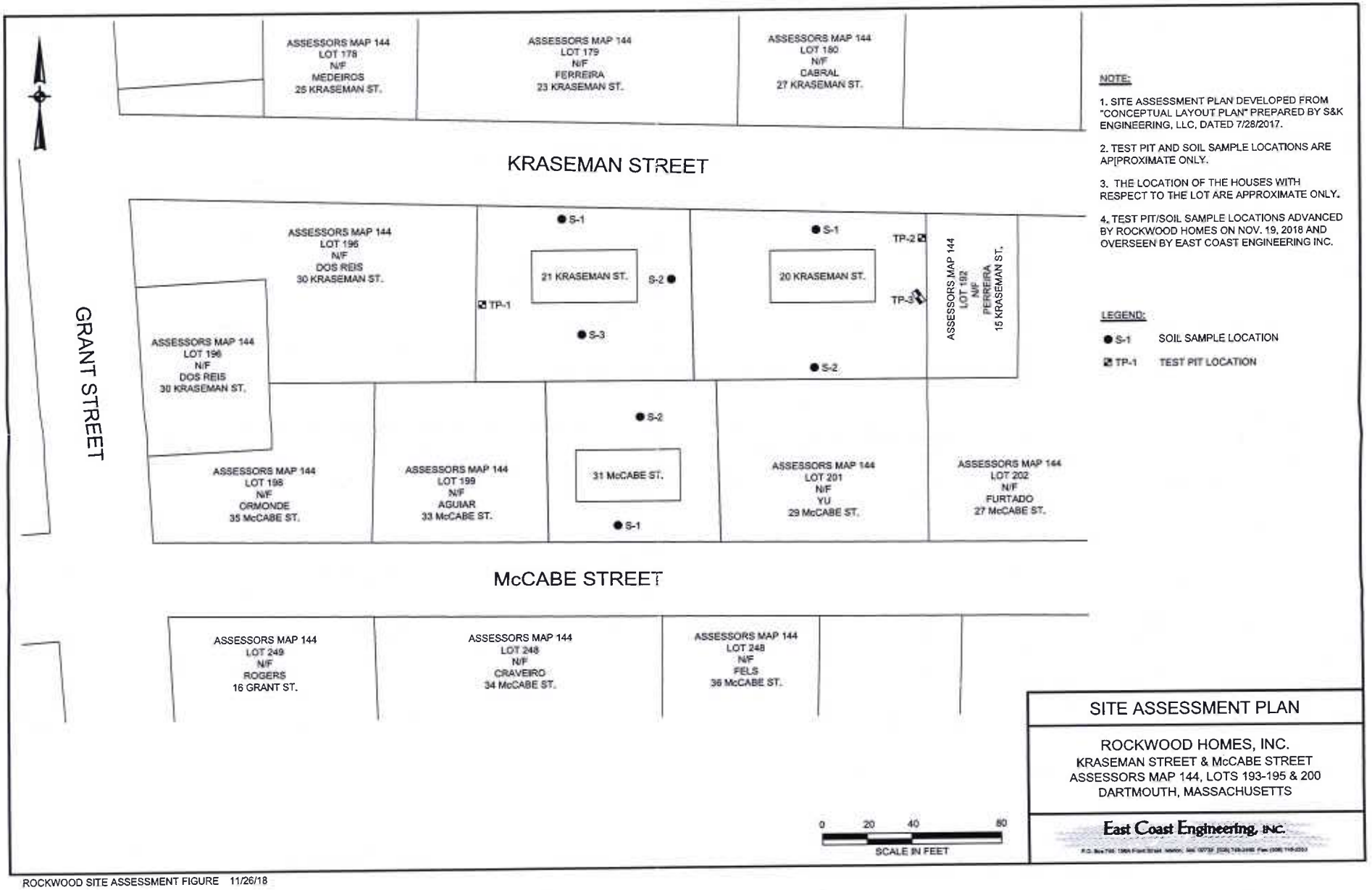
APPENDIX D

East Coast Site Figure



NOTE:

1. SITE ASSESSMENT PLAN DEVELOPED FROM "CONCEPTUAL LAYOUT PLAN" PREPARED BY S&K ENGINEERING, LLC, DATED 7/28/2017.

2. TEST PIT AND SOIL SAMPLE LOCATIONS ARE AP[PROXIMATE ONLY.

3. THE LOCATION OF THE HOUSES WITH RESPECT TO THE LOT ARE APPROXIMATE ONLY.

4. TEST PIT/SOIL SAMPLE LOCATIONS ADVANCED BY ROCKWOOD HOMES ON NOV. 19, 2018 AND OVERSEEN BY EAST COAST ENGINEERING INC.

LEGEND:

- ● S-1 SOIL SAMPLE LOCATION
- ⊠ TP-1 TEST PIT LOCATION

SITE ASSESSMENT PLAN

ROCKWOOD HOMES, INC.
KRASEMAN STREET & McCABE STREET
ASSESSORS MAP 144, LOTS 193-195 & 200
DARTMOUTH, MASSACHUSETTS

East Coast Engineering, INC.

ROCKWOOD SITE ASSESSMENT FIGURE 11/26/18

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APPENDIX E

Photographs

Subject Property, looking north, west side of building exterior

Subject Property looking southeast to the residence on McCabe Street

Southern portion of Subject property

Fill Material at Subject Property

Urban Ash Fill north side of Kraseman Street at # 23

Urban fill at 85 McCabe

OHI Engineering, Inc.
Engineers and Environmental Scientists

END OF REPORT

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