Beach Equity Investments, LLC, Huntsville Westside Apartments, LLC, Huntsville Westside Office, LLC, and Huntsville Westside Hotel, LLC
Huntsville, Alabama
ADEM VCP Site #: 461-089-251

Fact Sheet

A Voluntary Cleanup Program (VCP) Cleanup Plan has been found to be technically adequate by the Alabama Department of Environmental Management (ADEM) for the Proposed Governor's West Development site in Huntsville, Alabama. This fact sheet has been prepared to briefly advise the public of the principal legal and policy issues of the VCP.

I. VCP PROCESS

The VCP provides a mechanism for the implementation of a cleanup program that encourages applicants to voluntarily assess, remediate, and reuse rural and urban areas of actual or perceived contamination. The program does not relieve any "responsible person" for the liability for administrative, civil, or criminal fines or penalties which are otherwise authorized by law and imposed as a result of the illegal or unpermitted disposal of solid waste, hazardous waste, hazardous constituents, hazardous substances, petroleum products, and/or pollutants to the land, air, or waters of the State on an identified property. The program is designed to expedite the voluntary cleanup process and has been designed for entry at any stage of the cleanup process as long as all applicable criteria have been met up to the point of entry.

II. PROCEDURES FOR REACHING A FINAL DECISION

ADEM is proposing to issue Beach Equity Investments, LLC, Huntsville Westside Apartments, LLC, Huntsville Westside Office, LLC, and Huntsville Westside Hotel, LLC a final decision for the site remediation. The Modified Cleanup Plan includes construction of a vapor barrier and implementation of an environmental covenant with use restrictions.

ADEM Admin Code R. 335-15-6-.02 requires that the public be given a 30-day comment period from the date of the notice. The comment period will begin on October 7, 2020 which is the date of publication of the public notice in major local newspaper(s) of general circulation and will end on November 7, 2020.

All persons wishing to comment on any of the conditions of the VCP Remediation should submit their comments in writing to ADEM, Permits and Services Division, 1400 Coliseum Blvd. (Zip 36110). P.O. Box 301463 (Zip 36130-1463) Montgomery, Alabama, ATTENTION: Mr. Russell Kelly. Written comments on the VCP activities should be submitted to ADEM and be received by 5:00 p.m. on November 9, 2020.

ADEM will consider all written comments received during the comment period while making a final decision on this issue. When ADEM makes its final decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision.

III. FACILITY DESIGN

Bullock Environmental, LLC has completed Site Investigation activities under the VCP at the Proposed Governor's West Development site located at Governor's Drive Southwest and U.S. Interstate 565, Huntsville, Madison County, Alabama. The site was historically used for agricultural purposes until portions of it were converted to residential housing, apartments, a hotel, and a pest control company within a commercial strip center. Due to the presence of elevated levels of pesticides, arsenic, and lead in the onsite soil, a soil management and removal plan is incorporated into the VCP. In addition, a vapor barrier system will be installed beneath commercial structures in the pesticide contaminated areas. Also, as part of the remedial strategy, an environmental covenant will be placed on the property with institutional and/or engineering controls based on the proposed commercial and residential use.

IV. TECHNICAL CONTACT

Pamela Luckie, Project Manager
Redevelopment Section
Industrial Hazardous Waste Branch
Land Division
Alabama Department of Environmental Management
1400 Coliseum Boulevard (Zip 36110)
P.O. Box 301463 (Zip 36130-1463)
Montgomery, Alabama
(334) 394-4376

bullock environmental, llc 4924 5th avenue south, birmingham, alabama 35222 t 205.876.1715 f 205.443.9413

September 23, 2020

Ms. Pamela Luckie
Redevelopment Section
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, Alabama 36130-1463

Subject: **Voluntary Cleanup Plan Modification**
16-Acre Tract
Governors Drive Southwest and U.S. Interstate 565
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Dear Ms Luckie:

On behalf of the Voluntary Cleanup Program Applicant, Beach Equity Investment, LLC, Bullock Environmental, LLC (Bullock) submits the attached Voluntary Cleanup Plan Modification documenting the actions completed since the Alabama Department of Environmental Management's approval of the Voluntary Cleanup Plan on January 22, 2020.

Due to unanticipated Site conditions discovered during the implementation of the approved Voluntary Cleanup Plan, Bullock prepared the attached modification to address those conditions in a manner that allows the project to move forward while ensuring protection of human health and the environment. The proposed modifications (detailed further in the attached report) included the installation of a vapor barrier in lieu of further soil removal (as described in the approved Voluntary Cleanup Plan). The proposed vapor barrier, combined with certain alterations to the overall Site development plan, should function as an effective remedy to mitigate or altogether eliminate exposure to pesticide constituents remaining in onsite soil.

If you have any questions or comments regarding the content or recommendations set forth in this report, please call us at (205) 876-1715.

Sincerely,

BULLOCK ENVIRONMENTAL, LLC

Douglas A. Bullock, CHMM
Principal

Enclosure

bullock environmental, llc 4924 5th avenue south, birmingham, alabama 35222 t 205.876.1715 f 205.443.9413

September 23, 2020

Mr. Ned Miller
Beach Equity Investment, LLC
211 King Street
Suite 300
Charleston, South Carolina 29401

Subject: **Voluntary Cleanup Plan Modification**
16-Acre Tract
Governors Drive Southwest and U.S. Interstate 565
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Dear Mr. Miller:

Bullock Environmental, LLC (Bullock) submits the attached Voluntary Cleanup Plan Modification documenting the actions completed since the Alabama Department of Environmental Management's approval of the Voluntary Cleanup Plan on January 22, 2020, and the proposed changes to the Cleanup Plan in response to conditions encountered during the excavation activities completed in June 2020. If you have any questions or comments, please call us at (205) 876-1715.

Sincerely,
BULLOCK ENVIRONMENTAL, LLC

Douglas A. Bullock, CHMM
Principal

bullock environmental, llc 4924 5th avenue south, birmingham, alabama 35222 t 205.876.1715 f 205.443.9413

Voluntary Cleanup Plan Modification
16-Acre Tract
Governors Drive Southwest and U.S. Interstate 565
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Prepared for:

Mr. Ned Miller
Beach Equity Investment, LLC
211 King Street
Suite 300
Charleston, South Carolina 29401

September 23, 2020

BULLOCK ENVIRONMENTAL, LLC

Samuel Smith, AL-P.G. # 1287
Project Geologist
September 23, 2020

Douglas A. Bullock, CHMM
Principal
September 23, 2020

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I certify under penalty of law that this document and all plans, specifications, and technical data submitted were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiring of the person or persons who directly gathered the enclosed information, the information submitted, to the best of my knowledge and belief, is true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Signed

Mr. Samuel Smith
Printed

AL-P.G. # 1287
Registration Number

09/22/2020
Date

1.0 INTRODUCTION

1.1 SITE DESCRIPTION

The Site is located at Governors Drive Southwest and U.S. Interstate 565 in Huntsville, Madison County, Alabama, and depicted on the United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle *Huntsville, Alabama*, dated 2014. The Site is approximately located at latitude 34.7209860° North and Longitude -86.6181140° West. A Site plan illustrating structures, approximate boundaries, onsite source areas assessed (current and former), and stockpiled soil locations is included as **Figure 1**.

The Site includes 16 parcels (five of which are vacant) and occupies approximately 16 acres of land that is currently used for retail, commercial, multi-family residential, and single-family residential. The following lists the parcel numbers comprising the Site.

- Parcel 1 1702032003001000 PPIN 139395
- Parcel 1.001 1702032003001001 PPIN 21940
- Parcel 2 1702032003002000 PPIN 139396
- Parcel 3 1702032003003000 PPIN 132183
- Parcel 4 1702032003004000 PPIN 132182
- Parcel 5 1702032003005000 PPIN 132181
- Parcel 7 1702032003007000 PPIN 21932
- Parcel 8 1702032003008000 PPIN 21929
- Parcel 12 1702032003012000 PPIN 21911
- Parcel 13 1702032003013000 PPIN 54738
- Parcel 14 1702032003014000 PPIN 21915
- Parcel 15 1702032003015000 PPIN 21913
- Parcel 19 1702032003019000 PPIN 21924
- Parcel 20 1702032003020000 PPIN 54745
- Parcel 21 1702032003021000 PPIN 21927
- Parcel 36 1702031002036000 PPIN 23930

Properties surrounding the Site include Interstate 565 to the north; Governors Drive followed by AutoZone, United States Post Office, vacant property, Players Club, U-Haul, Hodges Pawn & Gun, Tile & Stone Market, Corlett Collision Repair, Sexton Safety Shoe, and Sexton Welding Supply to the south; 14th Street followed by the Governors Drive/I-565 interchange to the west; and vacant property, Thompson Tractor, and Stovehouse to the east.

1.2 SITE HISTORY AND PURPOSE

Considering the information obtained during this investigation, Bullock Environmental, LLC (Bullock) learned that the Site was historically used for agricultural purposes until portions of it were converted to residential housing and apartments (and later a hotel) in at least the 1960s. A parcel along the southern Site boundary has operated as a pest control company since at least the mid 1950s while a commercial strip center was present in the southeastern quarter of the Site from at least the late 1950s until its demolition in 2017. A hotel was also present in the southwestern corner of the Site from at least the early 1960s until its demolition in 2017.

2.0 SUMMARY OF PREVIOUS ASSESSMENTS

To date, the investigations completed at the Site have included a Phase I Environmental Site Assessment (ESA) in September 2018.

2.1 PHASE I ESA

A Phase I ESA completed by Terrell Environmental, Inc. in September 2018 identified the following *recognized environmental conditions* (RECs) in connection with the Site:

1. Former operation of a dry cleaning operation in the central portion of the property (former Huntsville One-Hour Cleaners);
2. Operation of a pest control facility (Currently ATEC Pest Control/formerly Hodges Pest Control) on the southwestern portion of the property (with storage and mixing of various pesticides occurring on the parcel from at least the late 1950s to present); and
3. An approximately 200-gallon underground storage tank (UST) located on the ATEC Pest Control parcel and vehicle maintenance activities reportedly conducted by ATEC personnel.

2.2 SOIL & GROUNDWATER INVESTIGATION ACTIVITIES JULY & AUGUST 2019

Between July 29, and August 5, 2019, Bullock personnel oversaw the installation of 30 soil borings and the conversion of 15 boring locations into groundwater monitoring wells at the Site. The investigation revealed the presence of arsenic, lead, chlordane (cis- and trans-), and heptachlor epoxide in shallow soil from one location (SS-2, 0-2 feet BLS) and arsenic in one additional shallow soil sample (SS-1, 0-2 feet BLS) on the ATEC Pest Control portion of the Site. No other COCs were detected in onsite soil at concentrations exceeding applicable Regional Screening Levels (RSLs) established by the EPA (May 2020 revision). Total chromium was detected in various soil samples at concentrations exceeding applicable RSLs established by EPA (May 2020 revision). As a result, Bullock speciated the soil sample with the highest total chromium concentration (MW-2, 1-5 feet BLS) for analysis of trivalent and hexavalent chromium. The laboratory analytical results (summarized in **Table 2**) indicated no detectable concentrations of hexavalent chromium in this soil sample. Considering the absence of hexavalent chromium (above the laboratory detection limit of 1.0 mg/kg) in this sample, Bullock concluded that no hexavalent chromium to be present at detectable levels in onsite soil. As a result, this compound was removed from further consideration. COCs in soil (from the 2019 Investigation) are summarized in **Table 2**. A copy of the laboratory analytical report for soil was included with the Voluntary Property Assessment & Cleanup Plan dated October 7, 2019.

Review of the analytical results from the groundwater samples collected on August 5, 2019, reveals that no COCs were present in groundwater at concentrations exceeding applicable MCLs or tap water RSLs as established by EPA (May 2020 revision). COCs in groundwater (from the August 2019 sampling event) are summarized in **Table 3**. A copy of the laboratory analytical report for groundwater was included with the Voluntary Property Assessment & Cleanup Plan dated October 7, 2019.

2.3 SOIL REMOVAL ACTIVITIES - JUNE 2020 (IMPLEMENTATION OF APPROVED CLEANUP PLAN)

Based on the soil and groundwater results obtained from the 2019 Site investigation, Bullock recommended the following remedy in the October 7, 2019, Voluntary Property Assessment & Cleanup Plan:

"Considering the results summarized in previous sections of this document, Bullock recommends the following corrective action activities at the Site:

1. *Removal of pesticide-, arsenic-, and lead-containing soil from the shallow soil in the area beneath the ATEC Pest Control facility; and*
2. *Removal of the UST on the ATEC Pest Control parcel and confirmation that no petroleum-related COCs remain in surrounding soil.*

In addition to the recommendations set forth above, Bullock will also evaluate the soil beneath the service building floor of the ATEC building for pesticide COCs during future demolition activities. As indicated in the Phase I ESA, this building formerly operated with an earthen floor which could have resulted in the release of pesticide COCs to the surficial soil."

In a letter dated January 22, 2020, the Alabama Department of Environmental Management (ADEM) approved the Voluntary Property Assessment & Cleanup Plan. With this approval, Bullock proceeded with removal efforts on June 24, and June 25, 2020. Those efforts included the removal of approximately 480 tons of pesticide-affected soil from the excavation and test pit locations illustrated on **Figure 2**. Review of **Figure 2** and **Table 4** reveals the following:

- Trans-Chlordane was present above its associated EPA RSL of 7.7 milligrams per kilogram (mg/kg) in the confirmation soil samples collected from the south wall (CS-S-1) and from the base of the excavation (CS-B-2);
- Dieldrin was present above its associated EPA RSL of 0.14 mg/kg in the confirmation soil samples collected from the north wall (CS-N-2) and from the base of the excavation (CS-B-2);
- Heptachlor and heptachlor epoxide were present above their associated EPA RSLs of 0.63 mg/kg and 0.33 mg/kg in one confirmation sample collected from the base of the excavation (CS-B-2);
- Aldrin was present above its associated EPA RSL of 0.18 mg/kg in Test Pit Samples TP-2 (0'- 2') and TP-3 (0'- 2');
- Cis-Chlordane was present above its associated EPA RSL of 7.7 mg/kg in Test Pit Samples TP-2 (0'- 2'), TP-3 (0'- 2'), and TP-4 (0'- 2');
- Trans-Chlordane was present above its associated EPA RSL of 7.7 milligrams per kilogram (mg/kg) in the Test Pit Samples TP-1 (0'- 2') through TP-4 (0'- 2');
- Dieldrin was present above its associated EPA RSL of 0.14 mg/kg in Test Pit Samples TP-2 (0'- 2'), TP-3 (0'- 2'), and TP-4 (0'- 2');
- Heptachlor was present above its associated EPA RSLs of 0.63 mg/kg in Test Pit Samples TP-1 (0'- 2') through TP-3 (0'- 2'); and
- Heptachlor Epoxide was present above its associated EPA RSLs of 0.33 mg/kg in Test Pit Samples TP-2 (0'- 2') through TP-4 (0'- 2').

Laboratory analytical data sheets for the confirmation soil samples and test pit samples are included in **Appendix A**.

Upon completion of the excavation and test pit sampling activities, Bullock also collected 35 stockpile samples for waste characterization purposes (stockpile locations illustrated on **Figure 1**).

2.4 WASTE CHARACTERIZATION & APPROVAL OF SOLID WASTE PROFILE (JULY - AUGUST 2020)

Bullock received the analytical results from the June excavation activities on July 10, 2020, and learned that certain pesticides (Aldrin, Chlordane, Dieldrin, DDD, DDE, DDT, Endosulfan (I and II), Heptachlor, and Heptachlor Epoxide) were present at concentrations exceeding applicable RSLs with concentrations

of chlordane and heptachlor (and its epoxide) potentially indicative of characteristically hazardous waste. The analytical results from the stockpile samples are included in **Appendix A**.

As the 14-day hold time had expired on July 8, 2020, Bullock returned to the Site on July 13, 2020, to collect a duplicate waste characterization sample from the stockpile containing the highest concentrations of pesticides (SP-16) for analysis of Toxicity Characteristic Leaching Procedure (TCLP) according to EPA Method 8081. The analytical results from this sample indicated no concentrations above method detection limits with the exception of Heptachlor, which contained a concentration of 0.006 milligrams per liter (below the characteristic threshold of 0.008 mg/L).

ADEM Solid Waste personnel reviewed the results from these characterization efforts and requested TCLP analysis from all stockpiles contemplated for offsite disposal. In response, Bullock directed the laboratory to analyze all waste samples accordingly and determined that two stockpiles (SP-13 and SP-14) contained heptachlor at concentrations indicative of characteristically hazardous waste. Given the Land Disposal Restrictions (LDRs) associated with this compound, Bullock segregated this material from the other stockpiles on July 28, 2020, and placed it in a roll-off box for temporary storage while arranging for its disposal via incineration. The roll-off box remains onsite but is scheduled for offsite transportation and incineration in September 2020, upon confirmation of approval from the disposal facility (Stericylcle) in Columbus, Ohio.

The remainder of the waste material, classified as non-hazardous waste, also currently remains onsite but will be transported for disposal upon confirmation and approval from the designated disposal facility (Morris Farms-Republic or Huntsville Solid Waste Management Authority). Bullock anticipates the removal of this material in September 2020. **Table 5** summarizes the analytical results from the stockpiles generated as waste during the June excavation activities. Laboratory analytical data sheets for these samples are included in **Appendix A**.

Table 6 summarizes the TCLP results obtained from each stockpile location. **Appendix B** contains laboratory analytical data sheets for the TCLP analysis. **Appendix C** contains the ADEM-approved Solid Waste Profile (received on August 4, 2020).

2.5 CURRENT SITE CONDITIONS & SUPPLEMENTAL CHARACTERIZATION SAMPLING AROUND FORMER PEST CONTROL BUILDING

Current Site conditions are as follows:

1. Stockpiled soil (designated as non-hazardous waste is staged on polyethylene and covered (also with polyethylene) in the central portion of the Site (as illustrated on Figure 1);
2. Soil from Stockpiles SP-13 and SP-14 are contained in a roll-off box in the central section of the Site (adjacent to the stockpiled soil);
3. The excavation area remains open and surrounded by a perimeter construction fence. The excavation will be backfilled with clean soil in September 2020, concurrent with the transportation and disposal of the stockpiled waste material.

Supplemental test pit samples collected on July 28, 2020 (illustrated on **Figure 2** and summarized in **Table 4**), revealed no detectable pesticide constituents around the perimeter of the former pest control building. While these results demonstrate the limited area of pesticide-affected media on the Site, the extent of pesticide-affected media was significantly larger than initial Site investigation activities indicated (due to the inability to access and investigate beneath the building footprint during the 2019 assessment activities). In response to these findings, the Applicant altered the structural layout of the development to mitigate potential exposure to future residents on the Site.

These Site Plan changes, in combination with a proposed vapor barrier (detailed in later sections of this document) form the basis of Cleanup Plan modification proposed herein.

3.0 SITE PLAN MODIFICATIONS

Based on the findings from the June 2020 excavation activities, Applicant representatives altered the Site Development Plan to account for the pesticide-affected media located beneath the former ATEC Pest Control Shop. These changes (illustrated on **Figure 3**) include an approximately 5,000 square-foot retail space and parking lot above the area formerly proposed for residential units. As pesticide-affected media remain in this area, this change in Site use (combined with other elements detailed in this Cleanup Plan Modification) will function to protect human health and the environment while also minimizing, if not altogether eliminating, further removal of soil from this area.

4.0 CLEANUP PLAN MODIFICATION (VAPOR BARRIER INSTALLATION)

4.1 ORIGINAL CLEANUP PLAN

The original cleanup plan included the following elements:

1. Removal of pesticide-, arsenic-, and lead-containing soil from the shallow soil in the area beneath the ATEC Pest Control facility; and
2. Removal of the UST on the ATEC Pest Control parcel and confirmation that no petroleum-related COCs remain in surrounding soil.

Note, the UST was removed from the Site during the June 2020 investigation with no evidence of petroleum contamination noted. Confirmation soil samples from this excavation are summarized in **Table 7** with laboratory analytical data sheets included in **Appendix A**.

4.2 BASIS FOR MODIFICATION

As indicated in previous sections, the data obtained during the June 2020 excavation activities revealed a significantly larger volume of pesticide-affected media to be present beneath the footprint of the former ATEC Pest Control shop building than originally estimated (based on the 2019 investigation). This discovery was a result of Bullock's inability to access the interior of pest control shop during the 2019 investigation. This created inherent limitations to the findings presented in the Voluntary Property Assessment & Cleanup Plan approved by ADEM in January 2020.

Because of the access limitations noted above, Bullock encountered not only a larger volume of pesticide-affected material, but significantly higher concentrations than previously identified. Finally, numerous additional pesticide compounds, which were not known to be present (e.g., Aldrin, Dieldrin, and heptachlor) before the commencement of the June 2020 cleanup activities were discovered, also at concentrations representing a possible risk to human health and the environment. With these findings, proceeding with removal of the material, in full (as proposed in the approved Cleanup Plan), became untenable based on:

1. The volume of material to be generated (estimated to be five to seven times more than originally estimated);
2. The character of the waste generated (potentially subject to LDR requirements); and

3. The possible statutory requirements for its disposal (i.e. incineration).

With these newly discovered conditions, the Applicant undertook certain changes in the Site development plan to eliminate potential exposure risks by removing the residential structures (included in the original plan) and replacing them with an approximately 5,000-square-foot retail structure and associated paved parking in this area. Bullock recommended this change to the Site development plan to allow for the remaining pesticide-affected media to remain in place (thereby minimizing or eliminating additional generation of waste material).

However, upon further analysis of the COCs to be left in place, Bullock determined the chemical physical properties of certain pesticide components (i.e. chlordane, heptachlor, and heptachlor epoxide) would create a potential vapor intrusion risk to future occupants of the retail structure. As a result, Bullock recommended the application of an impermeable vapor barrier beneath the structure's footprint to eliminate the exposure pathway. This additional measure, combined with the Applicant's changes to the Site development plan would allow the pesticide-affected media to remain in place (i.e., reducing further generation of waste) and provide an engineered barrier to protect future occupants of the retail space. The next section details the specific components and installation procedures associated with the impermeable vapor barrier.

4.3 CLEANUP PLAN MODIFICATION - IMPERMEABLE VAPOR BARRIER

In an effort to minimize or eliminate further removal of soil from the Site, Bullock, on behalf of the Applicant, proposes the installation of a vapor barrier beneath the concrete slab and foundation as an alternative remedy to removal. As illustrated on Figure 4, the Site topography slopes significantly from north to south, requiring the placement of fill material beneath the majority of the building slab. However, due to the chemical and physical properties of certain pesticides remaining in onsite soil (primarily chlordane, heptachlor, and heptachlor epoxide), fill material alone would not be a sufficient remedy against potential vapor intrusion resulting these compounds in the subsurface.

As such, in connection with the placement of fill material in this area, Bullock will oversee the installation of a vapor barrier system to eliminate the potential for exposure via vapor intrusion from subsurface soil.

The vapor barrier will be a spray-applied, rubberized asphalt (formed from a waterborne emulsion and catalyst that are sprayed simultaneously from a dual-nozzle wand) combined with a geomembrane to create an effective protective barrier against vapor intrusion into a structure.

The resulting barrier will comprise a seven-layer geomembrane which seals surfaces and penetrations and creates a seamless, monolithic membrane that fully adheres without mechanical fastening and protects against vapor migration.

The spray-applied barrier will also result in diffusion coefficients 20 times lower than 80 mil High Density Polyethylene (HDPE), restricting of volatile constituents into the overlying structure. Specifications for the proposed vapor barrier system are included in **Appendix D**.

As illustrated on **Figure 5**, the applied vapor barrier will be installed beneath the concrete slab and over the footings supporting the structure while surrounding all utility conduits (sewer, water, gas, electrical) protruding through the slab into the building interior.

While these newly discovered conditions complicated the removal efforts, the Applicant subsequent changes in the Site development plan, combined with implementation of the approved Voluntary Cleanup Plan

4.4 ANTICIPATED SCHEDULE FOR IMPLEMENTATION

Regarding the schedule for implementation, this remedy cannot be applied until construction of the retail structure begins. As such, Bullock anticipates its application between June and July 2021. An estimated timeframe for implementation of the remedial actions detailed in this report is included in **Appendix E**.

In advance of the vapor barrier application, however, perimeter footing excavations will likely be advanced to depths ranging from four feet to nine feet below grade. The footing excavations, which will be filled with compacted soil and concrete, area required to support the overlying structure; however, it is possible that supplemental waste material will be generated during this component of the project. Bullock will oversee the management, characterization, and proper disposal of this material immediately upon generation and provide documentation of its disposal to ADEM upon completion.

5.0 SUMMARY AND RECOMMENDATIONS

5.1 REMEDIATION ACTIVITIES

As detailed in previous sections of this Cleanup Plan Modification request, pesticide-affected media was determined to be more widespread than initial investigation efforts suggested. Those investigation efforts were limited by Bullock's inability to access the interior of the ATEC Pest Control building (shop area) during the 2019 assessment.

Because of the conditions discovered during the June 2020 excavation activities, further removal of soil was not appropriate based on the potential character of the waste. While Site development changes (modification of remedial area to contain a retail structure and parking lot) reduced potential exposure risks, those modifications alone were not sufficient to eliminate potential vapor intrusion risks to future occupants of the structure. As such, an impermeable vapor barrier will be installed beneath the building's footprint to remove this exposure pathway. These changes will function as an effective remedy to ensure protection of human health and the environment while also minimizing further generation of regulated waste from the Site.

5.2 POST-REMEDIAL ACTIVITIES

Upon completion of the remedial activities summarized above, Bullock will submit a Voluntary Cleanup Implementation report on behalf of the Applicant documenting the activities set forth in this Cleanup Plan Modification.

In addition to the report documenting implementation of the remedial activities summarized in previous sections, Bullock will also complete two post-construction air monitoring events within the retail space overlying the former pest control shop. Each post-construction air monitoring event (one during winter/spring [wet season] and one during summer/autumn [dry season]) will include an indoor air sample for analysis of applicable pesticides according to EPA Method TO-10A to validate the effectiveness of the vapor barrier installed beneath the foundation. Each sampling event will include the collection of one air sample from the interior of the structure and one ambient air sample from the exterior area surrounding the structure (two samples per event). Upon completion and verification of the barrier's effectiveness through the two monitoring events (estimated to be six to nine months following completion of the

structure), Bullock will submit a post-construction air monitoring report to ADEM for review and approval. If the two post-construction monitoring events fail to demonstrate adequate effectiveness, Bullock will continue such indoor air monitoring until the results show concentrations are below the regulatory screening levels for indoor air (for a commercial setting) as established by EPA.

5.3 ENVIRONMENTAL COVENANT AND LETTER OF CONCURRENCE

With ADEM's approval of the Voluntary Cleanup Implementation report and post-construction monitoring report, the Applicant will deliver an environmental covenant to ADEM for review and approval. The environmental covenant will contain the following use restrictions:

1. A prohibition of ground-floor residential use in the area overlying the former ATEC Pest Control shop building (legal description of area to be included in the covenant);
2. A requirement to maintain the underlying vapor barrier and other surface cover material overlying pesticide-affected media in the subsurface which would include asphalt, concrete, a two-foot layer of soil, or other appropriate surface cover to mitigate exposure to COCs present in subsurface soil (legal description of this area also to be detailed in the covenant);
3. Compliance with the Soil Management Plan included in the 2019 Voluntary Cleanup Plan (included for reference in **Appendix F**); and
4. A prohibition on the use of onsite groundwater for irrigation or potable purposes.

Upon execution (by the Applicant and ADEM) and recordation of the environmental covenant (to include the provisions enumerated above), Bullock will request that ADEM deliver a Conditional Letter of Concurrence stating the Applicant has successfully completed the requirements of the Alabama VCP pursuant to ADEM Administrative Code 335-15.

6.0 REFERENCE MATERIALS

Bullock referenced the following sources during the preparation of this report.

1. USGS 7.5-minute Topographic Quadrangle *Huntsville, Alabama*, dated 2014.
2. *Phase I Environmental Site Assessment Report*, dated September 2018.
3. USGS *Geology of the Huntsville Quadrangle, Alabama*, dated 1961.
4. Soil Survey Staff, NRCS, USDA. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov.
5. AEIRG (revised February 2017).
6. EPA Regional Screening Levels (May 2020 revision).
7. Technical Data Sheets & Specifications for Vapor Barrier System (CETCO and Land Science)

TABLES

Table 1
Groundwater Elevations
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

MW ID	Date	TOC	DTW	WTE
MW-1	8/5/19	650.05	DRY	<623.05
MW-2	8/5/19	646.99	DRY	<611.99
MW-3	8/5/19	643.28	DRY	<608.28
MW-4	8/5/19	632.90	DRY	<602.90
MW-5	8/5/19	633.14	35.19	597.95
MW-6	8/5/19	618.08	22.10	595.98
MW-7	8/5/19	619.53	23.20	596.33
MW-8	8/5/19	618.12	21.68	596.44
MW-9	8/5/19	617.85	21.35	596.50
MW-10	8/5/19	616.28	19.55	596.73
MW-11	8/5/19	615.85	19.10	596.75
MW-12	8/5/19	612.18	14.90	597.28
MW-13	8/5/19	615.43	16.60	598.83
MW-14	8/5/19	624.55	28.35	596.20
MW-15	8/5/19	620.00	23.56	596.44

Notes:
MW ID = Monitoring Well Identification
TOC = Top of Casing Elevation (feet above mean sea level [ft amsl])
DTW = Depth to Water (feet below top of casing [ft btoc])
WTE = Water Table Elevation (ft amsl)

Table 2
Chemicals of Concern in Soil
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			SB-1	SB-1	SB-2	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9
			1-5FT	5-10FT	1-5FT	5-10FT	1-5FT	1-5FT	5-10FT	5-10FT	15-20FT	1-5FT	1-5FT
Date Collected			7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	<1.0	NA	<1.0	NA	NA	NA	<1.0	NA	NA	<1.0	<1.0
6010B	BARIUM	22,000	**59**	NA	**107**	NA	NA	NA	**28**	NA	NA	**31**	**89**
6010B	CADMIUM	98	<1.0	NA	<1.0	NA	NA	NA	<1.0	NA	NA	<1.0	<1.0
6010B	TOTAL CHROMIUM	NE	**8.6**	NA	**14**	NA	NA	NA	**78**	NA	NA	**20**	**62**
7196A	HEXAVALENT CHROMIUM	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6010B	LEAD	800	**14**	NA	**20**	NA	NA	NA	**18**	NA	NA	**19**	**19**
6010B	RCRA METALS*	CS	BDL	NA	BDL	NA	NA	NA	BDL	NA	NA	BDL	BDL
8260B	METHYLENE CHLORIDE	320	NA	NA	NA	NA	NA	NA	<0.100	<0.100	**0.105**	<0.100	<0.100
8260B	VOCS*	CS	NA	NA	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL
8260B	BTEX (ONLY)	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(A)ANTHRACENE	21	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(B)FLUORANTHENE	21	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(K)FLUORANTHENE	210	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(GHI)PYRENE	NE	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(A)PYRENE	2.1	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	CHRYSENE	2,100	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	FLUORANTHENE	3,000	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	INDENO(1,2,3-CD)PYRENE	21	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	NAPHTHALENE	17	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	PHENANTHRENE	NE	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	PYRENE	2,300	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA
8270C	PAHS*	CS	BDL	NA	BDL	BDL	NA	NA	NA	NA	NA	NA	NA
8081B	CHLORDANE-CIS	7.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA
8081B	CHLORDANE-TRANS	7.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA
8081B	4-4' DDD	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA
8081B	4-4' DDE	9.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA
8081B	HEPTACHLOR	0.63	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA
8081B	HEPTACHLOR EPOXIDE	0.33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA
8081B	PESTICIDES*	5.1	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA

Table 2
Chemicals of Concern in Soil
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			SS-1	SS-2	MW-1	MW-2	MW-3	MW-3	MW-4	MW-4	MW-5	MW-5	MW-6	MW-7
			0-2FT	0-2FT	5-10FT	1-5FT	1-5FT	10-15FT	1-5FT	10-15FT	1-5FT	20-25FT	15-20FT	20-25FT
Date Collected			7/30/2019	7/30/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	**16**	**16**	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
6010B	BARIUM	22,000	**200**	**205**	**17**	**30**	NA	NA	NA	NA	NA	NA	NA	NA
6010B	CADMIUM	98	<1.0	**1.2**	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
6010B	TOTAL CHROMIUM	NE	**10**	**16**	**127**	**191**	NA	NA	NA	NA	NA	NA	NA	NA
7196A	HEXAVALENT CHROMIUM	6.3	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
6010B	LEAD	800	**58**	**1,091**	**15**	**22**	NA	NA	NA	NA	NA	NA	NA	NA
6010B	RCRA METALS*	CS	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	NA	NA	NA
8260B	METHYLENE CHLORIDE	320	NA	NA	<0.100	<0.100	NA	NA	NA	<0.100	NA	<0.100	**0.177**	<0.100
8260B	VOCS*	CS	NA	NA	BDL	BDL	NA	NA	NA	BDL	NA	BDL	BDL	BDL
8260B	BTEX (ONLY)	CS	BDL	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	NA	NA
8270C	BENZO(A)ANTHRACENE	21	<0.05	**0.084**	NA	**0.065**	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	BENZO(B)FLUORANTHENE	21	<0.05	**0.255**	NA	**0.098**	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	BENZO(K)FLUORANTHENE	210	<0.05	**0.178**	NA	**0.053**	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	BENZO(GHI)PYRENE	NE	<0.05	**0.56**	NA	<0.05	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	BENZO(A)PYRENE	2.1	<0.05	**0.67**	NA	<0.05	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	CHRYSENE	2,100	<0.05	**0.151**	NA	**0.081**	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	FLUORANTHENE	3,000	<0.05	**0.21**	NA	**0.178**	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	INDENO(1,2,3-CD)PYRENE	21	<0.05	**0.188**	NA	<0.05	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	NAPHTHALENE	17	<0.05	**0.955**	NA	<0.05	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	PHENANTHRENE	NE	<0.05	**0.64**	NA	<0.05	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	PYRENE	2,300	<0.05	**0.182**	NA	**0.15**	NA	<0.05	NA	NA	NA	NA	NA	NA
8270C	PAHS*	CS	BDL	BDL	NA	BDL	NA	BDL	NA	NA	NA	NA	NA	NA
8081B	CHLORDANE-CIS	7.7	<0.05	**12.3**	NA	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
8081B	CHLORDANE-TRANS	7.7	<0.05	**52.7**	NA	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
8081B	4-4' DDD	9.6	**1.02**	**1.12**	NA	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
8081B	4-4' DDE	9.3	<0.05	**0.93**	NA	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
8081B	HEPTACHLOR	0.63	<0.05	**0.477**	NA	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
8081B	HEPTACHLOR EPOXIDE	0.33	<0.05	**1.48**	NA	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
8081B	PESTICIDES*	CS	BDL	BDL	NA	BDL	BDL	NA	BDL	NA	BDL	NA	NA	NA

Table 2
Chemicals of Concern in Soil
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	BG-1	BG-2	BG-3	BG-4
			15-20FT	15-20FT	10-15FT	15-20FT	10-15FT	10-15FT	15-20FT	10-15FT	0-4FT	0-4FT	0-4FT	0-4FT
Date Collected			7/30/2019	7/30/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	NA	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6010B	BARIUM	22,000	NA	NA	NA	NA	NA	NA	**19**	**11**	**110**	**106**	**139**	**89**
6010B	CADMIUM	98	NA	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6010B	TOTAL CHROMIUM	NE	NA	NA	NA	NA	NA	NA	**42**	**50**	**16**	**11**	**11**	**11**
7196A	HEXAVALENT CHROMIUM	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6010B	LEAD	800	NA	NA	NA	NA	NA	NA	**9.4**	**15**	**22**	**20**	**25**	**21**
6010B	RCRA METALS*	CS	NA	NA	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL
8260B	METHYLENE CHLORIDE	320	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	NA	NA	NA	NA
8260B	VOCS*	CS	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA
8260B	BTEX (ONLY)	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(A)ANTHRACENE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(B)FLUORANTHENE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(K)FLUORANTHENE	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(GHI)PYRENE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	BENZO(A)PYRENE	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	CHRYSENE	2,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	FLUORANTHENE	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	INDENO(1,2,3-CD)PYRENE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	NAPHTHALENE	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	PHENANTHRENE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	PYRENE	2,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8270C	PAHS*	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	CHLORDANE-CIS	7.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	CHLORDANE-TRANS	7.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	4-4' DDD	9.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	4-4' DDE	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	HEPTACHLOR	0.63	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	HEPTACHLOR EPOXIDE	0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8081B	PESTICIDES*	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
All concentrations presented in milligrams per kilogram (mg/kg), parts per million equivalent.
EPA RSL = Regional Screening Level for Industrial Soil (THQ 0.1) established by Environmental Protection Agency (EPA) Region 9 (MAY 2019)
Bolded Cell = Detected concentration but below EPA RSL for Industrial Soil
Highlighted/bolded cells = Concentration exceeds corresponding EPA RSL
* Other than those listed in table
RCRA = Resource Conservation and Recovery Act
VOCS = Volatile Organic Compounds
BTEX = Benzene, Toluene, Ethylbenzene, Xyler
PAHS = Polycyclic Aromatic Hydrocarbons
CS = Constituent Specific
NE = Not Established
NA = Not Analyzed
BDL = All constituents were below laboratory detection lim

Table 3
Chemicals of Concern in Groundwater
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Date Collected			8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019
Method	Analyte	EPA MCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
8260B	BARIUM	2	**0.39**	NA	NA	NA	NA	NA	NA	NA	NA	**0.44**	<0.020
8260B	RCRA METALS*	CS	BDL	NA	NA	NA	NA	NA	NA	NA	NA	BDL	BDL
8260B	VOCS	CS	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8260B	PAHS	CS	BDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8260B	PESTICIDES	CS	BDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

All concentrations presented in milligrams per liter (mg/L), parts per million equivalent.
EPA MCL = Maximum Contaminant Level (MCL) (THQ 0.1) established by EPA Region 9 (May 2019)
Bolded Cell = Detected concentration but below EPA MCL
RCRA = Resource Conservation and Recovery Act
VOCs = Volatile Organic Compounds
PAHs = Polycyclic Aromatic Hydrocarbons
* = Other than those listed in table
CS = Constituent Specific
BDL = All constituents were below laboratory detection limits
NA = Not Analyzed

Table 4
Chemicals of Concern in Soil- June 2020 Excavation Activiites
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			CS-W-1	CS-E-1	CS-N-1	CS-N-2	CS-S-1	CS-S-2	CS-B-1	CS-B-2
Date Collected			6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6010B	LEAD	800	**33**	**30**	**19**	**24**	**28**	**46**	**28**	**39**
8081B	ALDRIN	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8081B	CHLORDANE-CIS	7.7	<0.05	<0.05	<0.05	**0.439**	<0.05	<0.05	<0.05	**1.43**
8081B	CHLORDANE-TRANS	7.7	**1.33**	<0.05	<0.05	**2.75**	**27.8**	<0.05	<0.05	**32.5**
8081B	4-4' DDD	9.6	**0.065**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.755**
8081B	4-4' DDE	9.3	**0.105**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.64**
8081B	4-4' DDT	8.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.384**
8081B	DIELDRIN	0.14	<0.05	<0.05	<0.05	**0.201**	<0.05	<0.05	<0.05	**0.369**
8081B	ENDOSULFAN I	700	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.905**
8081B	ENDOSULFAN II	700	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8081B	HEPTACHLOR	0.63	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**13.0**
8081B	HEPTACHLOR EPOXIDE	0.33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.525**
8081B	PESTICIDES*	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Client Sample ID			TP-1 0-2'	TP-2 0-2'	TP-3 0-2'	TP-4 0-2	TP-5 0-2'	TP-6 0-2'	TP-7 0-2'	TP-8 0-2'
Date Collected			6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	7/28/2020	7/28/2020	7/28/2020
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	NA	NA	NA	NA	NA	NA	NA	NA
6010B	LEAD	800	NA	NA	NA	NA	NA	NA	NA	NA
8081B	ALDRIN	0.18	<0.05	**0.225**	**0.312**	<0.05	<0.05	<0.05	<0.05	<0.05
8081B	BHC - ALPHA	0.36	<0.05	<0.05	<0.05	**0.093**	<0.05	<0.05	<0.05	<0.05
8081B	BHC - DELTA	NE	<0.05	<0.05	<0.05	**0.058**	<0.05	<0.05	<0.05	<0.05
8081B	BHC - GAMMA (LINDANE	2.5	<0.05	<0.05	<0.05	**0.497**	<0.05	<0.05	<0.05	<0.05
8081B	CHLORDANE-CIS	7.7	**4.96**	**8.9**	**9.35**	**11.1**	<0.05	<0.05	<0.05	<0.05
8081B	CHLORDANE-TRANS	7.7	**11.9**	**43.6**	**39.6**	**32.4**	<0.05	<0.05	<0.05	<0.05
8081B	4-4' DDD	9.6	**0.291**	<0.05	**6.05**	**0.213**	<0.05	<0.05	<0.05	<0.05
8081B	4-4' DDE	9.3	<0.05	<0.05	**0.965**	**0.074**	<0.05	<0.05	<0.05	<0.05
8081B	4-4' DDT	8.5	<0.05	<0.05	**3.31**	**0.11**	<0.05	<0.05	<0.05	<0.05
8081B	DIELDRIN	0.14	<0.05	**0.406**	**1.33**	**0.279**	<0.05	<0.05	<0.05	<0.05
8081B	ENDOSULFAN I	700	**1.28**	**1.07**	**2.1**	**1.68**	<0.05	<0.05	<0.05	<0.05
8081B	ENDOSULFAN II	700	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8081B	HEPTACHLOR	0.63	**3.17**	**7.45**	**40.1**	**0.545**	<0.05	<0.05	<0.05	<0.05
8081B	HEPTACHLOR EPOXIDE	0.33	**0.093**	**0.41**	**1.33**	**0.372**	<0.05	<0.05	<0.05	<0.05
8081B	PESTICIDES*	CS	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:
All concentrations presented in milligrams per kilogram (mg/kg), parts per million equivalent.
EPA RSL = Regional Screening Level for Industrial Soil (THQ 0.1) established by Environmental Protection Agency (EPA) Region 9 (MAY 2019)
Bolded Cell = Detected concentration but below EPA RSL for Industrial Soil
Highlighted/bolded cells = Concentration exceeds corresponding EPA RSL
* Other than those listed in table
RCRA = Resource Conservation and Recovery Act
VOCS = Volatile Organic Compounds
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
PAHS = Polycyclic Aromatic Hydrocarbons
CS = Constituent Specific
NE = Not Established
NA = Not Analyzed
BDL = All constituents were below laboratory detection limits

Table 5
Chemicals of Concern in Soil-Stockpiled Soil from June 2020 Excavation Activities
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7	SP-8	SP-9	SP-10	SP-11	SP-12
Date Collected			6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	<1.0	<1.0	**9.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	**6.1**
6010B	LEAD	800	**32**	**26**	**107**	**60**	**31**	**34**	**82**	**49**	**39**	**32**	**71**	**81**
8081B	ALDRIN	0.18	<0.05	**0.15**	<0.05	<0.05	<0.05	<0.05	**0.15**	<0.05	<0.05	<0.05	**0.84**	**0.486**
8081B	CHLORDANE-CIS	7.7	<0.05	**14.6**	**3.16**	**5.1**	**0.925**	**3.01**	**12.1**	**26.0**	**7.2**	**11.3**	**26.8**	**30.4**
8081B	CHLORDANE-TRANS	7.7	<0.05	**54.3**	**9.0**	**14.1**	**3.9**	**6.95**	**36.6**	**91.3**	**30.9**	**38.7**	**88.0**	**150.0**
8081B	4-4' DDD	9.6	<0.05	**0.201**	<0.05	<0.05	<0.05	<0.05	**0.277**	**0.292**	**0.198**	<0.05	**0.65**	**0.327**
8081B	4-4' DDE	9.3	<0.05	**0.51**	<0.05	**0.103**	<0.05	**0.103**	**0.231**	**0.415**	**0.125**	**0.132**	**0.575**	**0.505**
8081B	4-4' DDT	8.5	<0.05	**0.493**	<0.05	<0.05	<0.05	<0.05	**0.237**	**0.317**	**0.121**	<0.05	**0.289**	**0.198**
8081B	DIELDRIN	0.14	<0.05	**1.49**	**0.192**	**0.239**	<0.05	**0.235**	**1.81**	**1.31**	**0.301**	**0.615**	**3.49**	**3.14**
8081B	ENDOSULFAN I	700	<0.05	**1.18**	**0.223**	**0.354**	<0.05	**0.226**	**0.845**	**1.89**	**0.57**	**1.2**	**2.14**	**3.0**
8081B	ENDOSULFAN II	700	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.356**	<0.05
8081B	HEPTACHLOR	0.63	<0.05	**11.5**	**0.56**	**1.65**	**0.185**	**0.124**	**6.85**	**17.1**	**5.25**	**2.01**	**6.75**	**35.9**
8081B	HEPTACHLOR EPOXIDE	0.33	<0.05	**0.975**	**0.424**	**0.453**	<0.05	**0.329**	**0.51**	**1.34**	**0.494**	<0.05	**0.244**	**0.83**
8081B	PESTICIDES*	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Client Sample ID			SP-13	SP-14	SP-15	SP-16	SP-17	SP-18	SP-19	SP-20	SP-21	SP-22	SP-23	SP-24
Date Collected			6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	ARSENIC	3	<1.0	<1.0	**6.8**	**30**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6010B	LEAD	800	**68**	**54**	**65**	**110**	**59**	**58**	**44**	**51**	**33**	**37**	**43**	**46**
8081B	ALDRIN	0.18	**0.225**	<0.05	**0.127**	**0.258**	<0.05	**0.138**	**0.458**	**0.53**	<0.05	<0.05	**1.28**	**0.095**
8081B	CHLORDANE-CIS	7.7	**5.7**	**8.75**	**28.4**	**46.2**	**15.2**	**30.0**	**12.3**	**4.68**	**1.79**	**0.71**	**13.0**	**2.87**
8081B	CHLORDANE-TRANS	7.7	**24.0**	**50.1**	**90.8**	**182.0**	**82.6**	**109.0**	**42.4**	**20.7**	**6.4**	**3.08**	**65.3**	**20.6**
8081B	4-4' DDD	9.6	**0.163**	**1.17**	**0.73**	**13.5**	**0.482**	**1.41**	**1.02**	**0.193**	**0.229**	**0.099**	**1.17**	**0.473**
8081B	4-4' DDE	9.3	**0.143**	**0.496**	**0.387**	**2.11**	**0.33**	**0.705**	**0.309**	**0.175**	<0.05	**0.091**	**0.585**	**0.249**
8081B	4-4' DDT	8.5	**0.17**	**0.352**	**0.292**	**4.21**	**0.166**	**0.399**	**0.268**	**0.084**	<0.05	**0.056**	**0.429**	**0.212**
8081B	DIELDRIN	0.14	**1.12**	**1.59**	**3.98**	**3.32**	**0.575**	**2.39**	**1.33**	**1.78**	<0.05	**0.097**	**2.91**	**0.473**
8081B	ENDOSULFAN I	700	**0.715**	**1.12**	**2.48**	**3.77**	**1.22**	**2.57**	**1.13**	**0.387**	**0.172**	<0.05	**1.18**	**0.5**
8081B	ENDOSULFAN II	700	<0.05	<0.05	**0.325**	<0.05	<0.05	**0.341**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8081B	HEPTACHLOR	0.63	**3.35**	**7.7**	**25.0**	**59.5**	**19.4**	**44.6**	**7.1**	**1.64**	**0.685**	**0.213**	**11.0**	**1.34**
8081B	HEPTACHLOR EPOXIDE	0.33	**0.224**	**0.214**	**1.38**	**1.82**	**0.69**	**1.12**	**0.415**	**0.168**	<0.05	<0.05	**0.78**	**0.273**
8081B	PESTICIDES*	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Client Sample ID			SP-25	SP-26	SP-27	SP-28	SP-29	SP-30	SP-31	SP-32	SP-33	SP-34	SP-35	
Date Collected			6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
6010B	ARSENIC	3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
6010B	LEAD	800	**40**	**33**	**55**	**32**	**25**	**24**	**31**	**19**	**51**	**24**	**40**	UTS
8081B	ALDRIN	0.18	<0.05	<0.05	**0.163**	<0.05	<0.05	<0.05	<0.05	**0.433**	<0.05	**0.145**	**0.585**	0.066
8081B	CHLORDANE-CIS	7.7	**3.26**	**0.174**	**9.95**	<0.05	**5.4**	**1.19**	**1.52**	**2.6**	**3.17**	**2.67**	**0.59**	**0.26**
8081B	CHLORDANE-TRANS	7.7	**25.0**	**1.31**	**48.2**	<0.05	**4.0**	**0.705**	**1.53**	**11.4**	**3.98**	**7.7**	**1.76**	**0.26**
8081B	4-4' DDD	9.6	**0.485**	**0.675**	**1.08**	<0.05	<0.05	<0.05	<0.05	**0.337**	**0.215**	**0.243**	**0.13**	**0.087**
8081B	4-4' DDE	9.3	**0.194**	<0.05	**0.408**	<0.05	<0.05	**0.07**	**0.057**	**0.195**	**0.119**	**0.183**	**0.051**	**0.087**
8081B	4-4' DDT	8.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.147**	<0.05	**0.061**	<0.05	**0.087**
8081B	DIELDRIN	0.14	**0.6**	**0.066**	**0.805**	<0.05	**0.615**	**0.362**	**0.39**	**0.655**	**0.443**	**2.8**	**0.179**	**0.13**
8081B	ENDOSULFAN I	700	**0.455**	<0.05	**1.01**	<0.05	**0.424**	**0.175**	**0.22**	**0.52**	**0.377**	**0.463**	<0.05	**0.066**
8081B	ENDOSULFAN II	700	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.13**
8081B	HEPTACHLOR	0.63	**2.8**	**0.072**	**7.9**	<0.05	**0.073**	<0.05	**0.17**	**2.36**	<0.05	**0.391**	**0.203**	**0.066**
8081B	HEPTACHLOR EPOXIDE	0.33	**0.42**	<0.05	**0.775**	<0.05	<0.05	<0.05	<0.05	**0.246**	<0.05	<0.05	<0.05	**0.066**
8081B	PESTICIDES*	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	

Notes:
All concentrations presented in milligrams per kilogram (mg/kg), parts per million equivalent.
EPA RSL = Regional Screening Level for Industrial Soil (THQ 0.1) established by Environmental Protection Agency (EPA) Region 9 (MAY 2019)
Bolded Cell = Detected concentration but below EPA RSL for Industrial Soil
Highlighted/bolded cells = Concentration exceeds corresponding EPA RSL
* Other than those listed in table
RCRA = Resource Conservation and Recovery Act
VOCS = Volatile Organic Compounds
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
PAHS = Polycyclic Aromatic Hydrocarbons
CS = Constituent Specific
NE = Not Established
NA = Not Analyzed
BDL = All constituents were below laboratory detection limits

Table 6
TCLP Stockpile Sample Results
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7	SP-8	SP-9	SP-10	SP-11	SP-12
Date Collected			6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020
Method	Analyte	REG LIMIT	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	LEAD	5	NA	NA	**1.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA
6010B	CHLORDANE-CIS	0.03	NA	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
8081B	HEPTACHLOR	0.01	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8081B	HEPTACHLOR EPOXIDE	0.01	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Client Sample ID			SP-13	SP-13B	SP-14	SP-15	SP-16	SP-17	SP-18	SP-19	SP-20	SP-21	SP-22	SP-23
Date Collected			6/24/2020	7/28/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020
Method	Analyte	REG LIMIT	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	LEAD	5	NA	NA	NA	NA	<0.01	NA	NA	NA	NA	NA	NA	NA
6010B	CHLORDANE-CIS	0.03	**0.026**	<0.015	**0.024**	<0.015	<0.015	<0.015	<0.015	**0.016**	**0.022**	<0.015	**0.016**	<0.015
8081B	HEPTACHLOR	0.008	**0.019**	<0.005	**0.009**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.006**	<0.005	<0.005	<0.005
8081B	HEPTACHLOR EPOXIDE	0.008	<0.005	<0.005	**0.005**	<0.005	**0.006**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Client Sample ID			SP-24	SP-25	SP-26	SP-27	SP-28	SP-29	SP-30	SP-31	SP-32	SP-33	SP-34	SP-35
Date Collected			6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020	6/25/2020
Method	Analyte	REG LIMIT	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
6010B	LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6010B	CHLORDANE-CIS	0.03	<0.015	<0.015	<0.015	<0.015	NA	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
8081B	HEPTACHLOR	0.01	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8081B	HEPTACHLOR EPOXIDE	0.01	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

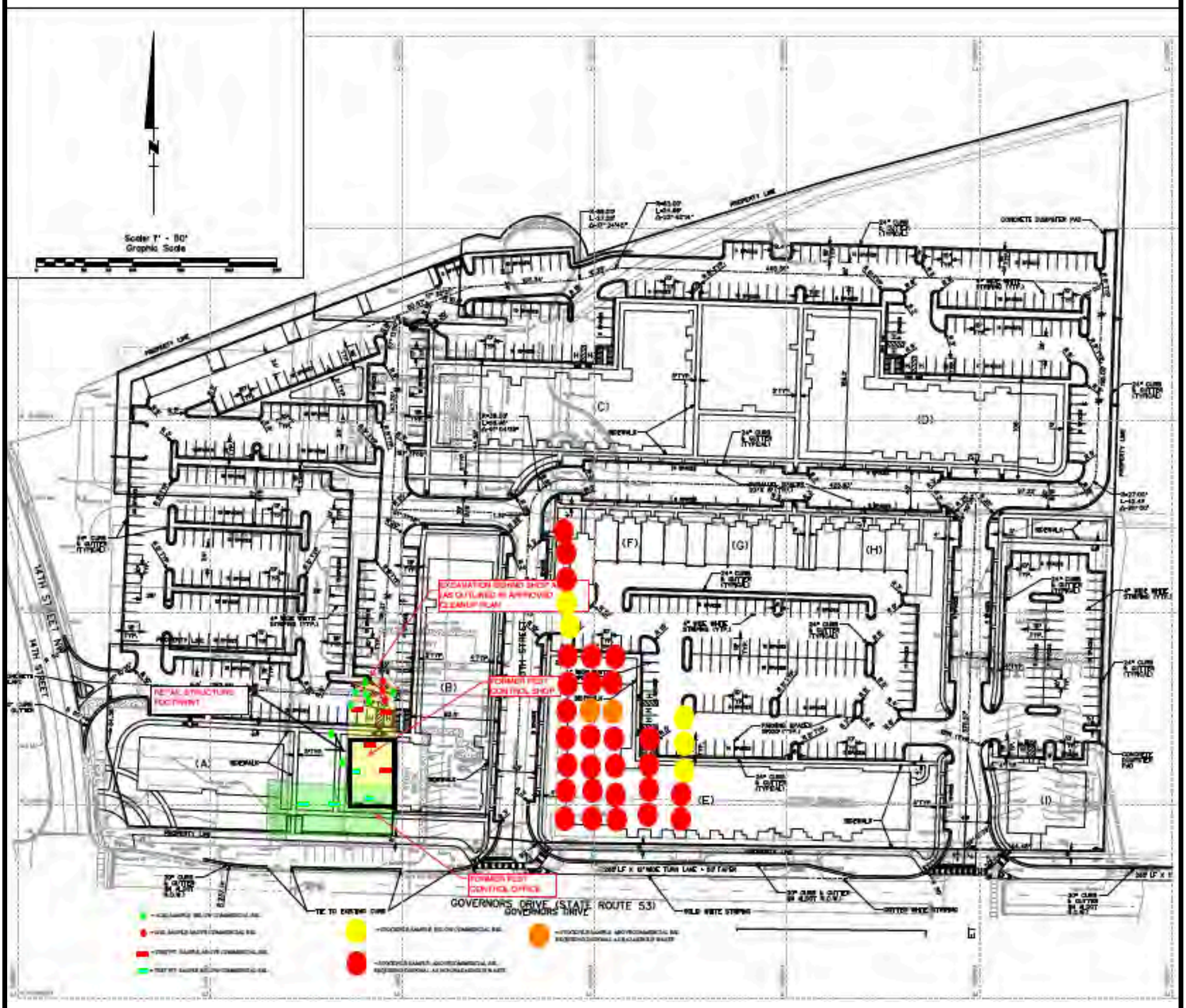
Notes:
All concentrations presented in milligrams per kilogram (mg/kg), parts per million equivalent.
Bolded Cell = Detected concentration but below Regulatory Limit
Highlighted/bolded cells = Concentration exceeds corresponding regulatory limit
NA = Not Analyzed
BDL = All constituents were below laboratory detection limits
TCLP = Toxic Charactaristic Leaching Procedure

Table 7
Chemicals of Concern in Soil-UST Removal
Governors Drive Development
Governors Drive and 13th Street NW
Huntsville, Madison County, Alabama
Bullock Environmental, LLC Project #: 19-BEAC01

Client Sample ID			UST N-1	UST S-1	UST E-1	UST W-1	UST B-1
Date Collected			6/24/2020	6/24/2020	6/24/2020	6/24/2020	6/24/2020
Method	Analyte	EPA RSL	Result	Result	Result	Result	Result
8015	TPH-Gasoline Range Organics	NE	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:
All concentrations presented in milligrams per kilogram (mg/kg), parts per million equivalent.
EPA RSL = Regional Screening Level for Industrial Soil (THQ 0.1) established by Environmental Protection Agency (EPA) Region 9 (MAY 2020)
Bolded Cell = Detected concentration but below EPA RSL for Industrial Soil
Highlighted/bolded cells = Concentration exceeds corresponding EPA RSL
NE = Not Established

FIGURES



bullock environmental, llc

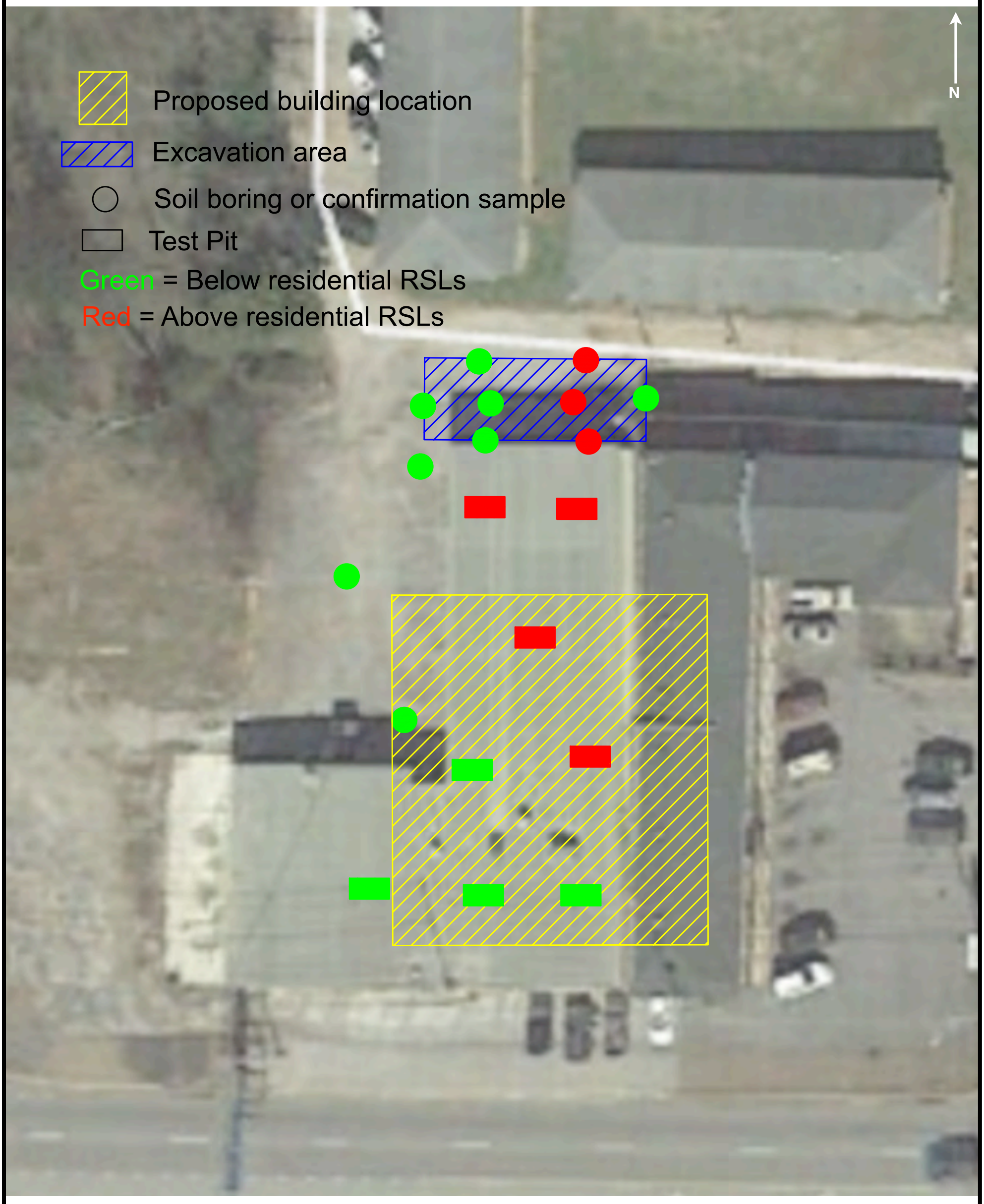
PROJECT

VOLUNTARY CLEANUP PLAN MODIFICATION
PROPOSED GOVERNOR'S WEST REDEVELOPMENT
GOVERNOR'S DRIVE AND 14TH STREET
HUNTSVILLE, MADISON COUNTY, ALABAMA
BULLOCK ENVIRONMENTAL PROJECT NO. 19-BEAC01

FIGURE 1

SITE PLAN WITH SAMPLE AND STOCKPILE LOCATIONS

1 INCH = APPROX. 100 FEET



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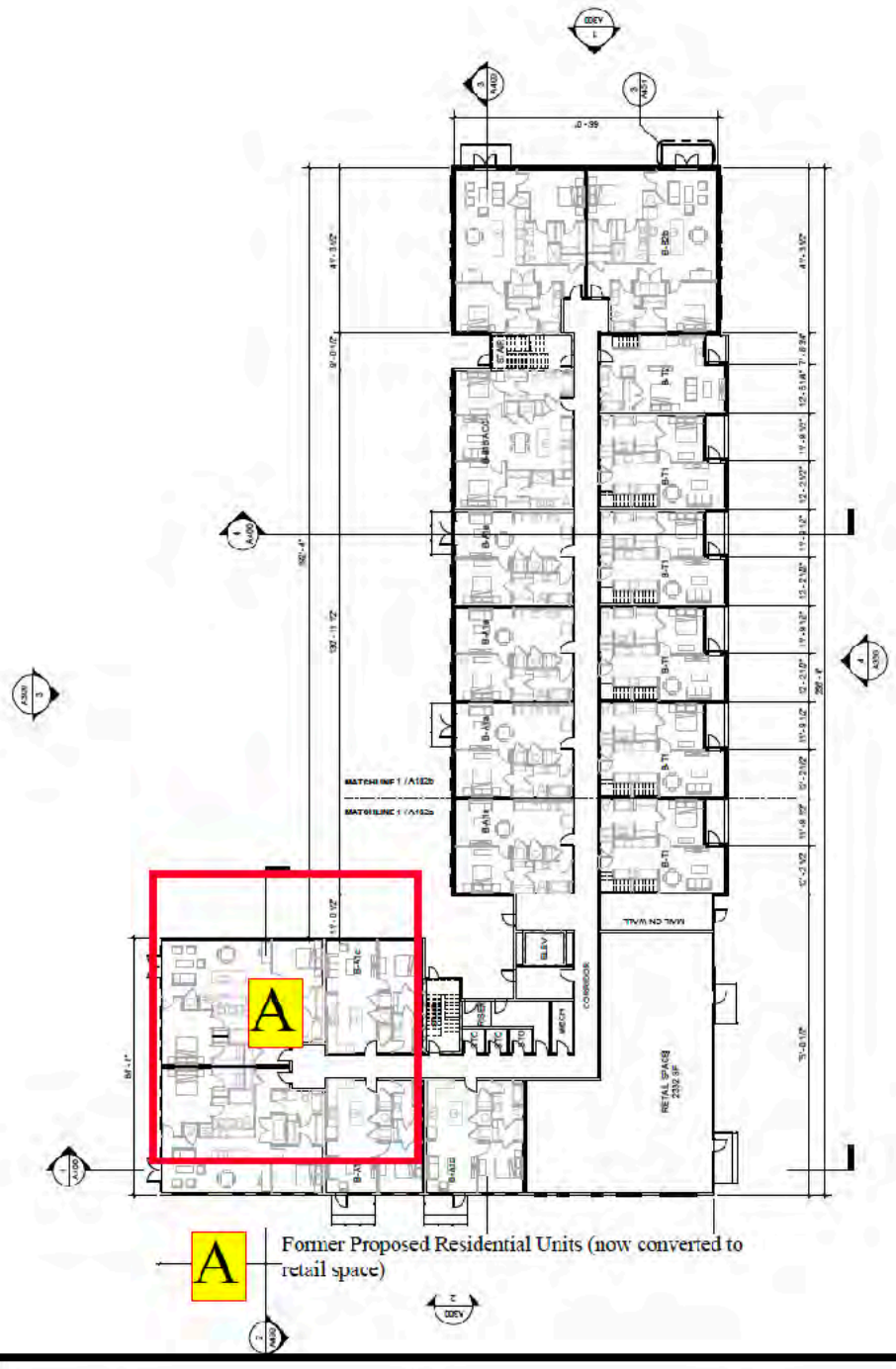
PROJECT

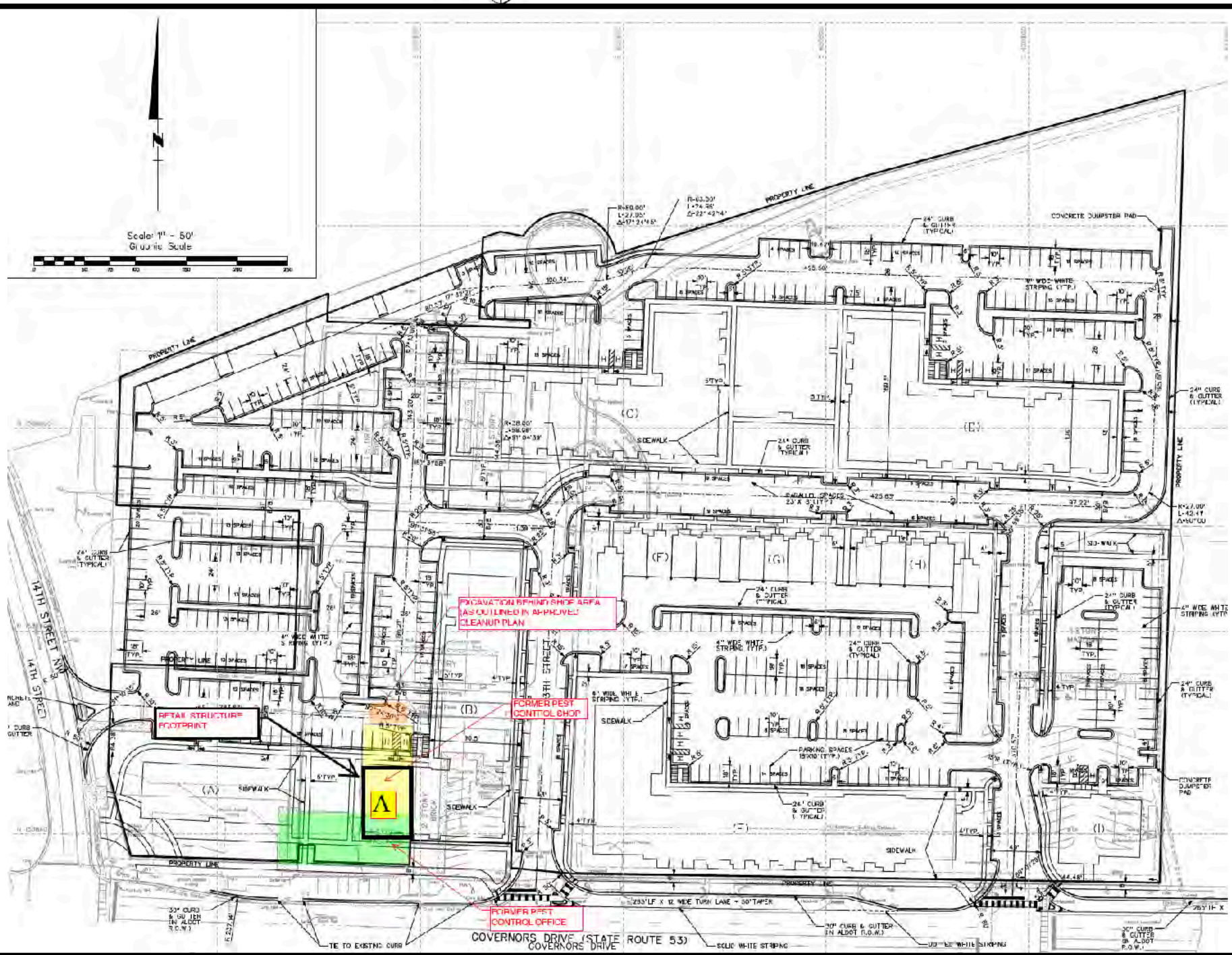
VOLUNTARY CLEANUP PLAN MODIFICATION
PROPOSED GOVERNOR'S WEST REDEVELOPMENT
GOVERNOR'S DRIVE AND 14TH STREET
HUNTSVILLE, MADISON COUNTY, ALABAMA
BULLOCK ENVIRONMENTAL PROJECT NO. 19-BEAC01

FIGURE 2

EXCAVATION AND TEST PIT LOCATIONS
WITH PROPOSED BUILDING FOOTPRINT
OVERLAY

1 INCH = APPROX. 100 FEET





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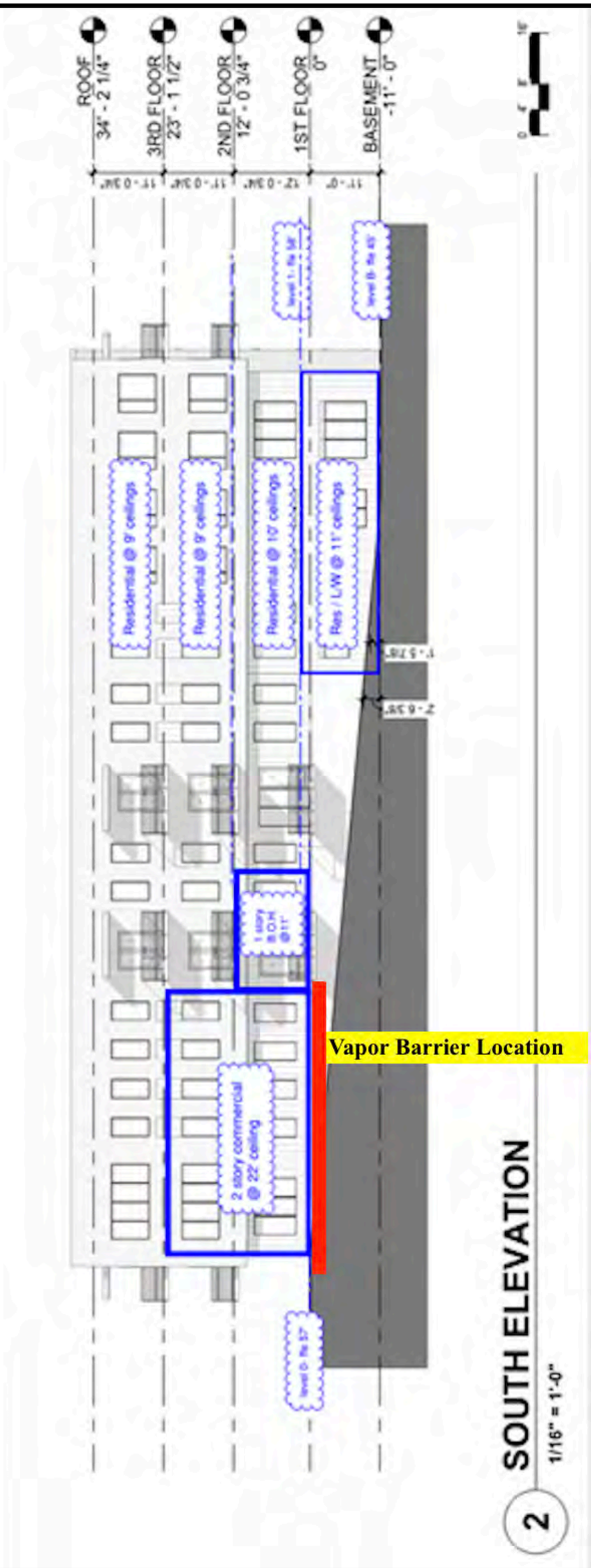
PROJECT

VOLUNTARY CLEANUP PLAN MODIFICATION
PROPOSED GOVERNOR'S WEST REDEVELOPMENT
GOVERNOR'S DRIVE AND 14TH STREET
HUNTSVILLE, MADISON COUNTY, ALABAMA
BULLOCK ENVIRONMENTAL PROJECT NO. 19-BEAC01

FIGURE 3

ORIGINAL SITE PLAN WITH RESIDENTIAL & MODIFIED PLAN WITH RETAIL STRUCTURE (RESIDENTIAL COMPONENT REMOVED)

1 INCH = AS INDICATED



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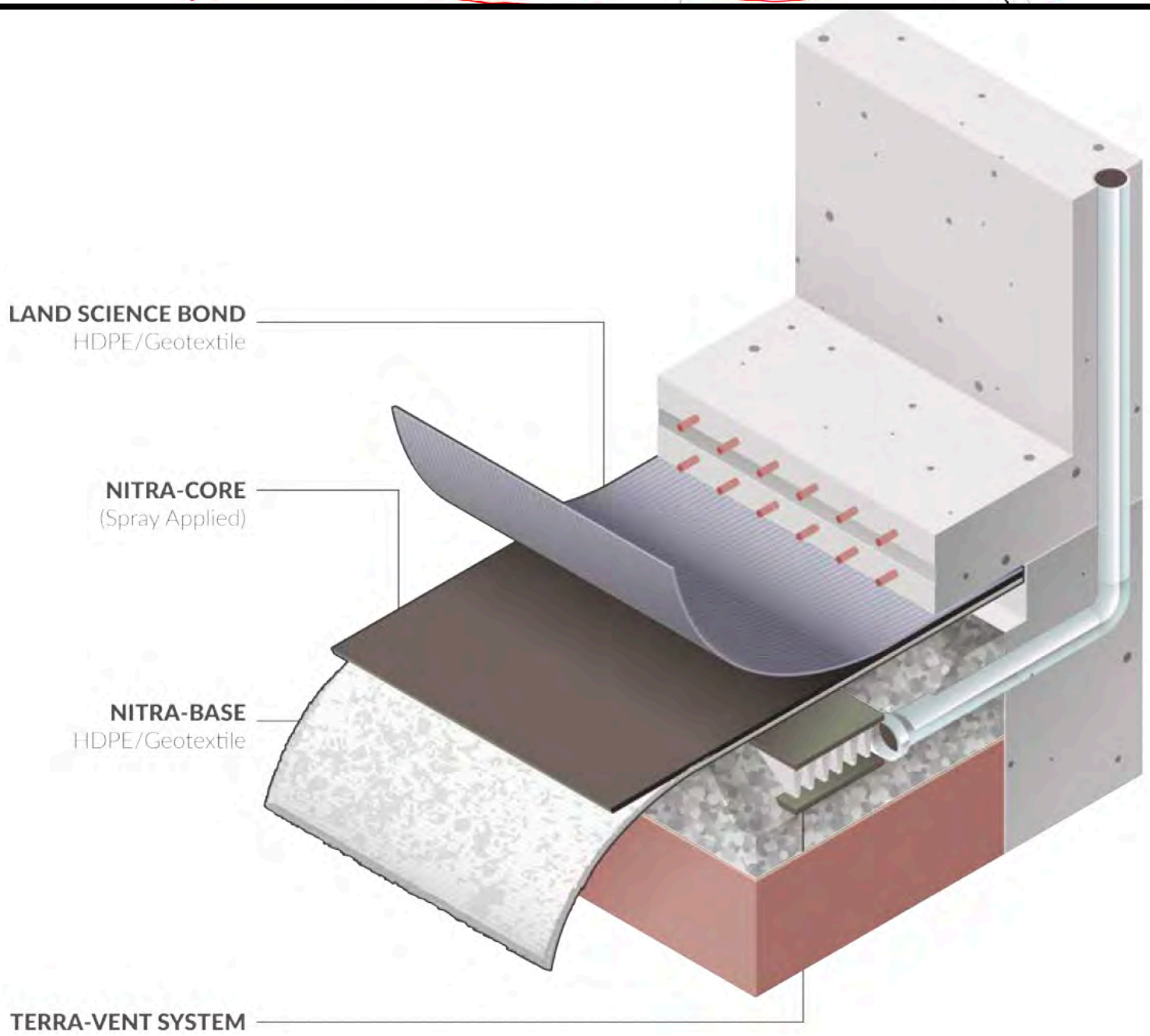
PROJECT

VOLUNTARY CLEANUP PLAN MODIFICATION
PROPOSED GOVERNOR'S WEST REDEVELOPMENT
GOVERNOR'S DRIVE AND 14TH STREET
HUNTSVILLE, MADISON COUNTY, ALABAMA
BULLOCK ENVIRONMENTAL PROJECT NO. 19-BEAC01

FIGURE 4

SOUTH-FACING ELEVATION OF RETAIL STRUCTURE (FORMER RESIDENTIAL UNIT LOCATION)

1 INCH = APPROX. 100 FEET



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PROJECT

VOLUNTARY CLEANUP PLAN MODIFICATION
PROPOSED GOVERNOR'S WEST REDEVELOPMENT
GOVERNOR'S DRIVE AND 14TH STREET
HUNTSVILLE, MADISON COUNTY, ALABAMA
BULLOCK ENVIRONMENTAL PROJECT NO. 19-BEAC01

FIGURE 5

PROPOSED APPLICATION AREA FOR VAPOR BARRIER SYSTEM AND SCHEMATIC OF BARRIER SYSTEM

APPENDIX A

LABORATORY ANALYTICAL DATA SHEETS-JUNE 2020 EXCAVATION ACTIVITIES

1

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Bullock
Company: Bullock Environmental
Address:
Phone#:
Cell #
E-mail(s):

Invoice # 43259

Page ___ of ___

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach - HSV

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	ANALYSIS REQUESTED / METHOD: TPH-GRO	Pesticides	Lead	Arsenic					Number of sample containers
2116280	UST-N-1	6/26/20	0900	Soil	X								1
2116281	UST-S-1		0910										
2116282	UST-E-1		0920										
2116283	UST-W-1		0930										
2116284	UST-B-1		0940										
2116285	SP-1		1000			X	X	X					
2116286	SP-2		1010										
2116287	SP-3		1020										
2116288	SP-4		1030										
2116289	SP-5		1040										
2116290	SP-6		1100										
2116291	SP-7		1130										
2116292	SP-8		1200										
2116293	SP-9		1210										

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

Relinquished by Sampler: Signed:	Date	Time	Received by: Signed:	Date	Time
	6/26/20	930			
Relinquished by: Signed:	Date	Time	Received by: Signed:	Date	Time
Relinquished by: Signed:	Date	Time	Received in Lab by: Signed: M. Carr	Date	Time
				6/26	9:30

Turn Around Time
Standard: ✓ **RUSH:** ___ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:

Refrigerated upon receipt: yes no

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Bullock
Company: Bullock Env
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43259

Page ____ of ____

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach-HSV

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

ANALYSIS REQUESTED / METHOD

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	Pesticides	Arsenic	Lead						Number of sample containers
216294	SP-10	6/24/20	1300	Soil	X	X	X						1
216295	SP-11		1330										
216296	SP-12		1400										
216297	SP-13		1410										
216298	SP-14		1420										
216299	SP-15		1500										
216300	SP-16		1530										
216301	SP-17		1600										
216302	SP-18		1610										
216303	SP-19		1620										
216304	SP-20	6/25/20	1000										
216305	SP-21		1020										
216306	SP-22		1040										
216307	SP-23		1100										

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

Relinquished by Sampler: Signed:	Date	Time	Received by: Signed:	Date	Time
	6/26/20	930			
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Carr	6/26	9:30

Turn Around Time
Standard: ✓ **RUSH:** ____ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:

Refrigerated upon receipt: yes no

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Blalock
Company: B. Black Env
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43259

Page ___ of ___

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach - HSV

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	Pesticides	Arsenic	Lead						Number of sample containers
216308	SP-24	62520	1130	Soil	X	X	X						1
216309	SP-25		1140										
216310	SP-26		1150										
216311	SP-27		1210										
216312	SP-28		1230										
216313	SP-29		1240										
216314	SP-30		1300										
216315	SP-31		1310										
216316	SP-32		1320										
216317	SP-33		1330										
216318	SP-34		1350										
216319	SP-35		1400										
216320	CS-W-1		1410										
216321	CS-E-1		1420										

Preservative: (a)HCl, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

Relinquished by Sampler: Signed:	Date	Time	Received by: Signed:	Date	Time
	62620	930			
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Carr	6/26	9:30

Turn Around Time
Standard: ✓ **RUSH:** ___ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:

Refrigerated upon receipt: yes no

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug B. Mock
Company: B. Mock ENV
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43259

Page ____ of ____

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach - HSV

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	Pesticides	Arsenic	Lead						Number of sample containers
216322	CS-N-1	6/25/20	1430	Soil	X	X	X						1
216323	CS-N-2		1440										
216324	CS-S-1		1500										
216325	CS-S-2		1510										
216326	CS-B-1		1520										
216327	CS-B-2		1530										
216328	TP-1 0-2		1600										
216329	TP-2 0-2		1610										
216330	TP-3 0-2		1620										
216331	TP-4 0-2		1670										
216332	TP-5 0-2	↓	1640	↓	↓								↓

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

Relinquished by Sampler: Signed:	Date	Time	Received by: Signed:	Date	Time
	6/26/20	930			
Relinquished by: Signed:	Date	Time	Received by: Signed:	Date	Time
Relinquished by: Signed:	Date	Time	Received in Lab by: Signed: M. Carr	Date	Time
				6/26	9:30

Turn Around Time
Standard: ✓ **RUSH:** ____ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:

Refrigerated upon receipt: yes no

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Analytical:	
Date Received:	6/26/20	Analyst:	Hageman/Heard
Date Collected:	6/24/20	Date of Analysis:	7/1/20
Sample Collector:	S. Smith	Method:	***SW 846 8015 Modified for GRO***

TPH as GASOLINE RANGE ORGANICS

FIELD ID	LAB ID	TPH, PPM	D.L., PPM
UST - N-1	**216280**	BDL	0.50
UST - S-1	**216281**	BDL	0.50
UST - E-1	**216282**	BDL	0.50
UST - W-1	**216283**	BDL	0.50
UST - B-1	**216284**	BDL	0.50

BDL = Below Detection Limit
D.L. = Detection Limit, Practical
All results expressed as PPM (mg/Kg)
GRO = C_6 - C_{10}

MH / QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	6/30/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/24/20	Date of Analysis:	7/1/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID SP-1 LAB ID 216285	FIELD ID SP-2 LAB ID 216286	FIELD ID SP-3 LAB ID 216287	FIELD ID SP-4 LAB ID 216288	FIELD ID SP-5 LAB ID 216289	Detection Limit, PPB
Aldrin	BDL	**150**	BDL	BDL	BDL	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	BDL	**14,600**	**3,160**	**5,100**	**925**	50
Chlordane - trans	BDL	**54,300**	**9,000**	**14,100**	**3,900**	50
4 - 4' - DDD	BDL	**201**	BDL	BDL	BDL	50
4 - 4' - DDE	BDL	**510**	BDL	**103**	BDL	50
4 - 4' - DDT	BDL	**493**	BDL	BDL	BDL	50
Dieldrin	BDL	**1,490**	**192**	**239**	BDL	50
Endosulfan I	BDL	**1,180**	**223**	**354**	BDL	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	BDL	**11,500**	**560**	**1,650**	**185**	50
Heptachlor Epoxide	BDL	**975**	**424**	**453**	BDL	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	6/30/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/24/20	Date of Analysis:	7/1/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID / LAB ID 216290	FIELD ID / SP-6 / LAB ID 216291	FIELD ID / SP-7 / LAB ID 216292	FIELD ID / SP-8 / LAB ID 216293	FIELD ID / SP-9 / LAB ID 216294	FIELD ID / SP-10 / LAB ID	Detection Limit, PPB
Aldrin	BDL	**150**	BDL	BDL	BDL	BDL	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	**3,010**	**12,100**	**26,000**	**7,200**	**11,300**	**38,700**	50
Chlordane - trans	**6,950**	**36,600**	**91,300**	**30,900**	**38,700**	BDL	50
4 - 4' - DDD	BDL	**277**	**292**	**198**	BDL	**132**	50
4 - 4' - DDE	**103**	**231**	**415**	**125**	**132**	BDL	50
4 - 4' - DDT	BDL	**237**	**317**	**121**	BDL	**615**	50
Dieldrin	**235**	**1,810**	**1,310**	**301**	**615**	**1,200**	50
Endosulfan I	**226**	**845**	**1,890**	**570**	**1,200**	BDL	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	**124**	**6,850**	**17,100**	**5,250**	**2,010**	BDL	50
Heptachlor Epoxide	**329**	**510**	**1,340**	**494**	BDL	BDL	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	6/30/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/24/20	Date of Analysis:	7/1/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID / SP-11 / LAB ID 216295	FIELD ID / SP-12 / LAB ID 216296	FIELD ID / SP-13 / LAB ID 216297	FIELD ID / SP-14 / LAB ID 216298	FIELD ID / SP-15 / LAB ID 216299	Detection Limit, PPB
Aldrin	**840**	**486**	**225**	BDL	**127**	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	**26,800**	**30,400**	**5,700**	**8,750**	**28,400**	50
Chlordane - trans	**88,000**	**150,000**	**24,000**	**50,100**	**90,800**	50
4 - 4' - DDD	**650**	**327**	**163**	**1,170**	**730**	50
4 - 4' - DDE	**575**	**505**	**143**	**496**	**387**	50
4 - 4' - DDT	**289**	**198**	**170**	**352**	**292**	50
Dieldrin	**3,490**	**3,140**	**1,120**	**1,590**	**3,980**	50
Endosulfan I	**2,140**	**3,000**	**715**	**1,120**	**2,480**	50
Endosulfan II	**356**	BDL	BDL	BDL	**325**	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	**6,750**	**35,900**	**3,350**	**7,700**	**25,000**	50
Heptachlor Epoxide	**244**	**830**	**224**	**214**	**1,380**	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	6/30/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/24-25/20	Date of Analysis:	7/1-2/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID / SP-16 / LAB ID / 216300	FIELD ID / SP-17 / LAB ID / 216301	FIELD ID / SP-18 / LAB ID / 216302	FIELD ID / SP-19 / LAB ID / 216303	FIELD ID / SP-20 / LAB ID / 216304	Detection Limit, PPB
Aldrin	**258**	BDL	**138**	**458**	**530**	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	**46,200**	**15,200**	**30,000**	**12,300**	**4,680**	50
Chlordane - trans	**182,000**	**82,600**	**109,000**	**42,400**	**20,700**	50
4 - 4' - DDD	**13,500**	**482**	**1,410**	**1,020**	**193**	50
4 - 4' - DDE	**2,110**	**330**	**705**	**309**	**175**	50
4 - 4' - DDT	**4,210**	**166**	**399**	**268**	**84**	50
Dieldrin	**3,320**	**575**	**2,390**	**1,330**	**1,780**	50
Endosulfan I	**3,770**	**1,220**	**2,570**	**1,130**	**387**	50
Endosulfan II	BDL	BDL	**341**	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	**59,500**	**19,400**	**44,600**	**7,100**	**1,640**	50
Heptachlor Epoxide	**1,820**	**690**	**1,120**	**415**	**168**	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	6/30/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/25/20	Date of Analysis:	7/2/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID SP-21 LAB ID 216305	FIELD ID SP-22 LAB ID 216306	FIELD ID SP-23 LAB ID 216307	FIELD ID SP-24 LAB ID 216308	FIELD ID SP-25 LAB ID 216309	Detection Limit, PPB
Aldrin	BDL	BDL	**1,280**	**95**	BDL	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	**1,790**	**710**	**13,000**	**2,870**	**3,260**	50
Chlordane - trans	**6,400**	**3,080**	**65,300**	**20,600**	**25,000**	50
4 - 4' - DDD	**229**	**99**	**1,170**	**473**	**485**	50
4 - 4' - DDE	BDL	**91**	**585**	**249**	**194**	50
4 - 4' - DDT	BDL	**56**	**429**	**212**	BDL	50
Dieldrin	BDL	**97**	**2,910**	**473**	**600**	50
Endosulfan I	**172**	BDL	**1,180**	**500**	**455**	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	**685**	**213**	**11,000**	**1,340**	**2,800**	50
Heptachlor Epoxide	BDL	BDL	**780**	**273**	**420**	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	6/30/20-7/1/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/25/20	Date of Analysis:	7/2/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID / SP-26 / LAB ID 216310	FIELD ID / SP-27 / LAB ID 216311	FIELD ID / SP-28 / LAB ID 216312	FIELD ID / SP-29 / LAB ID 216313	FIELD ID / SP-30 / LAB ID 216314	Detection Limit, PPB
Aldrin	BDL	**163**	BDL	BDL	BDL	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	**174**	**9,950**	BDL	**5,400**	**1,190**	50
Chlordane - trans	**1,310**	**48,200**	BDL	**4,000**	**705**	50
4 - 4' - DDD	**675**	**1,080**	BDL	BDL	BDL	50
4 - 4' - DDE	BDL	**408**	BDL	BDL	**70**	50
4 - 4' - DDT	BDL	BDL	BDL	BDL	BDL	50
Dieldrin	**66**	**805**	BDL	**615**	**362**	50
Endosulfan I	BDL	**1,010**	BDL	**424**	**175**	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	**72**	**7,900**	BDL	**73**	BDL	50
Heptachlor Epoxide	BDL	**775**	BDL	BDL	BDL	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/1/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/25/20	Date of Analysis:	7/2-3/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID / SP-31 / LAB ID 216315	FIELD ID / SP-32 / LAB ID 216316	FIELD ID / SP-33 / LAB ID 216317	FIELD ID / SP-34 / LAB ID 216318	FIELD ID / SP-35 / LAB ID 216319	Detection Limit, PPB
Aldrin	BDL	**433**	BDL	**145**	**585**	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	**1,520**	**2,600**	**3,170**	**2,670**	**590**	50
Chlordane - trans	**1,530**	**11,400**	**3,980**	**7,700**	**1,760**	50
4 - 4' - DDD	BDL	**337**	**215**	**243**	**130**	50
4 - 4' - DDE	**57**	**195**	**119**	**183**	**51**	50
4 - 4' - DDT	BDL	**147**	BDL	**61**	BDL	50
Dieldrin	**390**	**655**	**443**	**2,800**	**179**	50
Endosulfan I	**220**	**520**	**377**	**463**	BDL	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	**170**	**2,360**	BDL	**391**	**203**	50
Heptachlor Epoxide	BDL	**246**	BDL	BDL	BDL	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/1/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/25/20	Date of Analysis:	7/3/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID / LAB ID CS-W-1 / 216320	FIELD ID / LAB ID CS-E-1 / 216321	FIELD ID / LAB ID CS-N-1 / 216322	FIELD ID / LAB ID CS-N-2 / 216323	FIELD ID / LAB ID CS-S-1 / 216324	Detection Limit, PPB
Aldrin	BDL	BDL	BDL	BDL	BDL	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	BDL	BDL	BDL	**439**	BDL	50
Chlordane - trans	**1,330**	BDL	BDL	**2,750**	**27,800**	50
4 - 4' - DDD	**65**	BDL	BDL	BDL	BDL	50
4 - 4' - DDE	**105**	BDL	BDL	BDL	BDL	50
4 - 4' - DDT	BDL	BDL	BDL	BDL	BDL	50
Dieldrin	BDL	BDL	BDL	**201**	BDL	50
Endosulfan I	BDL	BDL	BDL	BDL	BDL	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	BDL	BDL	BDL	BDL	BDL	50
Heptachlor Epoxide	BDL	BDL	BDL	BDL	BDL	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/1/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/24/20	Date of Analysis:	7/3/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID CS-S-2 LAB ID 216325	FIELD ID CS-B-1 LAB ID 216326	FIELD ID CS-B-2 LAB ID 216327	FIELD ID TP-1 0-2 LAB ID 216328	FIELD ID TP-2 0-2 LAB ID 216329	Detection Limit, PPB
Aldrin	BDL	BDL	BDL	BDL	**225**	50
BHC - Alpha	BDL	BDL	BDL	BDL	BDL	50
BHC - Beta	BDL	BDL	BDL	BDL	BDL	50
BHC - Delta	BDL	BDL	BDL	BDL	BDL	50
BHC - Gamma (Lindane)	BDL	BDL	BDL	BDL	BDL	50
Chlordane - cis	BDL	BDL	**1,430**	**4,960**	**8,900**	50
Chlordane - trans	BDL	BDL	**32,500**	**11,900**	**43,600**	50
4 - 4' - DDD	BDL	BDL	**755**	**291**	BDL	50
4 - 4' - DDE	BDL	BDL	**640**	BDL	BDL	50
4 - 4' - DDT	BDL	BDL	**384**	BDL	BDL	50
Dieldrin	BDL	BDL	**369**	BDL	**406**	50
Endosulfan I	BDL	BDL	**905**	**1,280**	**1,070**	50
Endosulfan II	BDL	BDL	BDL	BDL	BDL	50
Endosulfan Sulfate	BDL	BDL	BDL	BDL	BDL	50
Endrin	BDL	BDL	BDL	BDL	BDL	50
Endrin Aldehyde	BDL	BDL	BDL	BDL	BDL	50
Heptachlor	BDL	BDL	**13,000**	**3,170**	**7,450**	50
Heptachlor Epoxide	BDL	BDL	**525**	**93**	**410**	50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/1/20
Date Received:	6/26/20	Analyst:	MSH/MJH
Date Collected:	6/25/20	Date of Analysis:	7/3/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID TP-3 0-2 LAB ID 216330	FIELD ID TP-4 0-2 LAB ID 216331	FIELD ID TP-5 0-2 LAB ID 216332			Detection Limit, PPB
Aldrin	**312**	BDL	BDL			50
BHC - Alpha	BDL	**93**	BDL			50
BHC - Beta	BDL	BDL	BDL			50
BHC - Delta	BDL	**58**	BDL			50
BHC - Gamma (Lindane)	BDL	**497**	BDL			50
Chlordane - cis	**9,350**	**11,100**	BDL			50
Chlordane - trans	**39,600**	**32,400**	BDL			50
4 - 4' - DDD	**6,050**	**213**	BDL			50
4 - 4' - DDE	**965**	**74**	BDL			50
4 - 4' - DDT	**3,310**	**110**	BDL			50
Dieldrin	**1,330**	**279**	BDL			50
Endosulfan I	**2,100**	**1,680**	BDL			50
Endosulfan II	BDL	BDL	BDL			50
Endosulfan Sulfate	BDL	BDL	BDL			50
Endrin	BDL	BDL	BDL			50
Endrin Aldehyde	BDL	BDL	BDL			50
Heptachlor	**40,100**	**545**	BDL			50
Heptachlor Epoxide	**1,330**	**372**	BDL			50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

MH / QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Analytical	
Date Received:	6/26/20	Analyst:	Kevin Doriety
Date Collected:	6/24/20	Date of Analysis:	7/7-8/20
Sample Collector:	S. Smith	Method:	***EPA Method 6010B***

METALLIC ANALYTES

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection
	216285	216286	216287	216288	216289	216290	Limit,mg/Kg
Arsenic	BDL	BDL	9.6	BDL	BDL	BDL	1.0
Lead	32	26	107	60	31	34	1.0

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	SP-7	SP-8	SP-9	SP-10	SP-11	SP-12	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection
	216291	216292	216293	216294	216295	216296	Limit,mg/Kg
Arsenic	BDL	BDL	BDL	BDL	10	6.1	1.0
Lead	82	49	39	32	71	81	1.0

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	SP-13	SP-14	SP-15	SP-16	SP-17	SP-18	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection
	216297	216298	216299	216300	216301	216302	Limit,mg/Kg
Arsenic	BDL	BDL	6.8	30	BDL	BDL	1.0
Lead	68	54	65	110	59	58	1.0

BDL = Below Detection Limit
Detection Limit is Reporting Limit
All results expressed as PPM mg/Kg of total analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Analytical	
Date Received:	6/26/20	Analyst:	Kevin Doriety
Date Collected:	6/24-25/20	Date of Analysis:	7/7-8/20
Sample Collector:	S. Smith	Method:	***EPA Method 6010B***

METALLIC ANALYTES

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	SP-19	SP-20	SP-21	SP-22	SP-23	SP-24	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection
	216303	216304	216305	216306	216307	216308	Limit,mg/Kg
Arsenic	BDL	BDL	BDL	BDL	BDL	BDL	1.0
Lead	44	51	33	37	43	46	1.0

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	SP-25	SP-26	SP-27	SP-28	SP-29	SP-30	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection
	216309	216310	216311	216312	216313	216314	Limit,mg/Kg
Arsenic	BDL	BDL	BDL	BDL	BDL	BDL	1.0
Lead	40	33	55	32	25	24	1.0

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	SP-31	SP-32	SP-33	SP-34	SP-35	CS-W-1	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection
	216315	216316	216317	216318	216319	216320	Limit,mg/Kg
Arsenic	BDL	BDL	BDL	BDL	BDL	BDL	1.0
Lead	31	19	51	24	40	33	1.0

BDL = Below Detection Limit
Detection Limit is Reporting Limit
All results expressed as PPM mg/Kg of total analyte

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 8, 2020
Attention:	Mr. Doug Bullock	Reference #	43259
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Analytical	
Date Received:	6/26/20	Analyst:	Kevin Doriety
Date Collected:	6/25/20	Date of Analysis:	7/7-8/20
Sample Collector:	S. Smith	Method:	***EPA Method 6010B***

METALLIC ANALYTES

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID	
	CS-E-1	CS-N-1	CS-N-2	CS-S-1	CS-S-2	CS-B-1	
Analyte, mg/Kg as Total	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection Limit,mg/Kg
	216321	216322	216323	216324	216325	216326	
Arsenic	BDL	BDL	BDL	BDL	BDL	BDL	1.0
Lead	30	19	24	28	46	28	1.0

	FIELD ID						
	CS-B-2						
Analyte, mg/Kg as Total	LAB ID						Detection Limit,mg/Kg
	216327						
Arsenic	BDL						1.0
Lead	39						1.0

BDL = Below Detection Limit
Detection Limit is Reporting Limit
All results expressed as PPM mg/Kg of total analyte

MH / QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

APPENDIX B

LABORATORY ANALYTICAL DATA SHEETS-JULY WASTE CHARACTERIZATION ACTIVITIES

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY
ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Bullock
Company: B-Rock ENV
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43347

Page ____ of ____

Client P.O. #

PDF: yes no

CLIENT: Bullock
PROJECT NAME/#: Beach
SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	TCLP Pesticides							Number of sample containers
216668	SP-1	71320	930	So.1	X							1
216669	SP-2		940									
216670	SP-3		950									
216671	SP-4		1000									
216672	SP-5		1010									
216673	SP-6		1020									
216674	SP-7		1030									
216675	SP-8		1040									
216676	SP-9		1050									
216677	SP-10		1100									
216678	SP-11		1110									
216679	SP-12		1120									
216680	SP-13		1130									
216681	SP-14		1140									

ANALYSIS REQUESTED / METHOD

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

	Date	Time		Date	Time
Relinquished by Sampler: Signed:	71320	1410	Received by: Signed:		
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Cam	7/13	2:17

Turn Around Time
Standard: ____ **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks: extract All - run highest First and step down to 1 PASS - Doug will send List.

Refrigerated upon receipt: yes no

CHAIN OF CUSTODY
ANALYSIS REQUEST

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

Client P.O. #

SEND REPORT TO:
Name: Doug Bullock
Company: Bullock Farm
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43347

Page ____ of ____

PDF: yes no

CLIENT: Bullock
PROJECT NAME/#: Beach
SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	ANALYSIS REQUESTED / METHOD: TCLP Pesticides								Number of sample containers
216682	SP-15	71320	1150	Soil	X								1
216683	SP-16		1200										
216684	SP-17		1210										
216685	SP-18		1220										
216686	SP-19		1230										
216687	SP-20		1240										
216688	SP-21		1250										
216689	SP-22		1300										
216690	SP-23		1305										
216691	SP-24		1310										
216692	SP-25		1315										
216693	SP-26		1320										
216694	SP-27		1325										
216695	SP-28		1330										

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type:(a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

	Date	Time		Date	Time
Relinquished by Sampler: Signed:	71320	1410	Received by: Signed:		
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Carr	7/13	2:17

Turn Around Time
Standard: _____ **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:

Refrigerated upon receipt: yes no

CHAIN OF CUSTODY
ANALYSIS REQUEST

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

SEND REPORT TO:
Name: Doug Bullock
Company: Bullock Env
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43347

Page ____ of ____

Client P.O. #

PDF: yes no

CLIENT: Bullock

PROJECT NAME/#: Beach

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	TCLP Pesticides								Number of sample containers
216697	SP-29	71320	1335	Soil	X								1
216698	SP-30		1340										
216699	SP-31		1345										
216700	SP-32		1350										
216701	SP-33		1355										
216702	SP-34		1400										
216703	SP-35		1405										

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

Relinquished by Sampler:	Date	Time	Received by:	Date	Time
Signed:	71320	1410	Signed:		
Relinquished by:	Date	Time	Received by:	Date	Time
Signed:			Signed:		
Relinquished by:	Date	Time	Received in Lab by:	Date	Time
Signed:			Signed: M. Carr	7/13	2:17

Turn Around Time
Standard: ____ **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:

Refrigerated upon receipt: yes no

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 15, 2020
Attention:	Mr. Doug Bullock	Reference #	43347
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/15/20
Date Received:	7/13/20	Analyst:	MJH
Date Collected:	7/13/20	Date of Analysis:	7/15/20
Sample Collector:	S. Smith	Method:	***SW846 1311/8081***

REGULATED PESTICIDES IN TCLP EXTRACT

	FIELD ID						
	SP-16						
Analyte, mg/L in TCLP extract	**LAB ID**					Detection Limit, mg/L	Regulatory Limit, mg/L
	216683						
Chlordane	BDL					0.015	0.03
Endrin	BDL					0.010	0.02
Heptachlor	BDL					0.005	0.01
Heptachlor Epoxide	**0.006**					0.005	0.01
Lindane	BDL					0.200	0.40
Methoxychlor	BDL					0.050	10.0

BDL = Below Detection Limit
Detection Limit is Method Detection Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

MH / QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety

Kevin Doriety
Analytical Chemist

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Bullock
Company: Bullock Environmental
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43392

Page ___ of ___

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach - HSV

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	ANALYSIS REQUESTED / METHOD: TCLP Pest								Number of sample containers
216669	SP-2	71320	940	Soil	X								1
216670	SP-3		950										
216671	SP-4		1000										
216672	SP-5		1010										
216673	SP-6		1020										
216674	SP-7		1030										
216675	SP-8		1040										
216676	SP-9		1050										
216677	SP-10		1100										
216678	SP-11		1110										
216679	SP-12		1120										
216680	SP-13		1130										
216681	SP-14		1140										
216682	SP-15		1150										

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

	Date	Time		Date	Time
Relinquished by Sampler: Signed:	72020	1215	Received by: Signed:		
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Cox	7/21	1215

original: 7/13/20

Turn Around Time
Standard: ___ **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks: See Dougs email for specific Parameters ASAP

Refrigerated upon receipt: yes no

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: See page 1
Company:
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43392

Page ____ of ____

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach - HSV

SAMPLER(S): (print)

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	TCLP Pest								Number of sample containers
~~216683~~	SP-16	7/13/20	1200	~~Soil~~	X					MC			1
216684	SP-17		1210										
216685	SP-18		1220										
216686	SP-19		1230										
216687	SP-20		1240										
216688	SP-21		1250										
216689	SP-22		1300										
216690	SP-23		1305										
216691	SP-24		1310										
216692	SP-25		1315										
216693	SP-26		1320										
216694	SP-27		1325										
216697	SP-29		1335										
216698	SP-30		1340										

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

	Date	Time		Date	Time
Relinquished by Sampler: Signed:	7/13/20	1215	Received by: Signed:		
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Carr	7/21	1215

Turn Around Time
Standard: • **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks:
See page 1

Refrigerated upon receipt: yes no

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Bullock
Company: BullockENV
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43392

Page ___ of ___

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach #SV

SAMPLER(S): (print) Sam Sp

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	ANALYSIS REQUESTED / METHOD: TCLP Pest								Number of sample containers
216699	SP-31	7/3/20	1345	Soil	X								1
216700	SP-32	"	1350	"	"								"
216701	SP-33	"	1355	"	"								"
216702	SP-34	"	1400	"	"								"
216703	SP-35	"	1405	"	"								"

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

	Date	Time		Date	Time
Relinquished by Sampler: Signed:	7/3/20	1215	Received by: Signed:		
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed: M. Carr	7/21	1215

Turn Around Time
Standard: ___ **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks: See pg 1

Refrigerated upon receipt: yes no

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 27, 2020
Attention:	Mr. Doug Bullock	Reference #	43392
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/22/20
Date Received*:	7/13/20	Analyst:	MJH/MSH
Date Collected:	7/13/20	Date of Analysis:	7/22-23/20
Sample Collector:	S. Smith	Method:	***SW846 1311/8081***

REGULATED PESTICIDES IN TCLP EXTRACT

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID		
	SP-2	SP-3	SP-4	SP-5	SP-6		
Analyte, mg/L in TCLP extract	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection Limit, mg/L	Regulatory Limit, mg/L
	216669	216670	216671	216672	216673		
Chlordane	BDL	BDL	BDL	BDL	BDL	0.015	0.03
Heptachlor	BDL	BDL	BDL	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	BDL	BDL	BDL	0.005	0.01

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID		
	SP-7	SP-8	SP-9	SP-10	SP-11		
Analyte, mg/L in TCLP extract	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection Limit, mg/L	Regulatory Limit, mg/L
	216674	216675	216676	216677	216678		
Chlordane	BDL	BDL	BDL	BDL	BDL	0.015	0.03
Heptachlor	BDL	BDL	BDL	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	BDL	BDL	BDL	0.005	0.01

*Analysis Requested: 7/21/20
BDL = Below Detection Limit
Detection Limit is Method Detection Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 27, 2020
Attention:	Mr. Doug Bullock	Reference #	43392
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/15-23/20
Date Received*:	7/13/20	Analyst:	MJH/MSH
Date Collected:	7/13/20	Date of Analysis:	7/15-23/20
Sample Collector:	S. Smith	Method:	***SW846 1311/8081***

REGULATED PESTICIDES IN TCLP EXTRACT

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID		
	SP-12	SP-13	SP-14	SP-15	SP-17		
Analyte, mg/L in TCLP extract	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection	Regulatory
	216679	216680	216681	216682	216684	Limit, mg/L	Limit, mg/L
Chlordane	BDL	**0.026**	**0.024**	BDL	BDL	0.015	0.03
Heptachlor	BDL	**0.019**	**0.009**	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	**0.005**	BDL	BDL	0.005	0.01

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID		
	SP-18	SP-19	SP-20	SP-21	SP-22		
Analyte, mg/L in TCLP extract	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection	Regulatory
	216685	216686	216687	216688	216689	Limit, mg/L	Limit, mg/L
Chlordane	BDL	**0.016**	**0.022**	BDL	**0.016**	0.015	0.03
Heptachlor	BDL	BDL	**0.006**	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	BDL	BDL	BDL	0.005	0.01

*Analysis Requested: 7/21/20
BDL = Below Detection Limit
Detection Limit is Method Detection Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 27, 2020
Attention:	Mr. Doug Bullock	Reference #	43392
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/22-24/20
Date Received*:	7/13/20	Analyst:	MJH/MSH
Date Collected:	7/13/20	Date of Analysis:	7/23-25/20
Sample Collector:	S. Smith	Method:	***SW846 1311/8081***

REGULATED PESTICIDES IN TCLP EXTRACT

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID		
	SP-23	SP-24	SP-25	SP-26	SP-27		
Analyte, mg/L in TCLP extract	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection	Regulatory
	216690	216691	216692	216693	216694	Limit, mg/L	Limit, mg/L
Chlordane	BDL	BDL	BDL	BDL	BDL	0.015	0.03
Heptachlor	BDL	BDL	BDL	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	BDL	BDL	BDL	0.005	0.01

	FIELD ID	FIELD ID	FIELD ID	FIELD ID	FIELD ID		
	SP-29	SP-30	SP-31	SP-32	SP-33		
Analyte, mg/L in TCLP extract	LAB ID	LAB ID	LAB ID	LAB ID	LAB ID	Detection	Regulatory
	216697	216698	216699	216700	216701	Limit, mg/L	Limit, mg/L
Chlordane	BDL	BDL	BDL	BDL	BDL	0.015	0.03
Heptachlor	BDL	BDL	BDL	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	BDL	BDL	BDL	0.005	0.01

*Analysis Requested: 7/21/20
BDL = Below Detection Limit
Detection Limit is Method Detection Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	July 27, 2020
Attention:	Mr. Doug Bullock	Reference #	43392
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach - HSV

Sample Matrix:	soil	Extraction Date:	7/24/20
Date Received*:	7/13/20	Analyst:	MJH/MSH
Date Collected:	7/13/20	Date of Analysis:	7/25/20
Sample Collector:	S. Smith	Method:	***SW846 1311/8081***

REGULATED PESTICIDES IN TCLP EXTRACT

Analyte, mg/L in TCLP extract	FIELD ID SP-34 LAB ID 216702	FIELD ID SP-35 LAB ID 216703	Detection Limit, mg/L	Regulatory Limit, mg/L
Chlordane	BDL	BDL	0.015	0.03
Heptachlor	BDL	BDL	0.005	0.01
Heptachlor Epoxide	BDL	BDL	0.005	0.01

*Analysis Requested: 7/21/20
BDL = Below Detection Limit
Detection Limit is Method Detection Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

/ QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

Sutherland
Environmental Company, Inc.
2515 5th Avenue South
Birmingham, AL 35233
PHONE: (205)581-9500
E-mail: suthlab@bellsouth.net

CHAIN OF CUSTODY ANALYSIS REQUEST

SEND REPORT TO:
Name: Doug Bullock
Company: Bullock Env
Address:
Phone#: Cell #
E-mail(s):

Invoice # 43430
Page ____ of ____

Client P.O. #

PDF: yes no

CLIENT:

PROJECT NAME/#: Beach HSV

SAMPLER(S): (print) Samuel Smith

DATE DELIVERED:

LAB ID	FIELD ID	DATE Collected	TIME Collected	SAMPLE DESCRIPTION (matrix)	Pesticides	TCLP Lead	TCLP Heptachlor						Number of sample containers
					ANALYSIS REQUESTED / METHOD								
217240	TP-6 0-2	72820	1130	Soil	X								
217241	TP-7 0-2	↓	1140	↓	X								
217242	TP-8 0-2		1150		X								
217243	SP-3		1200			X							
217244	SP-13B	↓	1210	↓			X						

Preservative: (a)HCL, (b)HNO_3, (c)H_2SO_4, (d)NaOH, (e) $Na_2S_2O_3$, (f) H_3PO_4, (g)Zn Acetate **Preservative:**
Container type: (a) Amber, (g) Glass, (p) Plastic, (v) VOC Vial, (air) air bag **Container:**

Last revised 12/13/19

Relinquished by Sampler: Signed:	Date	Time	Received by: Signed:	Date	Time
	72820	1550			
Relinquished by: Signed:			Received by: Signed:		
Relinquished by: Signed:			Received in Lab by: Signed:	7-28-20	1550

Turn Around Time
Standard: ✓ **RUSH:** ✓ 3-DAY 1-DAY 2-DAY SAME DAY

Remarks: Rush TCLP Lead (SP-3)

Refrigerated upon receipt: yes no

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	August 7, 2020
Attention:	Mr. Doug Bullock	Reference #	43430
Address:	2811 Crescent Ave. Ste 101	P.O. #	verbal
	Birmingham, AL 35209	Project ID:	Beach HSV

Sample Matrix:	soil	Extraction Date:	8/3/20
Date Received:	7/28/20	Analyst:	M. Hageman
Date Collected:	7/28/20	Date of Analysis:	8/6/20
Sample Collector:	S. Smith	Method:	***EPA Method 8081B***

PESTICIDES

EXTRACTABLE PESTICIDES, PPB	FIELD ID TP-6 0-2 LAB ID 217240	FIELD ID TP-7 0-2 LAB ID 217241	FIELD ID TP-8 0-2 LAB ID 217242			Detection Limit, PPB
Aldrin	BDL	BDL	BDL			50
BHC - Alpha	BDL	BDL	BDL			50
BHC - Beta	BDL	BDL	BDL			50
BHC - Delta	BDL	BDL	BDL			50
BHC - Gamma (Lindane)	BDL	BDL	BDL			50
Chlordane - cis	BDL	BDL	BDL			50
Chlordane - trans	BDL	BDL	BDL			50
4 - 4' - DDD	BDL	BDL	BDL			50
4 - 4' - DDE	BDL	BDL	BDL			50
4 - 4' - DDT	BDL	BDL	BDL			50
Dieldrin	BDL	BDL	BDL			50
Endosulfan I	BDL	BDL	BDL			50
Endosulfan II	BDL	BDL	BDL			50
Endosulfan Sulfate	BDL	BDL	BDL			50
Endrin	BDL	BDL	BDL			50
Endrin Aldehyde	BDL	BDL	BDL			50
Heptachlor	BDL	BDL	BDL			50
Heptachlor Epoxide	BDL	BDL	BDL			50

BDL = Below Detection Limit, Practical
All results expressed as PPB (ug/Kg) of analyte

/ QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	August 3, 2020
Attention:	Mr. Doug Bullock	Reference #	43430
Address:	4924 5th Ave. South	P.O. #	verbal
	Birmingham, AL 35222	Project ID:	Beach HSV

Sample Matrix:	soil	Analytical	
Date Received:	7/28/20	Analyst:	Kevin Doriety
Date Collected:	7/28/20	Date of Analysis:	8/3/20
Sample Collector:	S. Smith	Method:	***SW846 1311/6020B/7470A***

METALLIC ANALYTES IN TCLP EXTRACT

	FIELD ID						
	SP-3						
Analyte, mg/L in TCLP extract	LAB ID					Detection Limit, mg/L	Regulatory Limit, mg/L
	217243						
Lead	**1.4**					0.1	5.0

BDL = Below Detection Limit
Detection Limit is Practical Quantitation Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

/ QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

Sutherland

Environmental Company, Inc.

2515 5th Avenue South
Birmingham, AL 35233
205-581-9500

Client:	Bullock Environmental, LLC	Report Date:	August 7, 2020
Attention:	Mr. Doug Bullock	Reference #	43430
Address:	2811 Crescent Ave. Ste 101	P.O. #	verbal
	Birmingham, AL 35209	Project ID:	Beach HSV

Sample Matrix:	soil	Extraction Date:	8/3/20
Date Received:	7/28/20	Analyst:	M. Hageman
Date Collected:	7/28/20	Date of Analysis:	8/6/20
Sample Collector:	S. Smith	Method:	***SW846 1311/8081***

REGULATED PESTICIDES IN TCLP EXTRACT

	FIELD ID						
	SP-13 B						
Analyte, mg/L in TCLP extract	LAB ID					Detection Limit, mg/L	Regulatory Limit, mg/L
	217244						
Heptachlor	BDL					0.0050	0.010

BDL = Below Detection Limit
Detection Limit is Method Detection Limit
All results expressed as mg/L of analyte in filtrate
from Toxicity Characteristic Leaching Procedure (TCLP)

/ QAQC

EPA Laboratory ID AL01084

Respectfully submitted,

Kevin Doriety
Analytical Chemist

APPENDIX C

APPROVED SOLID WASTE PROFILE (AUGUST 4, 2020)

LANCE R. LEFLEUR
DIRECTOR

Kay Ivey
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

8/4/2020

Delivered Via Email to Doug Bullock

RE: Waste Certification
Soil and debris with various pesticide constituents
This approval excludes Stockpiles 13 and 14 for disposal. Any additional material to be generated/disposed must be approved by the Department.

The Alabama Department of Environmental Management has reviewed your waste certification received on 7/17/2020 and has assigned a Certification Number for this waste as shown below.

Waste Profile #: 164167
Certification #: SW-083122-0007
Expiration Date of Certification: 8/31/2022

Beach Equity Investment, LLC
14th Street and Governors Drive
Huntsville, AL

In your certification you requested one or more landfills be approved to receive your waste. Based on our review of the waste and the landfills requested, the waste is approved for disposal in the following landfills:

Morris Farm LF	40-08
Scottsboro LF	36-02
Big Sky Environmental LF	37-48

You should provide this approval letter to the landfill(s) listed above and contact the landfill to determine any special handling requirements for this waste prior to delivery to the landfill. According to ADEM regulations, the landfill may not receive this waste unless it has received a waste certification approval. For waste generated on a routine basis (not a one-time occurrence), another written certification for this waste stream should be submitted to ADEM prior to the expiration date listed above or at any time the process producing the waste changes. Each submittal should include a completed Solid Waste Profile Sheet, any supporting documentation including current analytical, and the appropriate fee. Current analytical consists of analysis performed within the past six months.

If at any time before the expiration date of this certification, new analysis of the waste is performed, the new results will supersede any prior analysis from the time the samples are taken. If the new analysis indicates the waste is still non-hazardous, the waste may continue to be disposed of at the landfill listed above until the expiration date of this certification. If the new analysis indicates the waste is hazardous, this certification is revoked. Each time new analysis is performed on the waste, copies of the analytical results should be provided to ADEM and the landfill until this certification expires. The generator should not dispose of the waste prior to the receipt and review of the sampling results. Furthermore, this approval letter does not exempt Beach Equity Investment, LLC from complying with all applicable requirements of the ADEM Administrative Code. If you have any questions concerning this approval or the approval process, please contact Ms. Bailee Dykes at 334-279-3061.

Sincerely,

Brent A. Watson

Brent A. Watson, Chief
Compliance and Enforcement Section
Land Division

BAW/bld

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

APPENDIX D

SPECIFICATIONS AND TECHNICAL DATA SHEETS FOR PROPOSED VAPOR BARRIER SYSTEM

Advanced Nitrile Composite Barrier System

Nítra-Seal™

Nitrile-Advanced Vapor Barrier

www.nitra-seal.com

Introduction

Nitra-Seal™ is an update/improvement on current vapor barrier systems. Originally, passive vapor barrier systems were waterproofing systems adapted for use as contaminant vapor barriers. An acknowledged weakness in these systems is in the penetration and perimeter termination locations, where spray-applied core material composed of Styrene-Butadiene (SBR)- modified asphalt is used. While excellent at repelling water, aggressive chemicals such as petroleum solvents and chlorinated volatile organic compounds (VOCs), will permeate into the SBR-modified asphalt at a relatively high rate particularly in sensitive areas of the building construction such as barrier seams, slab penetrations and perimeters. Nitra-Seal offers a substantial upgrade as it employs a more chemically resistant nitrile latex instead of the more susceptible SBR material. Nitrile is recognized throughout the environmental engineering industry as being more chemically resistant than rubber or SBR and is often used in personal protective equipment when working on hazardous waste sites (e.g. nitrile gloves).

Nitra-Seal is a composite system creating the ideal blend between constructability and chemical resistance by using both high density polyethylene (HDPE) and nitrile-advanced, spray-applied asphalt core.

Nítra-Seal™
Nitrile-Advanced Vapor Barrier

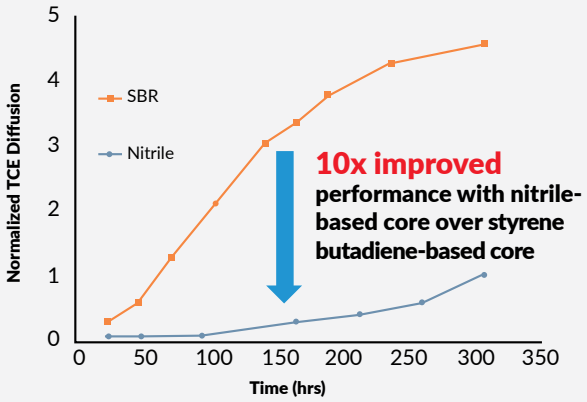
Nitra-Seal has been lab-tested and proven to be highly effective against VOCs like chlorinated solvents and petroleum contaminants, and methane.

Nitra-Seal is a significant improvement over all other composite vapor barriers on the market due to the use of chemically resistant Nitrile instead of typical spray applied barriers.

Nitra-Core is laboratory tested to be 10x more effective than typical spray-applied SBR modified asphalt material.

Land Science Certified Applicators ensure barriers are properly installed, reducing risk.

Nítra-Core
Nitrile-Modified Asphalt



Accelerated comparison of the TCE vapor resistance of Nitra-Core, a nitrile-modified spray applied asphalt layer, against spray-applied asphalt latex core, a styrene butadiene-modified asphalt layer. Both asphalt layers were sprayed to an identical thickness for the test.

Overview

Nitra-Seal is a composite barrier system that incorporates a nitrile spray-applied component significantly reducing the potential for indoor air exposure to sub-slab chemical vapors.

Land Science Bond

HDPE/Geotextile

10 mil high density woven scrim polyethylene sheet thermally bonded to a 3 ounce/square yard non-woven geotextile facing up so as to bond into concrete.

Nitra-Core

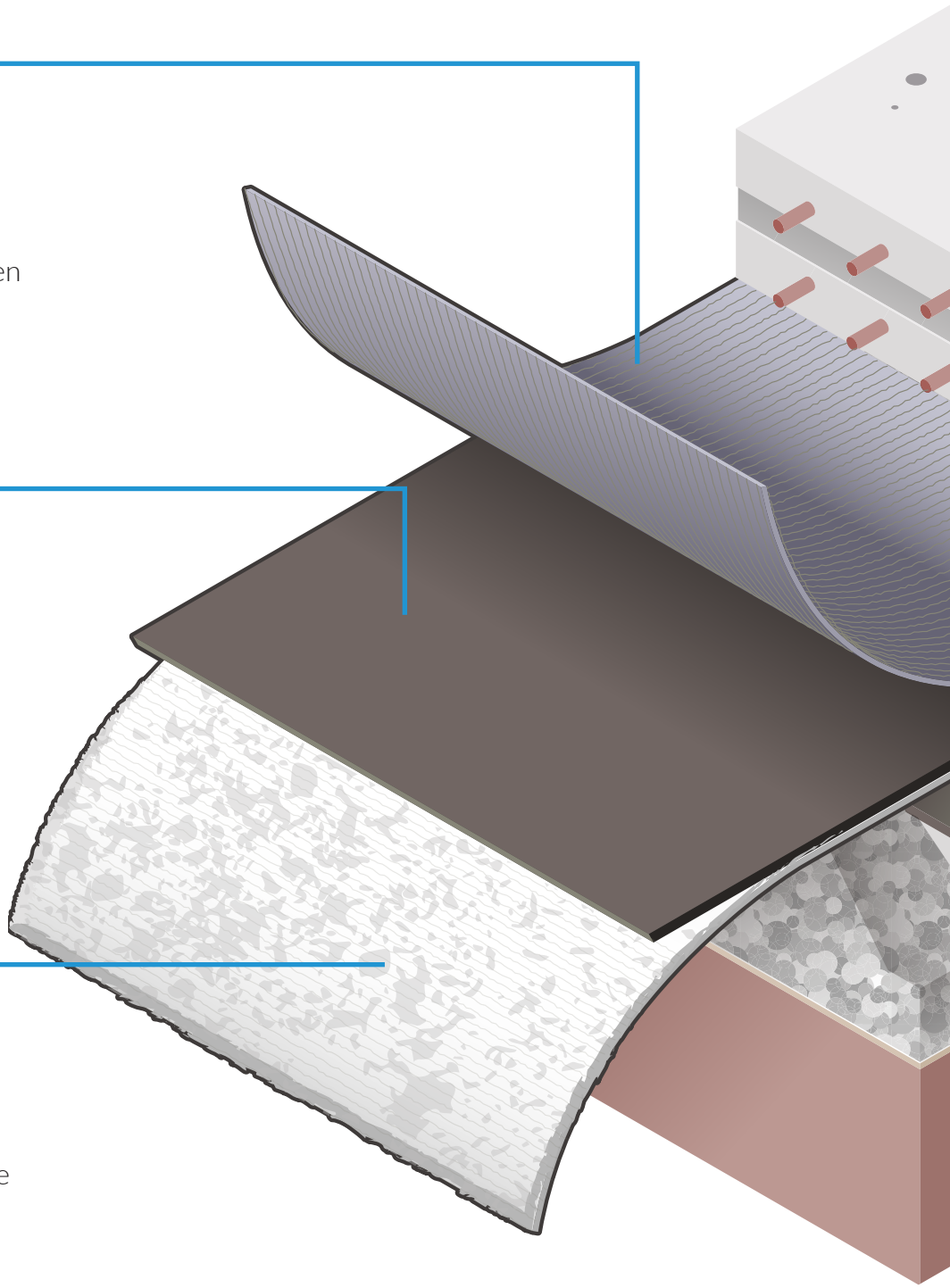
(Spray Applied)

Spray applied as a nitrile/ asphalt emulsion to form a chemically resistant layer with nominal thickness of 40 mils (dry).

Nitra-Base

(Spray Applied)

5 mil high density grey polyethylene (HDPE) sheet extruded to a 3-ounce/ square yard non-woven white geotextile facing down as a course-protection.



Nitra-Seal Triple-Layer System

Dual Chemical Resistant Layers

The Nitra-Base layer (bottom) and the Land Science Bond layer (top) are composed of a HDPE material bonded to a geo-textile on the out-facing side. HDPE is known for chemical resistance, high tensile strength, excellent stress-crack resistance and for highly reliable subsurface containment. The geo-textile which is physically bonded to the chemical resistant layer accomplishes two goals; it allows the Land Science Bond layer to adhere to the slab, and provides a friction course between the Nitra-Base layer and the soil.

Spray-Applied Nitra-Core Layer

The Nitra-Core layer is composed of a unique, nitrile-modified asphaltic membrane which also provides additional protection against vapor transmission. Nitrile has been proven to offer exceptional chemical resistance in a wide range of applications. This layer creates a highly-effective seal around slab penetrations and eliminates the need for mechanical fastening at termination points.

Key Benefits of Nitrile

Chemical Resistance

The dual chemical resistant layers combined with the spray-applied Nitra-Core form a barrier highly resistant to a broad range of chemical pollutant vapors.

Enhanced Curing

Nitra-Seal is “construction friendly” as the reduced curing time of the Nitra-Core layer and the ability to apply it in cooler temperatures ensures quick installation and minimizes the impact on construction schedules.

Puncture Resistance

Nitra-Seal forms a highly puncture resistant barrier that greatly reduces the chance of damage occurring after installation and prior to the placement of concrete.

Additional Protection

TerraVent can be used in conjunction with Nitra-Seal to alleviate the buildup of vapors beneath structures as a result of vapor barrier implementation. Vapor-Vent can be utilized as an active or passive ventilation system depending on the requirements of the design engineer.

Key Product Benefits

- Puncture Resistant
- Excellent Constructability
- Chemically Resistant
- Competitively Priced

Certified Applicator Network

The application of Nitra-Seal and TerraVent can be performed by any one of many certified applicators throughout North America.

Service and Support

Land Science Technical Sales Managers are available to provide job and site-specific assistance. A local representative can ensure Nitra-Seal and TerraVent is installed as per the specification.

World Class Clients

Environmental consultants, engineers, and real estate professionals trust Land Science to produce results knowing our expertise and industry knowledge has been proven time and again at the job site. Our world class clients include leaders in the food, banking, government, and housing industries.

WE'RE READY TO HELP YOU FIND THE RIGHT SOLUTION FOR YOUR SITE

Land Science®
a division of REGENESIS®

Global Headquarters

1011 Calle Sombra
San Clemente, CA 92673 USA
Ph: (949) 481-8118
Fax: (949) 366-8090

Get Started Today

To recieve a custom vapor intrusion solution, please call 949.481.8118 or e-mail info@landsciencetech.com One of our Technical Solutions Managers will review your project details and provide you with a customized vapor intrusion solution designed to achieve your goals.

Nítra-Seal™

Nitrile-Advanced Vapor Barrier

Land Science®
a division of REGENESIS®

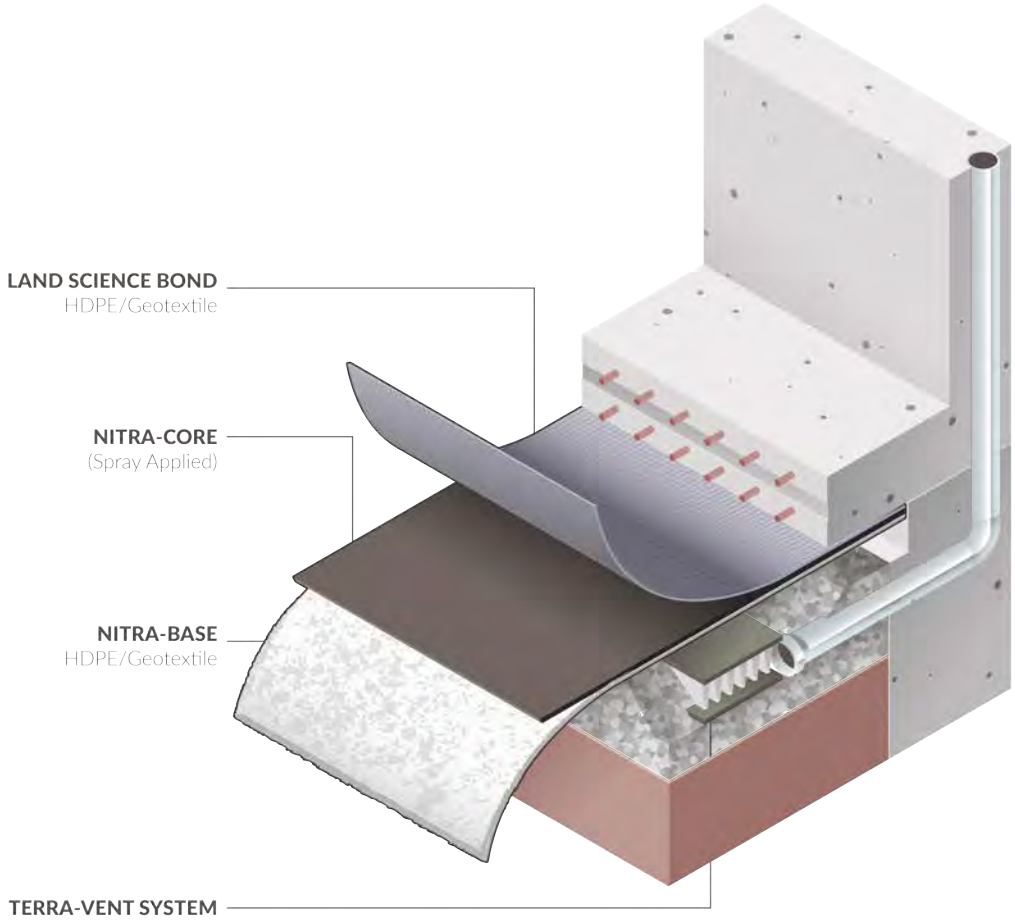
(949) 481-8118

Nitra-Seal™ Technical Data Sheet

Nítra-Seal™
Nitrile-Advanced Vapor Barrier

Nitra-Seal is an update/improvement on current vapor barrier systems, providing a more chemically resistant spray-applied core material. Nitra-Seal is a triple-layer system. The Nitra-Base layer (bottom) and the Land Science Bond layer (top) are composed of a HDPE material bonded to a geo-textile on the out-facing side. HDPE is known for chemical resistance, high tensile strength, excellent stress-crack resistance and highly reliable subsurface containment. The geo-textile, which is physically bonded to the chemical resistant layer, accomplishes two goals; it allows the Land Science Bond layer to adhere to the slab, and provides friction course between the Nitra-Base layer and the soil.

The Nitra-Core layer is composed of a unique, nitrile-modified asphaltic membrane which also provides additional protection against vapor transmission[1]. Nitrile has been proven to offer exceptional chemical resistance in a wide range of applications. This layer creates a highly-effective seal around slab penetrations and eliminates the need for mechanical fastening at termination points.



[1] US and International patents pending

Land Science®
a division of REGENESIS®

Corporate Headquarters
1011 Calle Sombra, San Clemente CA 92673 USA
Tel: +1.949.481.8118

www.landsciencetech.com

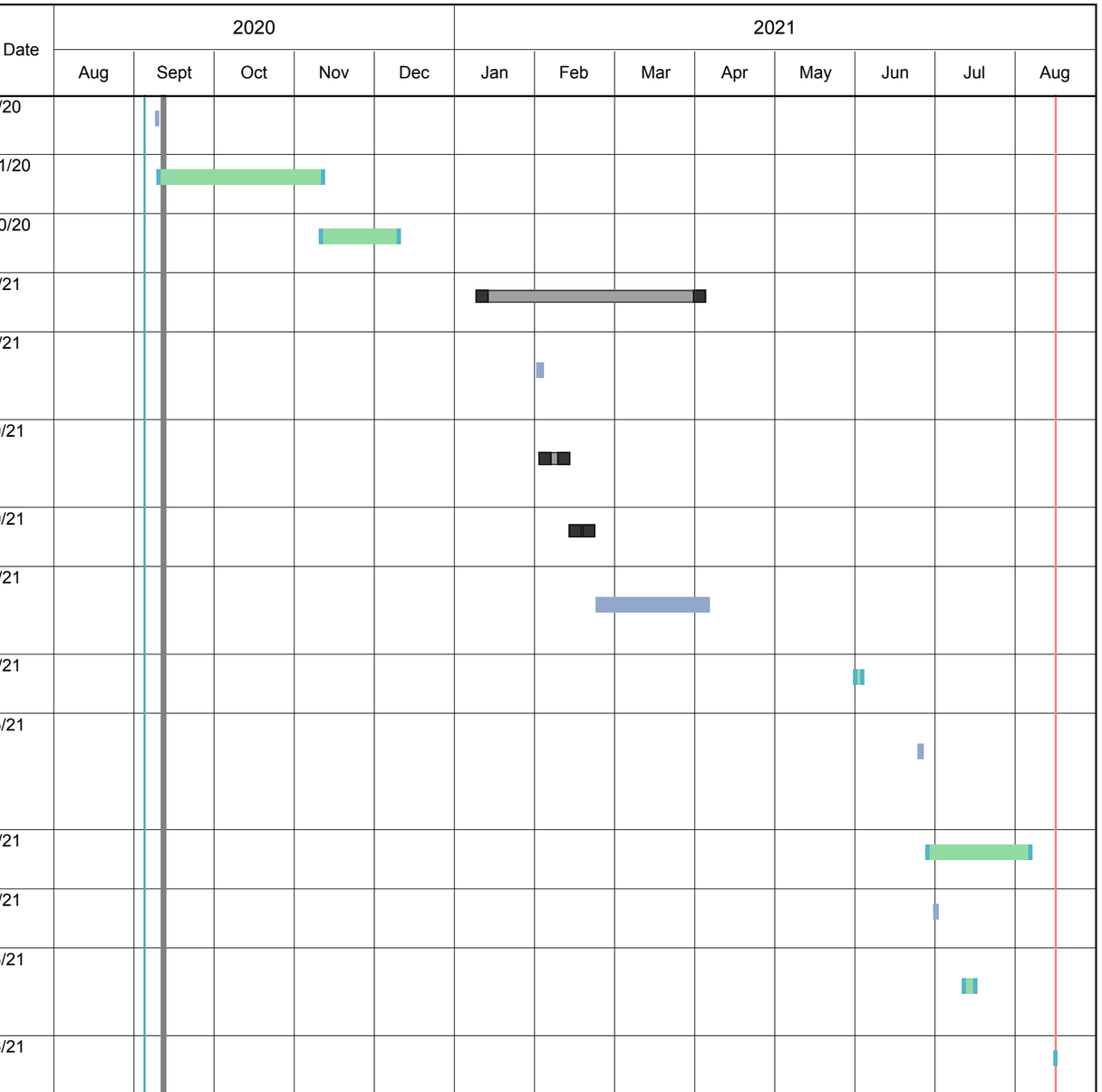
APPENDIX E

ANTICIPATED MILESTONE SCHEDULE FOR IMPLEMENTATION OF CLEANUP

Estimated Milestone Schedule for Implementation of Cleanup Plan and Closure Through Voluntary Cleanup Program

(Subject to Change. Timeframes Dependent Upon Contractor Scheduling and Availability.)

	Activity Name	Duration (Work Days)	Start Date	Finish Date
1	Submit Cleanup Plan Modification	1.00	9/9/20	9/9/20
2	ADEM review of Cleanup Plan Modification	45.00	9/10/20	11/11/20
3	Public Notice of Cleanup Plan Modification	22.00	11/11/20	12/10/20
4	Grading & Structural Foundations	60.00	1/11/21	4/2/21
5	Removal of Soil for Footings Beneath Retail Structure (Estimated)	2.00	2/2/21	2/3/21
6	Pour Footings/Surface Preparation beneath Retail Structure	5.00	2/4/21	2/10/21
7	Service/Utility Line Installation beneath Retail Structure	5.00	2/15/21	2/19/21
8	Removal of Waste Material Generated from Footings and beneath Retail Structure	30.00	2/23/21	4/5/21
9	Application of Vapor Barrier System	3.00	6/1/21	6/3/21
10	Submittal of Cleanup Plan Implementation Report/Certification of Compliance for ADEM Review	1.00	6/25/21	6/25/21
11	ADEM Review of Cleanup Plan Implementation	30.00	6/28/21	8/6/21
12	Submit Draft Environmental Covenant for ADEM review	1.00	7/1/21	7/1/21
13	Finalize Covenant Language and obtain signatures from Applicant and ADEM	5.00	7/12/21	7/16/21
14	ADEM issues Letter of Concurrence	1.00	8/16/21	8/16/21



APPENDIX F

SOIL MANAGEMENT PLAN (INCLUDED IN 2019 VOLUNTARY CLEANUP PLAN)

SOIL MANAGEMENT PLAN

As summarized above, the primary COCS in onsite soil are arsenic, lead, chlordane (cis- and trans-), and heptachlor epoxide in shallow soil. As the soil containing these COCs are intended to be removed in connection with future onsite development activities (following demolition of the structure and removal of concrete foundations), this plan provides the framework for soil and material management to assess (based on observations of soil beneath the service building slab), mitigate, or altogether eliminate exposure to workers on the property and nearby commercial and residential receptors.

Handling

Bullock recommends that onsite personnel don Level D personal protective equipment (PPE), to minimize contact with potentially affected media (to include particulate dusk masks or similar protective measures). Beyond the standard PPE required for construction sites (hard hats, safety glasses, steel-toed boots, etc.), workers who handle the soil should do so with protective gloves, including but not limited to standard work gloves or impermeable material such as latex or nitrile. To minimize potential dispersion of particulates, field personnel should have on hand a water truck to maintain adequate moisture on the ground surface to mitigate fugitive dust.

Management

ATEC Parcel

Before commencing with grading or excavation activities (but following the removal of the concrete slabs), field personnel will investigate the area beneath the ATEC service building slab and collect up to four shallow soil samples for analysis of arsenic, lead, and pesticides. No soil from the ATEC portion of the Site should be removed from the Site without first confirming the lateral extent of COC-affected media in this area and confirming its character (i.e. hazardous or non-hazardous waste) to ensure it is handled and disposed in accordance with applicable state and federal regulations. Upon confirming the extent of COC-affected area beneath and surrounding the ATEC structure, Bullock will oversee its excavation and removal (see subsequent sections regarding handling of this material).

Site-Wide Soil

For soil managed on the Site (demonstrated to contain no COCs above residential RSLs), field personnel will manage all disturbed areas onsite in accordance with the requirements set forth in the construction stormwater permit and related BMPs to be obtained from ADEM in advance of any land disturbance to exceed one acre. Further, field personnel shall incorporate appropriate controls (i.e., silt fencing, hay bales, or other mitigation measures) to reduce or eliminate sediment runoff into Waters of the State.

Waste Management & Characterization

Waste material generated during excavation activities outlined in Section 7.2 will be characterized and staged in accordance with ADEM Administrative Code 335-14-2 for waste determination requirements. More specifically, the waste will be characterized in 20-cubic yard increments (representative, composite samples) with ten 20-yd^3 composite samples consolidated to represent a 200-yd^3 volume (should such a volume be generated). These waste characterization samples will be submitted for laboratory analysis of applicable COCs (i.e. metals and/or pesticides) according to appropriate EPA Methods. If COCs are present (in total concentration) at levels exceeding 20 times the Toxicity Characteristic Leaching Procedure (TCLP) threshold, the laboratory will conduct a TCLP analysis for that (or those) specific

constituent(s) to confirm its character as non-hazardous or hazardous waste. If waste material contains pesticide COCs at concentrations exceeding Universal Treatment Standards (UTS), Bullock manage this material as a hazardous waste and arrange for its disposal in accordance with applicable Division 14 regulations.

Representative sampling and analysis of the waste will be conducted to determine whether it exhibits one of the characteristics found at ADEM Admin. Code r. 335-14-2-.03. A "representative sample" is a sample of a universe that can be expected to exhibit the average properties of the universe. A representative sample is required to properly characterize a waste stream using sampling and analysis.

Following generation, field personnel will stage the waste material on polyethylene (or storage container) in a designated area on the Site and cover the material with polyethylene to mitigate potential runoff. The stockpiles will be staged in 200-yd^3 volumes (i.e ten separate stockpiles of waste containing 20 yd^3 each) or within 20-yd^3 containers.

Upon characterization of the generated waste, Bullock (on behalf of Beach Equity Investment, LLC), will complete and submit ADEM Form 300 for review and approval by the Solid Waste Branch and dispose of such waste in accordance with the requirements set forth in an approved solid waste profile.