hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

**Via E-Mail**

June 27, 2017

Town of Chapel Hill
Public Works Facility
6850 Millhouse Road
Chapel Hill, NC 27516

Attn: Mr. Curtis Brooks

Re: Phase II Environmental Site Assessment
American Legion
1714 Legion Road
Chapel Hill, North Carolina
H&H Job No. TCH.003

## 1.0 Introduction

In accordance with our authorized scope of work, Hart & Hickman, PC (H&H) completed a Phase II Environmental Site Assessment (ESA) at the American Legion property located at 1714 Legion Road in Chapel Hill, North Carolina (site or subject site). The site includes one 35.12-acre parcel of land developed with an approximately 8,375 square foot building previously occupied by the American Legion Outpost #6 and an approximately 3,075 square foot building currently occupied by Studio A DanceArts. The site was developed with the present day structures in the early 1960s. A site location map is provided as Figure 1, and a site map is provided as Figure 2.

H&H completed a Phase I ESA on the Site in January 2017 and identified the following recognized environmental condition (REC):

- During our site visit, H&H observed staining on the concrete surface of the attached maintenance shed. The shed is used to store a lawnmower and various maintenance products associated with the lawnmower, including oil and gasoline. A floor drain was observed in the center of the slab. Staining was observed over portions of the concrete

slab, including in the immediate vicinity of the floor drain. The staining appeared to have been the result of possible spills from light maintenance operations and leaks from the lawnmower. The concrete in the area of the staining appeared to be in fair condition as H&H observed that cracking to the concrete appeared to be superficial. Interviews with longtime American Legion members familiar with the Site indicated that the floor drain may discharge into a septic system that was located nearby and may still be present. Conclusive information was not available concerning what sources discharge into the septic system or whether a septic system ever existed. Although the amount of petroleum products stored in the vicinity of the drain is not significant, the potential for discharges of petroleum products to the subsurface via the septic tank leach field over many years creates a potential concern. Based on the uncertainty regarding the discharge point for the floor drain, the potential for the drain to discharge to a septic system, the age of the building, and the staining in the vicinity of the drain; H&H considers the staining associated with the attached maintenance shed a REC.

Our proposed scope of work to conduct Phase II ESA activities to evaluate the above-mentioned REC is presented in the following sections.

## 2.0 Phase II Scope of Work

Based on the results of the Phase I ESA, H&H conducted soil and groundwater assessment activities at the site on March 1, 2017, March 15, 2017 and May 16, 2017.

The initial Phase II activities occurred on March 1, 2017 for the purpose of assessing the REC associated with the maintenance shed floor drain. While on-site, H&H was informed by a representative from American Legion that the grassy area between the main building and the woods had previously been filled with soil that was removed from the site currently occupied by Performance BMW on Durham-Chapel Hill Boulevard.

During the initial Phase II activities, the soil sample collected from the area of the suspected leach field had a concentration of Total Petroleum Hydrocarbons in the diesel range (TPH-DRO) that exceeded the North Carolina Department of Environmental Quality (DEQ) Action Level. As such, H&H revisited the site on March 15, 2017 to further evaluate the petroleum impacted soil in this area by collecting another soil sample from the same location and depth, and analyzing the soil by constituent-specific analysis. The results of the analysis determined that the soil from this location contained three petroleum related compounds that exceed the DEQ's Maximum Soil Contaminant Concentrations (MSCCs), thus requiring additional assessment.

After learning about the potential fill area on the east side of the main building, the Town of Chapel Hill reviewed an internal Pollution Sources geodatabase and identified a potential historic dump area on the site. According to the Town's personnel, the identification of the site on this geodatabase was likely from a site visit by the Town where trash was observed on the site. During a subsequent site visit on May 5, 2017, H&H observed several piles of debris in the wooded area east of the main building.

On May 16, 2017 H&H conducted supplemental Phase II activities at the site. The supplemental scope of work included additional assessment of the soil and groundwater associated with the suspected leach field. In addition, H&H advanced soil borings in the grassy area to assess the fill material for the potential presence of buried debris (see Section 2.2), and further assessed the extent of the debris in the woods (see Section 2.4).

The Phase II ESA assessment activities are detailed in the following sections.

### 2.1 Utility Clearance

Prior to conducting soil and groundwater assessment activities, H&H contacted North Carolina One-Call, the state public utility locator to mark subsurface utilities located on the Site. In addition, Stewart Engineering, Inc. (Stewart) of Raleigh, North Carolina, a private utility locater

and engineering company, was contracted to locate and demark subsurface utilities in the areas of the soil borings and to identify the location of the suspected septic system and leach field. As an additional safety precaution, each boring was initially advanced using a hand auger to a depth of five feet below ground surface (ft bgs) to clear the boring of possible undocumented subsurface utility lines.

During Stewart's utility clearance, they were able to identify the underground piping associated with the floor drain, and the location where it connects to the main septic line on the southeast side of the building. Stewart traced the drain line to the driveway, but was unable to locate the drain line, the septic tank, or the drain field on the southeast side of the driveway.

### 2.2 Soil Assessment Activities

H&H performed soil sampling activities at the Site on March 1, March 15, and May 16, 2017. A description of the field activities is presented below. As described below, eight of the soil borings (SB-1 through SB-8) were advanced in locations to assess potential impacts associated with the floor drain and suspected septic system. The remaining four borings (SI-1 through SI-4) were advanced in locations to assess the potential presence of buried debris. The locations of the borings are indicated on Figures 3 and 4.

H&H utilized Regional Probing Services, Inc. (Regional Probing) to advance four soil borings (SB-1 through SB-4) on March 1, 2017 using a Geoprobe® direct-push technology (DPT) drill rig and hand auger methods. H&H advanced one soil boring (SB-5) using hand auger methods on March 15, 2017. H&H utilized Quantex, Inc. (Quantex) to advance seven soil borings (SB-6 through SB-8, and SI-1 through SI-4) on May 16, 2017 using, DPT, air rotary, and hand auger methods.

During boring advancement, soil samples were field screened for the presence of odor, staining, and elevated photoionization detector (PID) readings. Soil boring logs are included in Appendix

A. Based upon field screening, H&H selected one soil sample from borings SB-1 through SB-8 for laboratory analysis. Soil samples collected from SI-1 through SI-4 were field screened, but were not submitted for laboratory analysis.

A summary of soil sample locations and analyses associated with the floor drain and suspected septic system is presented below.

- SB-1 was located inside the maintenance shed adjacent to the floor drain. The soil boring was advanced to a depth of 5 ft bgs. Based upon the observed low level PID readings, a soil sample was collected from the 1 to 2 ft interval below the base of the drain and submitted for laboratory analysis of Total Petroleum Hydrocarbons in the diesel range (TPH-DRO) and in the gasoline range (TPH-GRO) by EPA Method 8015C.

- SB-2 was located outside the maintenance shed where the pipe leading from the floor drain mergers with the main septic line leading from the building. The soil boring was advanced to a depth of 5 ft bgs. Based upon the observed low level PID readings, a soil sample was collected from the 2 to 3 ft interval beneath the base of piping and submitted for laboratory analysis of TPH-DRO and TPH-GRO by EPA Method 8015C.

- SB-3 was advanced on the southeast side of the driveway in the suspected septic tank location. The soil boring was advanced to a depth of 12 ft bgs. Based upon the observed low level PID readings, a soil sample was collected from the 4 to 5 ft interval beneath the base of where the suspected septic tank may have been and submitted for laboratory analysis of TPH-DRO and TPH-GRO by EPA Method 8015C.

- SB-4 was advanced further to the southeast and topographically downgradient of SB-3 in the suspected location of the leach field. The soil boring was advanced to a depth of 14 ft bgs. Based upon slightly elevated PID readings at 11 ft bgs (40.1 parts per million

[ppm]), a soil sample was collected from the 10 to 11 ft interval and submitted for laboratory analysis of TPH-DRO and TPH-GRO by EPA Method 8015C.

- SB-5 was advanced in the immediate vicinity of SB-4 to a depth of 11 ft bgs. A soil sample was collected from the 10 to 11 ft interval and submitted for constituent-specific laboratory analysis of volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, volatile petroleum hydrocarbons (VPH) by the Massachusetts Department of Environmental Protection (MADEP) method, and extractable petroleum hydrocarbons (EPH) by the MADEP method.

- SB-6 was advanced northeast and downgradient of SB-4/SB-5 to a depth of 13 ft bgs. Based upon the observed low level PID readings, a soil sample was collected from the 5 to 7 ft interval within the portion of the soil profile expected to be beneath the septic leach field and submitted for laboratory analysis of TPH-DRO by EPA Method 8015C.

- SB-7 was advanced southeast and downgradient of SB-4/SB-5 to a depth of 14.5 ft bgs. Based upon the observed low level PID readings a soil sample was collected from the 10 to 12 ft interval within the portion of the soil profile expected to be beneath the septic leach field and submitted for laboratory analysis of TPH-DRO by EPA Method 8015C.

- SB-8 was advanced southwest and cross-gradient of SB-4/SB-5 to a depth of 13.5 ft bgs. Based upon the observed low level PID readings a soil sample was collected from the 4 to 6 ft interval within the portion of the soil profile expected to be beneath the septic leach field and submitted for laboratory analysis of TPH-DRO by EPA Method 8015C.

Soil samples were collected into laboratory-supplied containers, which were then sealed, labeled, placed into a laboratory-supplied sample cooler, and covered with ice. The cooler was delivered by H&H to couriers from Con-Test Analytical Laboratory (SB-1 through SB-4) and Prism

Analytical Laboratory (SB-5 through SB-8) and shipped using standard chain-of-custody protocol to the laboratory for analysis.

A summary of soil sample locations associated with the fill material and potential presence of buried debris is presented below.

- SI-1 was advanced in the grassy area to the northeast of the main building to a depth of 13.0 ft bgs. Visual staining, and olfactory or PID evidence of organic vapors were not detected in the soil cores collected from this boring. Evidence of debris or landfill material was not present in this boring.

- SI-2 was advanced in the grassy area to the east of the main building to a depth of 13.0 ft bgs. Visual staining, and olfactory or PID evidence of organic vapors were not detected in the soil cores collected from this boring. Evidence of debris or landfill material was not present in this boring.

- SI-3 was advanced in the grassy area, near the wood line, to the east of the main building to a depth of 13.0 ft bgs. Visual staining, and olfactory or PID evidence of organic vapors were not detected in the soil cores collected from this boring. Evidence of debris or landfill material was not present in this boring.

- SI-4 was advanced in the grassy area, near the wood line, to the southeast of the main building to a depth of 17.0 ft bgs. Small pieces of asphalt (less than 1" thick) were observed in the soil collected between 3 ft bgs and 15 ft bgs. However, PID evidence of organic vapors was not detected in the soil cores collected from this boring. Although small pieces of asphalt were observed, evidence of debris or landfill material was not present in this boring.

## 2.3 Groundwater Assessment Activities

H&H installed one temporary monitoring well (TMW-1) at the site to evaluate the potential for groundwater impacts. The location of the temporary well is depicted on Figure 3.

The temporary monitoring well was advanced to a depth of 39 ft bgs using hollow stem auger and air rotary drilling techniques. The temporary well was constructed with 1-inch diameter PVC casing and a 10-ft screen set to bracket the water table. During installation of the temporary well, soil was logged for lithologic description and screened for indications of impacts including visual observation for staining and field screening for the presence of organic vapors using a calibrated PID, and groundwater was observed for the presence of free product or discolored water. No significant soil or groundwater impacts were observed in the field and no soil samples were collected for laboratory analysis during the temporary monitoring well installation. The well boring log is included in Appendix A.

After well installation and prior to sampling, H&H purged the monitoring well by removing at least three well volumes using a peristaltic pump. Once three well volumes had been removed from the well, purging continued using low flow methods until field parameters stabilized. A groundwater sample was collected from the temporary well and submitted to Prism Analytical Laboratory for analysis of VOCs by EPA Method 602 (with xylenes), polycyclic aromatic hydrocarbons (PAHs) by EPA Method 625 (including base, neutral and acid extractables, plus the 10 largest non-target peaks), and VPH and EPH by the MADEP method.

## 2.4 Assessment Activities – Debris in Woods

While on-site for the initial Phase II activities, H&H was informed by a representative from American Legion that the grassy area between the main building and the woods had previously been filled with soil that was removed from the site currently occupied by Performance BMW on Durham-Chapel Hill Boulevard.

After learning about the potential fill area on the east side of the main building, the Town of Chapel Hill reviewed an internal Pollution Sources geodatabase and identified a potential historic dump area on the site. According to the Town's personnel, the identification of the site on this geodatabase was likely from a site visit by the Town where trash was observed on the site. During a subsequent site visit on May 5, 2017, H&H observed several piles of debris in the wooded area to the east of the main building (see Figure 4). The debris appears to consist of material that may have come from a building renovation (e.g. asphalt shingles, some metal items, a downspout, some foam insulation, a pile of asphalt), and/or from general trash disposal (e.g. a lawn mower, a plastic table, some type of heater unit). According to a representative from American Legion, this debris / trash has been on the slope in the woods for as long as they could remember.

During the subsequent Phase II activities on May 16, 2017, H&H further evaluated the debris to determine if it was surficial, or if it may be associated with additional buried material. H&H pulled some of the debris material away from the slope and generally observed soil beneath the debris. H&H also advanced a hand auger into the slope in several locations, and did not observe evidence of debris or landfill material in the borings.

As described in Section 2.2, four soil borings were advanced in the grassy area between the main building and the woods. Two of these borings (SI-3 and SI-4) were advanced adjacent to the wood line in an attempt to determine if the debris on the slope extended into the subsurface. Other than some small pieces of asphalt noted in SI-4, evidence of buried debris or landfill material was not observed in the soil borings.

### 2.5 Boring Abandonment and Investigation Derived Waste

Upon completion of the soil and groundwater sampling activities, H&H directed Quantex to abandon the soil borings and temporary monitor well by filling the borings with hydrated

bentonite and/or grout, and patching the surfaces to match the surrounding area. Because no evidence of significant impacts was observed (i.e. free phase product), soil cuttings and purge water generated during the assessment activities were spread on-site in accordance with DEQ guidance.

### 2.6 QA/QC Process

H&H utilized standard quality assurance/quality control (QA/QC) processes during the Phase II ESA activities. Non-dedicated sampling equipment, including DPT tooling, the water level meter, and the hand auger, were decontaminated using Liquinox® detergent and deionized water prior to and between each sampling location. H&H, Regional Probing, and Quantex wore nitrile gloves while handling samples. Soil and groundwater samples were collected in laboratory-provided containers and placed on ice immediately after collection. A completed chain-of-custody (COC) record accompanied the samples and included the sample designation, date and time collected, matrix, sample container information, and requested analyses.

## 3.0 Site-Specific Topography, Geology, & Hydrogeology

### 3.1 Topography

The elevation of the Site is between approximately 300 and 330 feet above mean sea level. A north/south trending ridge traverses the central portion of the site with the topographic gradient sloping down to the south/southeast and to the southwest. An area topographic map is included as Figure 1.

### 3.2 Geology and Hydrogeology

<u>Regional Geology and Hydrogeology</u>

The Site is located in the Piedmont Physiographic Province of North Carolina. The land surface of the area is generally characterized as gently sloping, which may become moderately steep where intersected by streams.

According to the *Geologic Map of North Carolina* dated 1985, the Site lies within the Triassic Basin of the Piedmont. Underlying bedrock in the Site area is mapped as being part of the Chatham Group, which is comprised of arkosic sandstone. In the Piedmont, the bedrock is overlain by a mantle of weathered rock termed saprolite or residuum. The saprolite consists of unconsolidated clay, silt, and sand with lesser amounts of rock fragments. Due to the range of parent rock types and their variable susceptibility to weathering, the saprolite ranges widely in color, texture, and thickness. Generally, the saprolite is thickest near interstream divides and thins toward streambeds. In profile, the saprolite normally grades from clayey soils near the land surface to highly weathered rock above the competent bedrock.

The occurrence and movement of groundwater in the Piedmont is typically within two separate but interconnected water-bearing zones. A shallow water-bearing zone occurs within the saprolite, and a deeper water-bearing zone within the underlying bedrock.

Groundwater in the shallow saprolite zone occurs in the interstitial pore spaces between the grains comprising the saprolite soils. Groundwater in this zone is typically under water table or unconfined conditions. Groundwater movement is generally horizontal from recharge areas to small streams that serve as localized discharge points.

Secondary joints, fractures, faults, and dikes within the bedrock control the occurrence and movement of groundwater in the underlying water-bearing zone within the crystalline bedrock. On a regional scale, the direction of groundwater flow is typically from uplands to major streams and groundwater sinks. The saprolite has a higher porosity than the bedrock and serves as a reservoir that supplies water to a network of fractures in the bedrock.

Site Geology and Hydrogeology

Specifically for the Site, groundwater flow is expected to mimic topography and flow to the south/southeast or to the southwest. Groundwater was not encountered at the Site before reaching refusal at approximately 12 to 18 ft bgs.

The shallow soil at Site consists primarily of silt and clay. The maximum depth of soil sampling was approximately 18 ft bgs. In each boring, DPT refusal was encountered between 12 and 18 ft bgs. Air rotary drilling was utilized to advance through the saprolite to a depth of 39 ft bgs in TMW-1. Groundwater was encountered in TMW-1 at approximately 32 ft bgs.

## 4.0 Analytical Laboratory Results

The results of analyses of the soil samples are summarized in Table 1. The laboratory analytical data reports and chains-of-custody record are included as Appendix B.

The analytical results for the soil samples collected on March 1, 2017 indicate that low levels of TPH-DRO were detected in soil boring SB-1 (6.7 mg/kg), SB-2 (4.5 mg/kg), and SB-3 (23 mg/kg), which are below the DEQ Action Level of 100 mg/kg. Additionally TPH-GRO was not detected above laboratory reporting limits in borings SB-1 SB-2, SB-3, or SB-4.

However, in boring SB-4, TPH-DRO was detected in the suspected septic leach field area. A concentration of 110 mg/kg was exhibited in SB-4, which exceeds the DEQ Action Level of 100 mg/kg.

In accordance with the NC DEQ's *Guidance for Initial Abatement, Assessment, and Corrective Action for Non-UST Releases of Petroleum* (Non-UST Guidelines), if the TPH Action Level is exceeded, constituent-specific and/or carbon-fraction analytical methods may be used to further assess contaminant concentrations in the soil. The effective action level for analytical results

produced by these methods is the Soil-to-Groundwater Maximum Soil Contaminant Concentration (MSCC) for each constituent or carbon fraction.

The results of analysis of the soil sample collected on March 15, 2017 indicate various volatile organic compounds (VOCs), one semi-volatile organic compound (SVOC), one extractable petroleum hydrocarbon (EPH), and two volatile petroleum hydrocarbons (VPH) were detected above laboratory reporting limits in SB-5. 1-methylnapthalene (0.53 mg/kg) was detected above the MSCC of 0.004 mg/kg. Additionally, C9-C10 aromatics (110 mg/kg) and C11-C22 (93 mg/kg) were detected above their MSCC (31 mg/kg) in the soil sample.

The results of analysis of the soil samples collected on May 16, 2017 indicate that low levels of TPH-DRO were detected in soil boring SB-6 (9.9 mg/kg) and SB-7 (14 mg/kg), which are below the DEQ Action Level of 100 mg/kg. TPH-DRO was not detected in the soil sample collected from SB-8.

The results of analysis of the groundwater sample collected on May 16, 2017 indicate that no VOCs, EPH, VPH, or polycyclic aromatic hydrocarbons (PAHs) were detected above laboratory reporting limits in TMW-1, with the exception of one unknown PAH (25 ug/L).

## 5.0 Findings

H&H conducted Phase II ESA activities at the Site to assess the potential for impact in the vicinity of the floor drain located in the maintenance shed, the suspected septic tank, and the suspected septic leach field east of the American Legion building. In addition, H&H assessed soil in the grassy area between the main building and the wood line for the potential presence of buried debris, and further assessed the extent of the debris in the woods. The results of the assessment activities indicate the following:

- Results of the soil sampling did not indicate the presence of TPH-DRO and TPH-GRO above DEQ Action Levels in the area of the floor drain and the suspected septic tank (SB-1 through SB-3).

- Results of the soil sampling indicated the presence of TPH-DRO slightly above the DEQ Action level of 100 mg/kg as well as 1-methylnapthalene, C9-C10 aromatics, and C11-C22 aromatics above their respective MSCCs in the samples collected from the suspected leach field (SB-4/SB-5).

- Results of the soil sampling did not indicate the presence of TPH-DRO above DEQ Action Levels in the area surrounding SB-4/SB-5 in an approximately 50 foot radius (SB-6 through SB-8). The minor soil contamination detected in the suspected leach field appears to be limited to the area of SB-4/SB-5.

- Results of the groundwater sampling did not indicate the presence of VOCs, EPH, VPH, or PAHs above laboratory reporting limits in TMW-1, with the exception of one unknown PAH. The laboratory could not identify the PAH detected in the sample. Due to the absence of any other VOCs, EPH, VPH, or PAHs in the groundwater sample, the unknown PAH is not expected to present a concern that groundwater has been impacted by petroleum contaminants.

- Results of the soil sampling in the grassy area between the main building and the wood line did not indicate the presence of buried debris.

- The debris observed on the slope in the woods appears to be surficial in nature.

## 6.0 Conclusions

Based upon the results of the assessment activities associated with the floor drain and the suspected septic tank and leach fields, the data indicates a minor petroleum impact in the soil beneath the suspected leach field. The data also indicate the horizontal extent of the TPH-DRO impact exceeding the DEQ's Action Level is limited to the general vicinity of SB-4/SB-5. The results of the groundwater sampling indicate that groundwater beneath the suspected leach field is not contaminated with petroleum-related constituents. H&H recommends either removing the floor drain or filling it with concrete. H&H does not recommend further assessment of the soil and groundwater associated with the suspected leach field at the site.

Based upon the results of the assessment activities associated with the fill material that was reportedly placed on the east side of the main building, it appears the fill material consists of soil and not buried debris. Therefore, H&H does not recommend further assessment of this area.

Based upon the results of the assessment activities, the debris in the woods appears to be surficial. From an aesthetics standpoint, the Town may want to consider removing the debris and disposing of it in a landfill.

Thank you for the opportunity to assist with this project. Should you have any questions or require any additional information concerning this report, please feel free to contact us at (919) 847-4241.

Sincerely,
***Hart & Hickman, PC***

Joseph E. Starr, PE
Senior Consultant

Tomas Will
Assistant Project Environmental Scientist

Attachments: Table 1: Summary of Soil Analytical Results

Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Sample Location Map
Figure 4: Debris Location Map

Appendix A: Soil Boring Logs
Appendix B: Laboratory Analytical Data Report

# Tables

**Table 1**
**Summary of Soil Analytical Data**
**Town of Chapel Hill - American Legion**
**Chapel Hill, North Carolina**
**H&H Job No. TCH-003**

| Location | In shed near drain | East of shed near septic line | Suspected septic tank | Suspected septic leach field | Next to SB-4 | Northeast of SB-4/SB-5 | Southeast of SB-4/SB-5 | Southwest of SB-4/SB-5 | **Action Level [1]** | **MSCCs [2]** |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-6 | SB-7 | SB-8 | | |
| Depth (ft bgs) | 1-2 | 2-3 | 4-5 | 10-11 | 10-11 | 5-7 | 10-12 | 4-6 | | |
| Sample Date | 3/1/2017 | 3/1/2017 | 3/1/2017 | 3/1/2017 | 3/15/2017 | 5/16/2017 | 5/16/2017 | 5/16/2017 | | |
| Units | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| **GRO (8015C)** | < 1.0 | < 0.85 | < 1.2 | < 1.2 | *NA* | *NA* | *NA* | *NA* | 50 | -- |
| **DRO (8015C)** | 6.7 | 4.5 | 23 | **110** | *NA* | 9.9 | 14 | < 8.6 | 100 | -- |
| **EPH (MADEP EPH)** | | | | | | | | | | |
| C11-C22 Aromatics | *NA* | *NA* | *NA* | *NA* | **93** | *NA* | *NA* | *NA* | -- | 31 |
| **VPH (MADEP VPH)** | | | | | | | | | | |
| C9-C12 Aliphatics | *NA* | *NA* | *NA* | *NA* | 75 | *NA* | *NA* | *NA* | -- | 540 |
| C9-C10 Aromatics | *NA* | *NA* | *NA* | *NA* | **110** | *NA* | *NA* | *NA* | -- | 31 |
| **VOCs (8260B)** | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | *NA* | *NA* | *NA* | *NA* | *0.0089* | *NA* | *NA* | *NA* | -- | 8.5 |
| 1,2-Dichlorobenzene | *NA* | *NA* | *NA* | *NA* | *0.0073* | *NA* | *NA* | *NA* | -- | 0.23 |
| 4-Isopropyltoluene | *NA* | *NA* | *NA* | *NA* | *0.025* | *NA* | *NA* | *NA* | -- | 0.12 |
| Chlorobenzene | *NA* | *NA* | *NA* | *NA* | *0.0053* | *NA* | *NA* | *NA* | -- | 0.44 |
| Ethylbenzene | *NA* | *NA* | *NA* | *NA* | *0.0078* | *NA* | *NA* | *NA* | -- | 4.9 |
| Naphthalene | *NA* | *NA* | *NA* | *NA* | *0.13* | *NA* | *NA* | *NA* | -- | 0.16 |
| n-Butylbenzene | *NA* | *NA* | *NA* | *NA* | *0.0092* | *NA* | *NA* | *NA* | -- | 4.3 |
| n-Propylbenzene | *NA* | *NA* | *NA* | *NA* | *0.017* | *NA* | *NA* | *NA* | -- | 1.7 |
| sec-Butylbenzene | *NA* | *NA* | *NA* | *NA* | *0.015* | *NA* | *NA* | *NA* | -- | 3.3 |
| **SVOCs (8270D)** | | | | | | | | | | |
| 1-Methylnaphthalene | *NA* | *NA* | *NA* | *NA* | **0.53** | *NA* | *NA* | *NA* | -- | 0.004 |

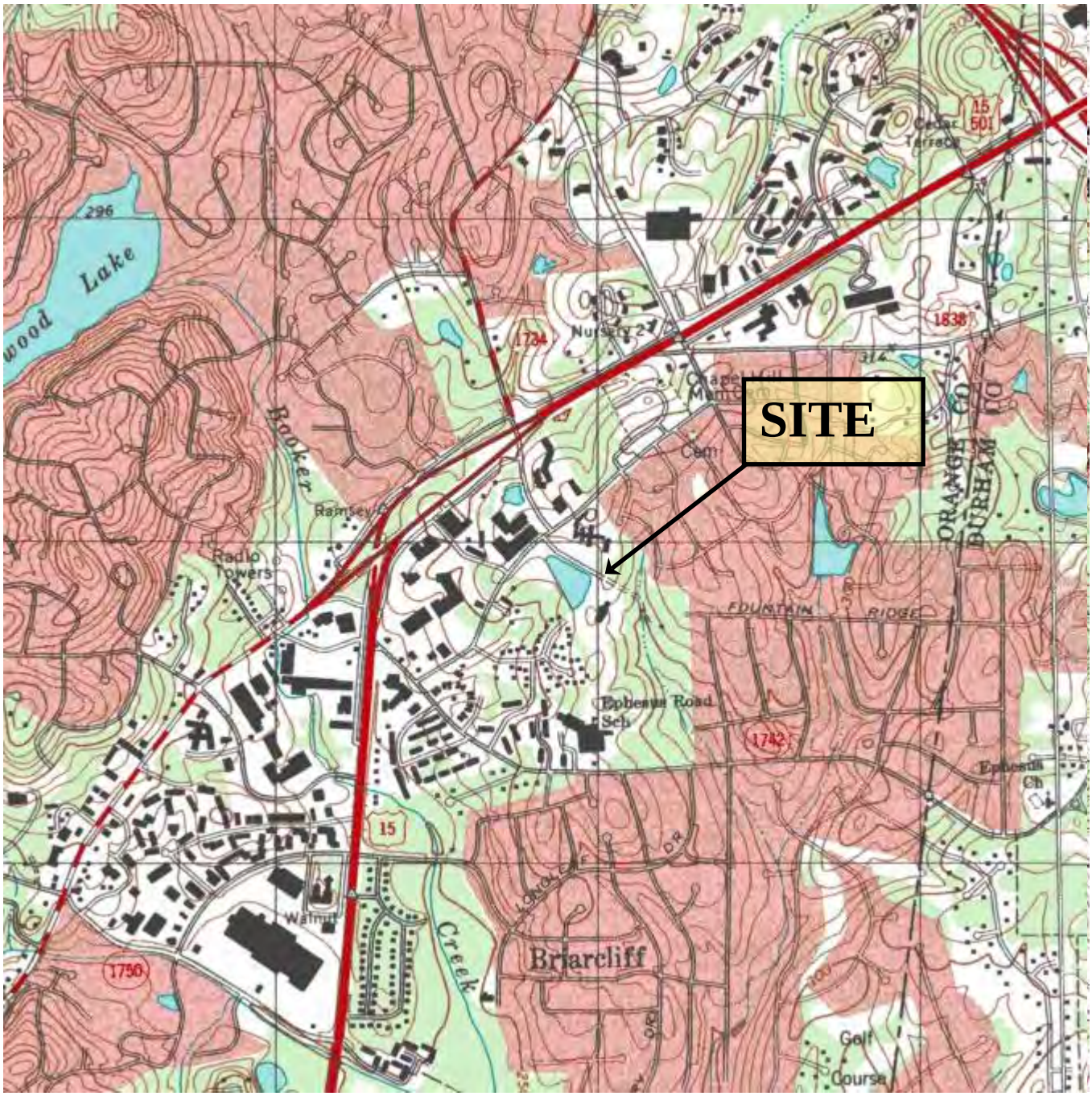
**Notes:**
1) Action Levels are specified by the NC DEQ Guidelines for Initial Response and Abatement, Asessment, and Corrective Action for Non-UST Releases of Petroleum, July 2012, and were updated in July 2016. Represents the concentration of a contaminant that if exceeded may require further regulatory action such as cleanup or monitoring.
2) Soil-to-Water Maximum Soil Contaminant Concentrations (MSCCs) for Non-UST releases; the concentration of a soil contaminant at which no further cleanup actions are required based upon the risk of harm posed by the contaminant
Sample results are only displayed for constituents detected above laboratory reporting limits
**Bold** indicates concentration exceeds the MSCCs
**Bold and Underline** indicates concentration exceeds the Action Level
Method number follows parameter in parenthesis
VOCs = volatile organic compounds; SVOCs= semivolatile organic compounds; EPH= extractable petroleum hydrocarbons; VPH= volatile petroleum hydrocarbons
NA = not analyzed; NS = not specified; -- = not applicable or not available
mg/kg = milligrams per kilogram

**Table 2**
**Summary of Groundwater Analytical Data**
**Town of Chapel Hill - American Legion**
**Chapel Hill, North Carolina**
**H&H Job No. TCH-003**

| Location | Suspected septic leach field (next to SB-4) | **NCAC 2L Groundwater Standard[(1)]** |
|---|---|---|
| Sample ID | TMW-1 | |
| Sample Date | 5/16/2017 | |
| Units | µg/L | µg/L |
| **VOCs (602)** | ND | varies |
| **EPH (MADEP EPH)** | ND | varies |
| **VPH (MADEP VPH)** | ND | varies |
| **PAHs (625)** | | |
| TIC: Unknown 1 | 25 | -- |

**Notes:**
1) North Carolina Administrative Code 15A 2L Groundwater Standard
Sample results are only displayed for constituents detected above laboratory reporting limits
**Bold** indicates concentration exceeds NCAC 15A 2L Groundwater Standard
Method number follows parameter in parenthesis
VOCs = volatile organic compounds; EPH = extractable petroleum hydrocarbons;
VPH = volatile petroleum hydrocarbons; PAH = polyaromatic hydrocarbons
TIC = tentively identified compound
NA = not analyzed; NS = not specified; ND = not detected, -- = not applicable or not available
µg/L = micrograms per liter

# Figures




N

APPROXIMATE

0 2000 4000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

**CHAPEL HILL, NORTH CAROLINA 2002**

QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

| | |
|---|---|
| TITLE | **SITE LOCATION MAP** |
| PROJECT | AMERICAN LEGION<br>1714 LEGION ROAD<br>CHAPEL HILL, NORTH CAROLINA |

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007 (p) 704-586-0373 (f)

| | | | |
|---|---|---|---|
| DATE: | 3-9-17 | REVISION NO: | 0 |
| JOB NO: | TCH-003 | FIGURE: | 1 |


LEGEND

SITE PROPERTY BOUNDARY

S SUSPECTED LOCATION OF SEPTIC SYSTEM

N

APPROXIMATE
0 180 360
SCALE IN FEET

TITLE

SITE MAP

PROJECT

TOWN OF CHAPEL HILL AMERICAN LEGION
1714 LEGION ROAD
CHAPEL HILL, NORTH CAROLINA

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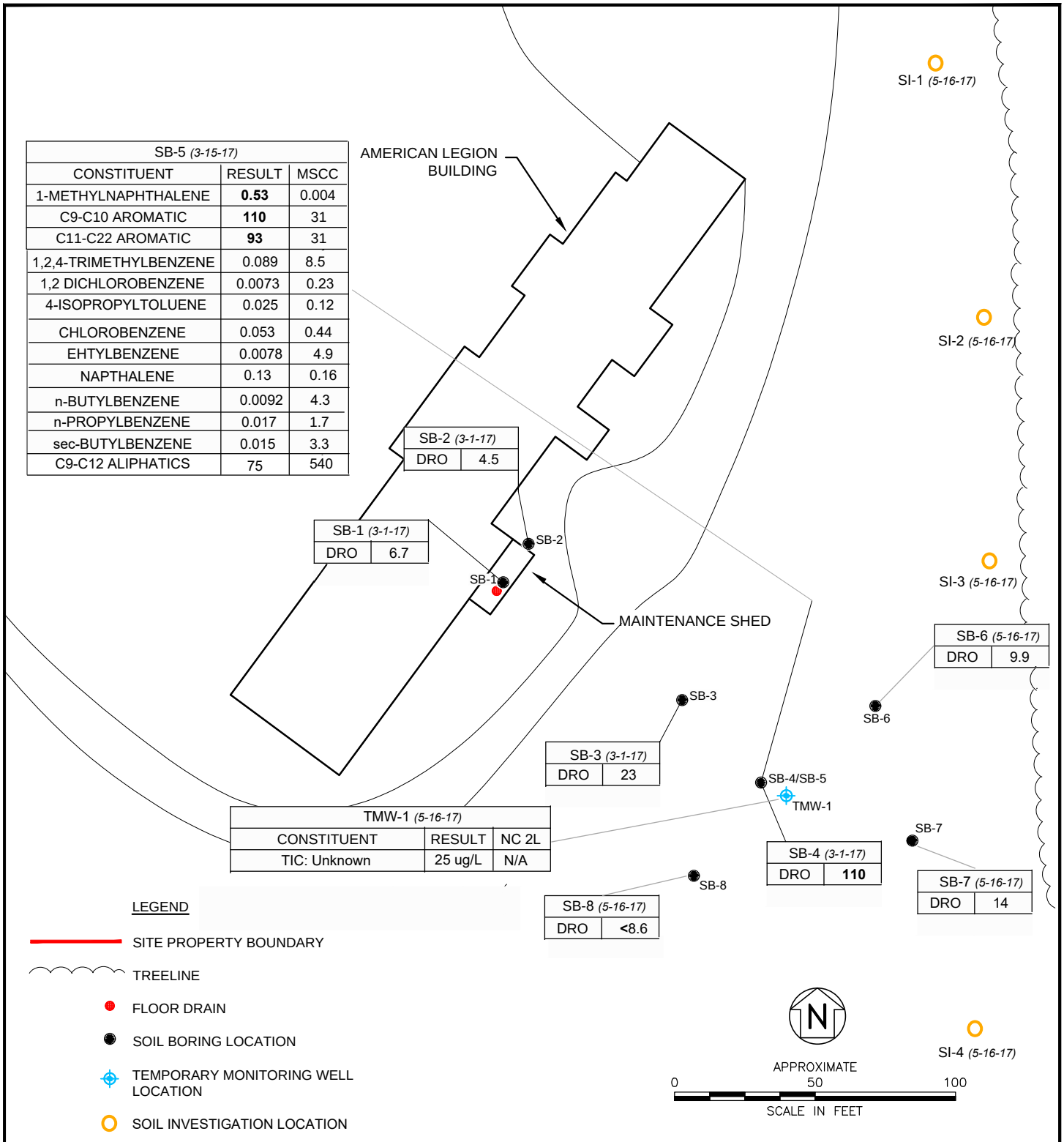
License # C-1269 / #C-245 Geology

DATE: 2-10-17 | REVISION NO. 0

JOB NO. TCH-003 | FIGURE NO. 2

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-003 - American Legion\Figures\Site Map.dwg, FIG 2, 2/10/2017 5:05:53 PM, zbarlow




NOTES:

1. SAMPLES COLLECTED BY H&H ON 3-1-17, 3-15-17, & 5-16-17
2. SAMPLE RESULTS ONLY DISPLAYED FOR CONSTITUENTS DETECTED ABOVE LABORATORY REPORTING LIMITS
3. DRO = DIESEL RANGE ORGANICS
   MSCC = SOIL TO GROUNDWATER MAXIMUM SOIL CONTAMINANT CONCENTRATION
   2L = NORTH CAROLINA 15A NCAC 2L GROUNDWATER STANDARD
4. DEQ ACTION LEVEL FOR DRO = 100 mg/kg
5. SAMPLE RESULTS WHICH EXCEDE A REGULATORY ACTION LEVEL ARE **BOLD**

TITLE: SAMPLE LOCATION MAP

PROJECT: TOWN OF CHAPEL HILL AMERICAN LEGION
1714 LEGION ROAD
CHAPEL HILL, NORTH CAROLINA

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DATE: 6-8-17 | REVISION NO. 0

JOB NO. TCH-003 | FIGURE NO. 3


LEGEND

- SITE PROPERTY BOUNDARY
- S — SUSPECTED LOCATION OF SEPTIC SYSTEMTANK
- SOIL INVESTIGATION BORING LOCATION
- APPROXIMATE AREA OF CONCENTRATED DUMPING

N

APPROXIMATE
0 100 200
SCALE IN FEET

TITLE

DEBRIS LOCATION MAP

PROJECT

TOWN OF CHAPEL HILL AMERICAN LEGION
1714 LEGION ROAD
CHAPEL HILL, NORTH CAROLINA

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| | |
|---|---|
| DATE: 6-27-17 | REVISION NO. 0 |
| JOB NO. TCH-003 | FIGURE NO. 4 |

# Appendix A

# Soil Boring Logs

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# BORING NUMBER SB-1

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | BLOW COUNTS (N VALUE) | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | WELL DIAGRAM | DEPTH (ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | | | | | | 0.0 |
| | | | | 0 | 0.6 | | Dry, medium, brown, CLAY | | |
| | | | | 0 | 1 | | Dry, medium, brown, CLAY | | |
| 2.5 | | | | | | | | | 2.5 |
| | | | | 0 | 0.4 | | Moist, medium, brown, CLAY | | |
| | | | | 0 | 0.2 | | Moist, medium, grey, CLAY | | |
| 5.0 | | | | 0 | 0.6 | | Bottom of borehole at 5.0 feet. | | 5.0 |

**DRILLING CONTRACTOR:** Regional Probing
**DRILL RIG/ METHOD:** Hand Auger
**SAMPLING METHOD:** Hand Auger
**LOGGED BY:** JAO
**DRAWN BY:** JAO

**BORING STARTED:** 3/1/17
**BORING COMPLETED:** 3/1/17
**TOTAL DEPTH:** 5 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 1-2' interval bgs.

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# BORING NUMBER SB-2

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | BLOW COUNTS (N VALUE) | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | WELL DIAGRAM | DEPTH (ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | | | | Dry, medium, orangish brown, CLAY | | 0.0 |
| | | | | 0 | 0.3 | | Dry, medium, brown, CLAY | | |
| | | | | 0 | 0.3 | | Dry, medium, greyish brown, CLAY | | |
| 2.5 | | | | | | | | | 2.5 |
| | | | | 0 | 0.4 | | Moist, medium, greyish brown, CLAY | | |
| | | | | 0 | 0.4 | | | | |
| 5.0 | | | | 0 | 0.3 | | Bottom of borehole at 5.0 feet. | | 5.0 |

**DRILLING CONTRACTOR:** Regional Probing
**DRILL RIG/ METHOD:** Hand Auger
**SAMPLING METHOD:** Hand Auger
**LOGGED BY:** JAO
**DRAWN BY:** JAO

**BORING STARTED:** 3/1/17
**BORING COMPLETED:** 3/1/17
**TOTAL DEPTH:** 5 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 2-3' interval bgs.

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# BORING NUMBER SB-3

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | BLOW COUNTS (N VALUE) | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | WELL DIAGRAM | DEPTH (ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | | | | Dry, orangish brown, CLAY | | 0.0 |
| | | | | 0 | 1.3 | | | | |
| | | | | 0 | 0.8 | | | | |
| 2.5 | | | | 0 | 1.1 | | | | 2.5 |
| | | | | 0 | 2.5 | | | | |
| 5.0 | | | | 0 | 2.6 | | | | 5.0 |
| | | | | 0 | 1.5 | | | | |
| | | | | 0 | 0.9 | | Dry, brown, clayey SILT | | |
| 7.5 | | | | 0 | 1.6 | | | | 7.5 |
| | | | | 0 | 2.8 | | Dry, dark red, CLAY | | |
| 10.0 | | | | 0 | 2.9 | | | | 10.0 |
| | | | | 0 | 2.3 | | | | |
| | | | | 0 | 2.8 | | | | |
| 12.5 | | | | | | | Refusal at 12.0 feet.<br>Bottom of borehole at 12.0 feet. | | 12.5 |

**DRILLING CONTRACTOR:** Regional Probing
**DRILL RIG/ METHOD:** Geoprobe 5410 / DPT/Hand Auger
**SAMPLING METHOD:** HA/ DPT Sleeves
**LOGGED BY:** JAO
**DRAWN BY:** JAO

**BORING STARTED:** 3/1/17
**BORING COMPLETED:** 3/1/17
**TOTAL DEPTH:** 12 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 4-5' interval bgs.

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# BORING NUMBER SB-4

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | BLOW COUNTS (N VALUE) | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | 0 | 1.9 | | Dry, medium, brown, silty CLAY | |
| | | | | 0 | 2.1 | | | |
| 2.5 | | | | 0 | 2.6 | | Dry, medium, orangish brown, CLAY | |
| | | | | 0 | 2.8 | | | |
| 5.0 | | | | 0 | 1.2 | | Dry, medium, dark reddish brown, CLAY | |
| | | | | 0 | 4.6 | | | |
| | | | | 0 | 13.1 | | | |
| 7.5 | | | | 0 | 28.8 | | Moist, medium, dark brown, CLAY | |
| | | | | 0 | 28.6 | | | |
| 10.0 | | | | 0 | 13.3 | | | |
| | | | | 0 | 40.1 | | | |
| | | | | 0 | 7.5 | | Dry, firm, orangish brown, CLAY | |
| 12.5 | | | | 0 | 6.6 | | | |
| | | | | 0 | 6.3 | | | |
| | | | | | | | Refusal at 14.0 feet.<br>Bottom of borehole at 14.0 feet. | |
| 15.0 | | | | | | | | |

**DRILLING CONTRACTOR:** Regional Probing
**DRILL RIG/ METHOD:** Geoprobe 5410 / DPT/Hand Auger
**SAMPLING METHOD:** HA/ DPT Sleeves
**LOGGED BY:** JAO
**DRAWN BY:** JAO

**BORING STARTED:** 3/1/17
**BORING COMPLETED:** 3/1/17
**TOTAL DEPTH:** 14 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 10-11' interval bgs.

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# BORING NUMBER SB-5

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | BLOW COUNTS (N VALUE) | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | WELL DIAGRAM | DEPTH (ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | 0 | 2.2 | | Dry, medium, brown, silty CLAY | | 0.0 |
| | | | | 0 | 1.3 | | Dry, medium, orangish brown, CLAY | | |
| 2.5 | | | | 0 | 5.6 | | | | 2.5 |
| | | | | 0 | 2.3 | | | | |
| 5.0 | | | | 0 | 7.8 | | Dry, medium, dark reddish brown, CLAY | | 5.0 |
| | | | | 0 | 14.3 | | | | |
| | | | | 0 | 45.9 | | | | |
| 7.5 | | | | 0 | 15 | | Moist, medium, dark brown, CLAY | | 7.5 |
| | | | | 0 | 17.3 | | | | |
| 10.0 | | | | 0 | 18.5 | | Moist, medium, greyish brown, CLAY | | 10.0 |
| | | | | 0 | 17.5 | | Bottom of borehole at 11.0 feet. | | |
| 12.5 | | | | | | | | | 12.5 |

**DRILLING CONTRACTOR:** Hart & Hickman, PC
**DRILL RIG/ METHOD:** Hand Auger
**SAMPLING METHOD:** Hand Auger
**LOGGED BY:** JAO
**DRAWN BY:** JAO

**BORING STARTED:** 3/15/17
**BORING COMPLETED:** 3/15/17
**TOTAL DEPTH:** 11 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 10-11' interval bgs.

WELL LOG - HART HICKMAN.GDT - 3/16/17 10:01 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

hart hickman
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# BORING NUMBER SB-6

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | Dry, medium, light brown, SILT |
| | | | 0.0 | 7.3 | | Moist, medium, light brown, clayey SILT |
| | | | 0.0 | 7.5 | | Moist, medium, light brown, clayey SILT w/ mica |
| 2.5 | | | 0.0 | 7.4 | | Moist, medium, brown, SILT w/ mica |
| | | | 0.0 | 7.7 | | Moist, medium, brown, SILT w/ mica |
| 5.0 | | | 0.0 | 4.9 | | Moist, medium, brownish orange, sandy SILT w/ mica |
| | | | 0.0 | 8.2 | | Moist, medium, brown, SILT w/ gravel |
| 7.5 | | | 0.0 | 7.2 | | Moist, medium, brown, SILT w/ gravel |
| 10.0 | | | 0.0 | 6.1 | | Moist, stiff, purplish brown, SILT |
| 12.5 | | | 0.0 | 4.4 | | DPT refusal at 13.0 feet.<br>Bottom of borehole at 13.0 feet. |
| 15.0 | | | | | | |

BORING DIAGRAM

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:** HA/ DPT Sleeves
**LOGGED BY:** TCW
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 13 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 5-7' interval bgs.

BORING LOG - HART HICKMAN.GDT - 6/23/17 16:13 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

hart hickman
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# BORING NUMBER SB-7

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | |
| | | | 0.0 | 4.3 | | Moist, medium, orangish brown, silty CLAY |
| | | | 0.0 | 6.1 | | Dry, medium, light brown, SILT |
| 2.5 | | | 0.0 | 5.5 | | Slighty moist, medium, orangish brown, silty CLAY |
| | | | 0.0 | 4.1 | | Slighty moist, medium, grey, SILT w/ mica and slight odor |
| 5.0 | | | 0.0 | 6.4 | | Slighty moist, medium, grey w/ orange mottles, sandy SILT w/ slight odor |
| 7.5 | | | | | | Wet, medium, greyish brown, SILT w/ asphalt chunks and smell of waste |
| 10.0 | | | 0.0 | 3.4 | | Wet, medium, reddish brown, SILT w/ mica |
| 12.5 | | | 0.0 | 6.2 | | Wet, very stiff, reddish brown, SILT |
| | | | 0.0 | 3.2 | | |
| 15.0 | | | | | | DPT refusal at 14.5 feet.<br>Bottom of borehole at 14.5 feet. |

BORING DIAGRAM

DEPTH (ft)

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:** HA/ DPT Sleeves
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 14.5 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 10-12.5' interval bgs.

BORING LOG - HART HICKMAN.GDT - 6/23/17 16:13 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

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# BORING NUMBER SB-8

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | |
| | | | 0.0 | 10.4 | | Dry, medium, orangeish brown, silty CLAY |
| | | | 0.0 | 10.2 | | Dry, medium, light brown, SILT |
| 2.5 | | | 0.0 | 23.5 | | Dry, medium, orangish brown, SILT w/ maganese nodules, asphalt, and slight odor |
| | | | 0.0 | 8.6 | | Moist, medium, brown, SILT w/ mica |
| 5.0 | | | 0.0 | 6.7 | | Moist, medium, brown, SILT w/ mica and some gravel |
| | | | 0.0 | 2.6 | | Dry, medium, brownish orange, SILT w/ asphalt |
| 7.5 | | | 0.0 | 1.1 | | Moist, medium, greyish brown, SILT w/ mica |
| 10.0 | | | 0.0 | 0.8 | | Moist, medium, reddish brown, SILT w/ mica |
| 12.5 | | | 0.0 | 0.6 | | Dry, very stiff, reddish brown, SILT |
| | | | | | | DPT refusal at 13.5 feet.<br>Bottom of borehole at 13.5 feet. |
| 15.0 | | | | | | |

BORING DIAGRAM

DEPTH (ft)

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:** HA/ DPT Sleeves
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 13.5 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

Soil sample collected from 4-6' interval bgs.

BORING LOG - HART HICKMAN.GDT - 6/23/17 16:13 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

hart hickman
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# BORING NUMBER SI-1

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | Dry, medium, light brown, SILT |
| | | | 0.0 | 0 | | Moist, medium, light brown, clayey SILT |
| | | | 0.0 | 0 | | Moist, medium, light brown, clayey SILT w/ mica |
| 2.5 | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ mica |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ mica |
| 5.0 | | | 0.0 | 0 | | Moist, medium, brownish orange, sandy SILT w/ mica |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ gravel |
| 7.5 | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ gravel |
| 10.0 | | | 0.0 | 0 | | Moist, stiff, purplish brown, SILT |
| 12.5 | | | 0.0 | 0 | | DPT refusal at 13.0 feet.<br>Bottom of borehole at 13.0 feet. |
| 15.0 | | | | | | |

BORING DIAGRAM

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:**
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 13 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

BORING LOG - HART HICKMAN.GDT - 6/23/17 16:13 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

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# BORING NUMBER SI-2

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | Dry, medium, light brown, SILT |
| | | | 0.0 | 0 | | Moist, medium, light brown, clayey SILT |
| | | | 0.0 | 0 | | Moist, medium, light brown, clayey SILT w/ mica |
| 2.5 | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ mica |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ mica |
| 5.0 | | | 0.0 | 0 | | Moist, medium, brownish orange, sandy SILT w/ mica |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ gravel |
| 7.5 | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ gravel |
| 10.0 | | | 0.0 | 0 | | Moist, stiff, purplish brown, SILT |
| 12.5 | | | 0.0 | 0 | | DPT refusal at 13.0 feet.<br>Bottom of borehole at 13.0 feet. |
| 15.0 | | | | | | |

BORING DIAGRAM

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:**
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 13 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

BORING LOG - HART HICKMAN.GDT - 6/23/17 16:13 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

hart hickman
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# BORING NUMBER SI-3

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | BORING DIAGRAM | DEPTH (ft) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | Dry, medium, light brown, SILT | | 0 |
| | | | 0.0 | 0 | | Moist, medium, light brown, clayey SILT | | |
| | | | 0.0 | 0 | | Moist, medium, light brown, clayey SILT w/ mica | | |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ mica | | |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ mica | | |
| 5 | | | 0.0 | 0 | | Moist, medium, brownish orange, sandy SILT w/ mica | | 5 |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ gravel | | |
| | | | 0.0 | 0 | | Moist, medium, brown, SILT w/ gravel | | |
| 10 | | | 0.0 | 0 | | Moist, stiff, purplish brown, SILT | | 10 |
| | | | 0.0 | 0 | | | | |
| 15 | | | 0.0 | 0 | | | | 15 |
| | | | 0.0 | 0 | | | | |
| 20 | | | | | | DPT refusal at 18.0 feet.<br>Bottom of borehole at 18.0 feet. | | 20 |

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:**
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 18 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

# BORING NUMBER SI-4

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION | BORING DIAGRAM | DEPTH (ft) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | Moist, medium, orangish brown, silty CLAY | | 0 |
| | | | 0.0 | 0 | | Dry, medium, light brown, SILT | | |
| | | | 0.0 | 0 | | Slighty moist, medium, orangish brown, silty CLAY | | |
| | | | 0.0 | 0 | | Slighty moist, medium, grey, SILT w/ mica, ashphalt chunks, and slight odor | | |
| | | | 0.0 | 0 | | Slighty moist, medium, grey w/ orange mottles, sandy SILT w/ slight odor | | |
| 5 | | | 0.0 | 0 | | Wet, medium, greyish brown, SILT w/ asphalt chunks and smell of waste | | 5 |
| 10 | | | 0.0 | 0 | | Wet, medium, reddish brown, SILT w/ mica and asphalt chunks | | 10 |
| | | | 0.0 | 0 | | Wet, very stiff, reddish brown, SILT w/ asphalt chunks | | |
| 15 | | | 0.0 | 0 | | | | 15 |
| | | | | | | DPT refusal at 17.0 feet.<br>Bottom of borehole at 17.0 feet. | | |

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** HA/DPT
**SAMPLING METHOD:**
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 17 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:**

**Remarks:**

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

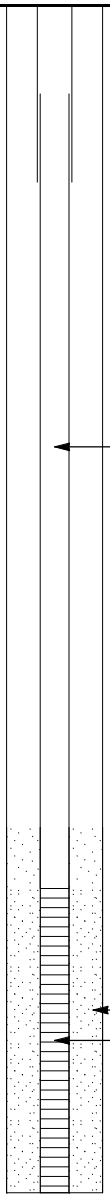


# BORING NUMBER TMW-1

**PROJECT:** American Legion
**JOB NUMBER:** TCH-003
**LOCATION:** Chapel Hill, NC

| DEPTH (ft) | RECOVERY (%) | SAMPLE TYPE NUMBER | OVA (ppm) BKG. | OVA (ppm) SAMP. | LITHOLOGY | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|
| 0 | | | 0.0 | 2.1 | | Dry, medium, brown, SILT w/ gravel and asphalt. |
| | | | 0.0 | 2.4 | | |
| | | | 0.0 | 8.5 | | |
| 5 | | | | | | |
| | | | 0.0 | 3.1 | | Dry, very stiff, light purple, sandy SILT. |
| 10 | | | 0.0 | 3 | | |
| | | | 0.0 | 2.8 | | |
| 15 | | | 0.0 | 1.4 | | Saporlite - Dry, very stiff, purplish brown, SILT w/ mica. DPT refusal at 13 ft bgs, converted to Air Rotary. |
| 20 | | | | | | |
| 25 | | | | | | |
| 30 | | | | | | Saporlite - Moist, very stiff, purplish brown, SILT w/ mica. |
| 35 | | | | | | Saporlite - Wet, very stiff, purplish brown, SILT w/ mica. |
| | | | 0.0 | 0 | | Air Rotary refusal at 39.0 feet. Bottom of borehole at 39.0 feet. |
| 40 | | | | | | |

BORING DIAGRAM




DEPTH (ft)

**DRILLING CONTRACTOR:** Quantex, Inc.
**DRILL RIG/ METHOD:** DPT & Air Rotary
**SAMPLING METHOD:** HA/ DPT Sleeves/ AR Cuttings
**LOGGED BY:** TCW/LSM
**DRAWN BY:** JAO

**BORING STARTED:** 5/16/17
**BORING COMPLETED:** 5/16/17
**TOTAL DEPTH:** 39 ft.
**TOP OF CASING ELEV:**
**DEPTH TO WATER:** 32 ft.

**Remarks:**

Groundwater sample collected for analysis of VOCs, SVOCs, EPH, VPH.

BORING LOG - HART HICKMAN.GDT - 6/23/17 16:13 - S:\BBB MASTER GINT PROJECTS\TCH-003.GPJ

# Appendix B

# Laboratory Analytical Data Report

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

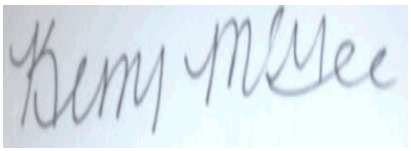
March 8, 2017

Jeffrey Ollison
Hart & Hickman - Raleigh, NC
3334 Hillsborough Street
Raleigh, NC 27607

Project Location: Chapel Hill, NC
Client Job Number:
Project Number: TCH.003
Laboratory Work Order Number: 17C0088

Enclosed are results of analyses for samples received by the laboratory on March 1, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kerry K. McGee
Project Manager

# Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Hart & Hickman - Raleigh, NC
3334 Hillsborough Street
Raleigh, NC 27607
ATTN: Jeffrey Ollison

REPORT DATE: 3/8/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: TCH.003

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 17C0088

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Chapel Hill, NC

| FIELD SAMPLE # | LAB ID: | MATRIX | SAMPLE DESCRIPTION | TEST | SUB LAB |
|---|---|---|---|---|---|
| SB-1 (1-2) | 17C0088-01 | Soil | | SM 2540G | |
| | | | | SW-846 8015C | |
| SB-2 (1-2) | 17C0088-02 | Soil | | SM 2540G | |
| | | | | SW-846 8015C | |
| SB-3 (4-5) | 17C0088-03 | Soil | | SM 2540G | |
| | | | | SW-846 8015C | |
| SB-4 (10-11) | 17C0088-04 | Soil | | SM 2540G | |
| | | | | SW-846 8015C | |

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

**SW-846 8015C**

**Qualifications:**

**S-25**

Surrogate recovery is outside of control limits due to suspected matrix interference. Samples of a clay-like matrix historically have exhibited low surrogate recovery.

**Analyte & Samples(s) Qualified:**

**o-Terphenyl**
17C0088-01[SB-1 (1-2)]

**SW-846 8015C**

Gasoline Range Organics (2-Methylpentane through 1,2,4-Trimethylbenzene) is quantitated against a calibration made with an unleaded gasoline composite standard.
Diesel Range Organics (C10-C28) is quantitated against a calibration made with a #2 fuel oil standard.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-1 (1-2)** | Sampled: 3/1/2017 09:10

**Sample ID: 17C0088-01**

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

| Analyte | Results | RL | DL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 1.0 | | mg/Kg dry | 1 | | SW-846 8015C | 3/3/17 | 3/6/17 11:47 | EEH |
| Diesel Range Organics | 6.7 | 10 | 2.2 | mg/Kg dry | 1 | J | SW-846 8015C | 3/3/17 | 3/6/17 17:16 | SCS |

| Surrogates | % Recovery | | Recovery Limits | Flag/Qual | | |
|---|---|---|---|---|---|---|
| 1-Chloro-3-fluorobenzene | 91.3 | | 70-130 | | 3/6/17 11:47 | |
| **o-Terphenyl** | **37.9** | * | 40-140 | S-25 | 3/6/17 17:16 | |

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-1 (1-2)** | Sampled: 3/1/2017 09:10

**Sample ID: 17C0088-01**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| % Solids | 83.6 | | % Wt | 1 | | SM 2540G | 3/3/17 | 3/6/17 7:31 | MRL |

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-2 (1-2)** | Sampled: 3/1/2017 10:55

**Sample ID: 17C0088-02**

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

| Analyte | Results | RL | DL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 0.85 | | mg/Kg dry | 1 | | SW-846 8015C | 3/3/17 | 3/6/17 12:23 | EEH |
| Diesel Range Organics | 4.5 | 9.4 | 2.1 | mg/Kg dry | 1 | J | SW-846 8015C | 3/3/17 | 3/6/17 17:34 | SCS |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| 1-Chloro-3-fluorobenzene | 86.8 | 70-130 | | 3/6/17 12:23 |
| o-Terphenyl | 46.6 | 40-140 | | 3/6/17 17:34 |

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-2 (1-2)** | Sampled: 3/1/2017 10:55

**Sample ID: 17C0088-02**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| % Solids | 88.9 | | % Wt | 1 | | SM 2540G | 3/3/17 | 3/6/17 7:31 | MRL |

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-3 (4-5)** | Sampled: 3/1/2017 11:40

**Sample ID: 17C0088-03**

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

| Analyte | Results | RL | DL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 1.2 | | mg/Kg dry | 1 | | SW-846 8015C | 3/3/17 | 3/6/17 12:59 | EEH |
| Diesel Range Organics | 23 | 10 | 2.3 | mg/Kg dry | 1 | | SW-846 8015C | 3/3/17 | 3/6/17 17:51 | SCS |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| 1-Chloro-3-fluorobenzene | 87.5 | 70-130 | | 3/6/17 12:59 |
| o-Terphenyl | 47.7 | 40-140 | | 3/6/17 17:51 |

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-3 (4-5)** | Sampled: 3/1/2017 11:40

**Sample ID: 17C0088-03**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| % Solids | 81.1 | | % Wt | 1 | | SM 2540G | 3/3/17 | 3/6/17 7:31 | MRL |

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-4 (10-11)** | Sampled: 3/1/2017 12:22

**Sample ID: 17C0088-04**

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

| Analyte | Results | RL | DL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 1.2 | | mg/Kg dry | 1 | | SW-846 8015C | 3/3/17 | 3/6/17 13:35 | EEH |
| Diesel Range Organics | 110 | 10 | 2.3 | mg/Kg dry | 1 | | SW-846 8015C | 3/3/17 | 3/6/17 18:09 | SCS |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | | |
|---|---|---|---|---|---|
| 1-Chloro-3-fluorobenzene | 89.1 | 70-130 | | 3/6/17 13:35 | |
| o-Terphenyl | 50.6 | 40-140 | | 3/6/17 18:09 | |

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Chapel Hill, NC | Sample Description: | Work Order: 17C0088

Date Received: 3/1/2017

**Field Sample #: SB-4 (10-11)** | Sampled: 3/1/2017 12:22

**Sample ID: 17C0088-04**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| % Solids | 80.2 | | % Wt | 1 | | SM 2540G | 3/3/17 | 3/6/17 7:31 | MRL |

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

## Sample Extraction Data

**Prep Method: % Solids-SM 2540G**

| Lab Number [Field ID] | Batch | Date |
|---|---|---|
| 17C0088-01 [SB-1 (1-2)] | B171723 | 03/03/17 |
| 17C0088-02 [SB-2 (1-2)] | B171723 | 03/03/17 |
| 17C0088-03 [SB-3 (4-5)] | B171723 | 03/03/17 |
| 17C0088-04 [SB-4 (10-11)] | B171723 | 03/03/17 |

**Prep Method: SW-846 3546-SW-846 8015C**

| Lab Number [Field ID] | Batch | Initial [g] | Final [mL] | Date |
|---|---|---|---|---|
| 17C0088-01 [SB-1 (1-2)] | B171709 | 30.0 | 1.00 | 03/03/17 |
| 17C0088-02 [SB-2 (1-2)] | B171709 | 30.0 | 1.00 | 03/03/17 |
| 17C0088-03 [SB-3 (4-5)] | B171709 | 30.0 | 1.00 | 03/03/17 |
| 17C0088-04 [SB-4 (10-11)] | B171709 | 30.0 | 1.00 | 03/03/17 |

**Prep Method: SW-846 5035/5030B-SW-846 8015C**

| Lab Number [Field ID] | Batch | Initial [g] | Final [mL] | Date |
|---|---|---|---|---|
| 17C0088-01 [SB-1 (1-2)] | B171736 | 7.10 | 6.20 | 03/03/17 |
| 17C0088-02 [SB-2 (1-2)] | B171736 | 7.80 | 5.90 | 03/03/17 |
| 17C0088-03 [SB-3 (4-5)] | B171736 | 6.70 | 6.30 | 03/03/17 |
| 17C0088-04 [SB-4 (10-11)] | B171736 | 6.70 | 6.30 | 03/03/17 |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B171709 - SW-846 3546** | | | | | | | | | | |
| **Blank (B171709-BLK1)** | | | | Prepared: 03/03/17 Analyzed: 03/06/17 | | | | | | |
| Diesel Range Organics | ND | 8.3 | mg/Kg wet | | | | | | | |
| Surrogate: o-Terphenyl | *2.78* | | mg/Kg wet | 3.33 | | 83.5 | 40-140 | | | |
| **LCS (B171709-BS1)** | | | | Prepared: 03/03/17 Analyzed: 03/06/17 | | | | | | |
| Diesel Range Organics | 26.0 | 8.3 | mg/Kg wet | 33.3 | | 78.0 | 40-140 | | | |
| Surrogate: o-Terphenyl | *2.82* | | mg/Kg wet | 3.33 | | 84.5 | 40-140 | | | |
| **LCS Dup (B171709-BSD1)** | | | | Prepared: 03/03/17 Analyzed: 03/06/17 | | | | | | |
| Diesel Range Organics | 25.7 | 8.3 | mg/Kg wet | 33.3 | | 77.1 | 40-140 | 1.22 | | |
| Surrogate: o-Terphenyl | *2.75* | | mg/Kg wet | 3.33 | | 82.5 | 40-140 | | | |
| **Batch B171736 - SW-846 5035/5030B** | | | | | | | | | | |
| **Blank (B171736-BLK1)** | | | | Prepared: 03/03/17 Analyzed: 03/06/17 | | | | | | |
| Gasoline Range Organics (GRO) | ND | 1.0 | mg/Kg wet | | | | | | | |
| Surrogate: 1-Chloro-3-fluorobenzene | *0.0134* | | mg/Kg wet | 0.0150 | | 89.5 | 70-130 | | | |
| **LCS (B171736-BS1)** | | | | Prepared: 03/03/17 Analyzed: 03/06/17 | | | | | | |
| Gasoline Range Organics (GRO) | 0.229 | 0.010 | mg/Kg wet | 0.250 | | 91.6 | 80-120 | | | |
| Surrogate: 1-Chloro-3-fluorobenzene | *0.0140* | | mg/Kg wet | 0.0150 | | 93.5 | 70-130 | | | |
| **LCS Dup (B171736-BSD1)** | | | | Prepared: 03/03/17 Analyzed: 03/06/17 | | | | | | |
| Gasoline Range Organics (GRO) | 0.256 | 0.010 | mg/Kg wet | 0.250 | | 102 | 80-120 | 11.1 | 30 | |
| Surrogate: 1-Chloro-3-fluorobenzene | *0.0134* | | mg/Kg wet | 0.0150 | | 89.5 | 70-130 | | | |

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**FLAG/QUALIFIER SUMMARY**

| | |
|---|---|
| * | QC result is outside of established limits. |
| † | Wide recovery limits established for difficult compound. |
| ‡ | Wide RPD limits established for difficult compound. |
| # | Data exceeded client recommended or regulatory level |
| ND | Not Detected |
| RL | Reporting Limit |
| DL | Method Detection Limit |
| MCL | Maximum Contaminant Level |
| | Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded. |
| | No results have been blank subtracted unless specified in the case narrative section. |
| J | Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag). |
| S-25 | Surrogate recovery is outside of control limits due to suspected matrix interference. Samples of a clay-like matrix historically have exhibited low surrogate recovery. |

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

## CERTIFICATIONS

**Certified Analyses included in this Report**

| Analyte | Certifications |
|---|---|
| ***SW-846 8015C in Soil*** | |
| Gasoline Range Organics (GRO) | NY,VA,NH,NC |
| Diesel Range Organics | NY,VA,NH,NC |

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

| Code | Description | Number | Expires |
|---|---|---|---|
| AIHA | AIHA-LAP, LLC - ISO17025:2005 | 100033 | 02/1/2018 |
| MA | Massachusetts DEP | M-MA100 | 06/30/2017 |
| CT | Connecticut Department of Publilc Health | PH-0567 | 09/30/2017 |
| NY | New York State Department of Health | 10899 NELAP | 04/1/2017 |
| NH-S | New Hampshire Environmental Lab | 2516 NELAP | 02/5/2018 |
| RI | Rhode Island Department of Health | LAO00112 | 12/30/2017 |
| NC | North Carolina Div. of Water Quality | 652 | 12/31/2017 |
| NJ | New Jersey DEP | MA007 NELAP | 06/30/2017 |
| FL | Florida Department of Health | E871027 NELAP | 06/30/2017 |
| VT | Vermont Department of Health Lead Laboratory | LL015036 | 07/30/2017 |
| ME | State of Maine | 2011028 | 06/9/2017 |
| VA | Commonwealth of Virginia | 460217 | 12/14/2017 |
| NH-P | New Hampshire Environmental Lab | 2557 NELAP | 09/6/2017 |

# CHAIN OF CUSTODY RECORD

17C0088

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
http://www.contestlabs.com
39 Spruce Street
East Longmeadow, MA 01028



Company Name: Hart & Hickman
Address: 3334 Hillsborough St
Raleigh, NC 27607
Attention: Jeffrey Ollison
Project Location: Chapel Hill, NC
Sampled By: Jeffrey Ollison

Telephone: 919-847-4241
Project #: TCH.003
Client PO#:

**DATA DELIVERY** (check all that apply)
○ FAX ◉ EMAIL ○ WEBSITE
Fax #:
Email: JOllison@harthickman.com
Format: ◉ PDF ◉ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

| Con-Test Lab ID (laboratory use only) | Client Sample ID / Description | Collection: Beginning Date/Time | Collection: Ending Date/Time | Composite | Grab | *Matrix Code | Conc Code | # of Containers: TPH-GRO | # of Containers: TPH-DRO | Analysis Requested |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SB-1 (1-2) | | 3-1-17 910 | | X | S | | X | X | |
| 2 | SB-2 (1-2) | | 3-1-17 1055 | | X | S | | X | X | |
| 3 | SB-3 (4-5) | | 3-1-17 1140 | | X | S | | X | X | |
| 4 | SB-4 (10-11) | | 3-1-17 1222 | | X | S | | X | X | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

| | |
|---|---|
| Relinquished by: (signature) | Date/Time: 3/1/17 1458 |
| Received by: (signature) | Date/Time: 3/1/17 1458 |
| Relinquished by: (signature) | Date/Time: 3/1/17 1733 |
| Received by: (signature) 2.4°C | Date/Time: 3/2/17 940 |

**Turnaround** ††
○ 5-Day
◉ 5-7-Day
○ 10-Day
RUSH †
○ †24-Hr ○ †48-Hr
○ †72-Hr ○ †4-Day
† Requires Lab Approval

**Detection Limit Requirements**
North Carolina
○ 2L
○ GWPC
○ SWSL
○ OTHER _____

**Program Information**
○ DSCA ○ IHSB Orphaned Landfill
○ SWS Landfill ○ UST ○ REC
○ Other: _____

NELAC & AIHA Certified
WBE/DBE Certified

**Dissolved Metals**
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN.
IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT



Table of Contents

# FedEx ® Tracking

## 778550014424

Ship date:
**Wed 3/01/2017**
Raleigh, NC US

**Delivered**
*Signed for by: P.BLAKE*

Actual delivery:
**Thu 3/02/2017 9:46 am**
EAST LONGMEADOW, MA US

## 2 Piece shipment

## Travel History

| ▲ Date/Time | Activity | Location |
|---|---|---|
| - 3/02/2017 - Thursday | | |
| 9:46 am | Delivered | EAST LONGMEADOW, MA |
| 7:48 am | On FedEx vehicle for delivery | WINDSOR LOCKS, CT |
| 7:39 am | At local FedEx facility | WINDSOR LOCKS, CT |
| 6:23 am | At destination sort facility | EAST GRANBY, CT |
| 4:53 am | Departed FedEx location | INDIANAPOLIS, IN |
| 12:18 am | Arrived at FedEx location | INDIANAPOLIS, IN |
| - 3/01/2017 - Wednesday | | |
| 8:45 pm | Left FedEx origin facility | DURHAM, NC |
| 5:27 pm | Picked up | RALEIGH, NC |
| 4:03 pm | Shipment information sent to FedEx | |

## Shipment Facts

| | | | |
|---|---|---|---|
| **Tracking number** | 778550014424 | **Service** | FedEx Standard Overnight |
| **Master tracking number** | 778550014490 | **Weight** | 15 lbs / 6.8 kgs |
| **Dimensions** | 24x14x14 in. | **Delivered To** | Shipping/Receiving |
| **Total pieces** | 2 | **Total shipment weight** | 15 lbs / 6.8 kgs |
| **Terms** | Third Party | **Shipper reference** | 80 |
| **Packaging** | Your Packaging | **Special handling section** | Deliver Weekday |
| **Standard transit** | 3/02/2017 by 3:00 pm | | |

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



# Sample Receipt Checklist

**CLIENT NAME:** Hart + Hickman **RECEIVED BY:** BM **DATE:** 03/02/17

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**

2) **Does the chain agree with the samples?** **Yes** ✓ **No** ____
If not, explain:

3) **Are all the samples in good condition?** **Yes** ✓ **No** ____
If not, explain:

4) **How were the samples received:**
On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓

**Were the samples received in Temperature Compliance of (2-6°C)?** **Yes** ✓ **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 2.4°C #1

5) **Are there Dissolved samples for the lab to filter?** **Yes** ____ **No** ✓
Who was notified ____ Date ____ Time ____

6) **Are there any RUSH or SHORT HOLDING TIME samples?** **Yes** ____ **No** ✓
Who was notified ____ Date ____ Time ____

7) **Location where samples are stored:**

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) **Do all samples have the proper Acid pH:** **Yes** ____ **No** ____ **N/A** ✓

9) **Do all samples have the proper Base pH:** **Yes** ____ **No** ____ **N/A** ✓

10) **Was the PC notified of any discrepancies with the COC vs the samples:** **Yes** ____ **N/A** ✓

## Containers received at Con-Test

| | # of containers | | # of containers |
|---|---|---|---|
| 1 Liter Amber | | 16 oz amber | |
| 500 mL Amber | | 8 oz amber/clear jar | |
| 250 mL Amber (8oz amber) | | 4 oz amber/clear jar | 4 |
| 1 Liter Plastic | | 2 oz amber/clear jar | |
| 500 mL Plastic | | Plastic Bag / Ziploc | |
| 250 mL plastic | | SOC Kit | |
| 40 mL Vial - type listed below | 4 | Perchlorate Kit | |
| Colisure / bacteria bottle | | Flashpoint bottle | |
| Dissolved Oxygen bottle | | Other glass jar | |
| Encore | | Other | |

40 mL vials: # HCl ____ # Methanol 4

# Bisulfate ____ # DI Water ____

# Thiosulfate ____ Unpreserved ____

**Time and Date Frozen:**

**Login Sample Receipt Checklist**

**(Rejection Criteria Listing - Using Sample Acceptance Policy)**

**Any False statement will be brought to the attention of Client**

| Question | Answer (True/False) T/F/NA | Comment |
|---|---|---|
| 1) The cooler's custody seal, if present, is intact. | NA | |
| 2) The cooler or samples do not appear to have been compromised or tampered with. | T | |
| 3) Samples were received on ice. | T | |
| 4) Cooler Temperature is acceptable. | T | |
| 5) Cooler Temperature is recorded. | T | 2.4°C ±4 |
| 6) COC is filled out in ink and legible. | T | |
| 7) COC is filled out with all pertinent information. | T | |
| 8) Field Sampler's name present on COC. | T | |
| 9) There are no discrepancies between the sample IDs on the container and the COC. | T | |
| 10) Samples are received within Holding Time. | T | |
| 11) Sample containers have legible labels. | T | |
| 12) Containers are not broken or leaking. | T | |
| 13) Air Cassettes are not broken/open. | NA | |
| 14) Sample collection date/times are provided. | T | |
| 15) Appropriate sample containers are used. | T | |
| 16) Proper collection media used. | T | |
| 17) No headspace sample bottles are completely filled. | NA | |
| 18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs. | T | |
| 19) Trip blanks provided if applicable. | NA | |
| 20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter. | NA | |
| 21) Samples do not require splitting or compositing. | T | |

**Who notified of False statements?** **Date/Time:**

**Doc #277 Rev. 4 August 2013** **Log-In Technician Initials:** BA **Date/Time:** 03/02/17 940

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
NC Drinking Water Cert No. 37735
SC Certification No. 99012

# Case Narrative

03/20/2017

Hart & Hickman (Raleigh)
Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill TCLT.003
Project No.: TCLT.003
Lab Submittal Date: 03/16/2017
Prism Work Order: 7030286

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

**PRISM LABORATORIES, INC.**

Robbi A. Jones

President/Project Manager

Reviewed By Robbi A. Jones

President/Project Manager

**Data Qualifiers Key Reference:**

| | |
|---|---|
| D | RPD value outside of the control limits. |
| DO | Surrogates diluted out. |
| L1 | LCS recovery outside of the QC limits. LCSD recovery within the limits. No further action taken. |
| BRL | Below Reporting Limit |
| MDL | Method Detection Limit |
| RPD | Relative Percent Difference |
| * | Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J. |

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

# Sample Receipt Summary

03/20/2017

Prism Work Order: 7030286

| Client Sample ID | Lab Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB-5 | 7030286-01 | Solid | 03/15/17 | 03/16/17 |

Samples were received in good condition at 2.5 degrees C unless otherwise noted.



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

# Summary of Detections

03/20/2017

Prism Work Order: 7030286

| Prism ID | Client ID | Parameter | Method | Result | Units |
|---|---|---|---|---|---|
| 7030286-01 | SB-5 | C11-C22 Aromatics | *MADEP EPH | 93 | mg/kg dry |
| 7030286-01 | SB-5 | 1-Methylnaphthalene | *8270D | 0.53 | mg/kg dry |
| 7030286-01 | SB-5 | 1,2,4-Trimethylbenzene | *8260B | 0.0089 | mg/kg dry |
| 7030286-01 | SB-5 | 1,2-Dichlorobenzene | *8260B | 0.0073 | mg/kg dry |
| 7030286-01 | SB-5 | 4-Isopropyltoluene | *8260B | 0.025 | mg/kg dry |
| 7030286-01 | SB-5 | Chlorobenzene | *8260B | 0.0053 | mg/kg dry |
| 7030286-01 | SB-5 | Ethylbenzene | *8260B | 0.0078 | mg/kg dry |
| 7030286-01 | SB-5 | Naphthalene | *8260B | 0.13 | mg/kg dry |
| 7030286-01 | SB-5 | n-Butylbenzene | *8260B | 0.0092 | mg/kg dry |
| 7030286-01 | SB-5 | n-Propylbenzene | *8260B | 0.017 | mg/kg dry |
| 7030286-01 | SB-5 | sec-Butylbenzene | *8260B | 0.015 | mg/kg dry |
| 7030286-01 | SB-5 | C9-C12 Aliphatics | *MADEP VPH | 75 | mg/kg dry |
| 7030286-01 | SB-5 | C9-C10 Aromatics | *MADEP VPH | 110 | mg/kg dry |



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-5
Prism Sample ID: 7030286-01
Prism Work Order: 7030286
Time Collected: 03/15/17 17:40
Time Submitted: 03/16/17 08:00

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| **Extractable Petroleum Hydrocarbons by GC/FID** | | | | | | | | | |
| C9-C18 Aliphatics | BRL | mg/kg dry | 32 | 1.4 | 1 | *MADEP EPH | 3/17/17 2:18 | ZRC | P7C0256 |
| C19-C36 Aliphatics | BRL | mg/kg dry | 32 | 2.6 | 1 | *MADEP EPH | 3/17/17 2:18 | ZRC | P7C0256 |
| **C11-C22 Aromatics** | **93** | **mg/kg dry** | **13** | **1.7** | **1** | ***MADEP EPH** | **3/17/17 2:18** | **ZRC** | **P7C0256** |
| | | | Surrogate | | | Recovery | | Control Limits | |
| | | | 1-Chlorooctadecane | | | *77 %* | | *40-140* | |
| | | | o-Terphenyl | | | *83 %* | | *40-140* | |
| | | | 2-Fluorobiphenyl | | | *93 %* | | *40-140* | |
| | | | 2-Bromonaphthalene | | | *94 %* | | *40-140* | |
| **General Chemistry Parameters** | | | | | | | | | |
| **% Solids** | **78.0** | **% by Weight** | **0.100** | **0.100** | **1** | ***SM2540 G** | **3/17/17 16:00** | **JLB** | **P7C0309** |
| **Semivolatile Organic Compounds by GC/MS** | | | | | | | | | |
| 1,2,4-Trichlorobenzene | BRL | mg/kg dry | 0.42 | 0.066 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 1,2-Dichlorobenzene | BRL | mg/kg dry | 0.42 | 0.064 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 1,3-Dichlorobenzene | BRL | mg/kg dry | 0.42 | 0.059 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 1,4-Dichlorobenzene | BRL | mg/kg dry | 0.42 | 0.062 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| **1-Methylnaphthalene** | **0.53** | **mg/kg dry** | **0.42** | **0.081** | **1** | ***8270D** | **3/17/17 0:12** | **JMV** | **P7C0264** |
| 2,4,6-Trichlorophenol | BRL | mg/kg dry | 0.42 | 0.079 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2,4-Dichlorophenol | BRL | mg/kg dry | 0.42 | 0.082 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2,4-Dimethylphenol | BRL | mg/kg dry | 0.42 | 0.065 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2,4-Dinitrophenol | BRL | mg/kg dry | 0.42 | 0.059 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2,4-Dinitrotoluene | BRL | mg/kg dry | 0.42 | 0.051 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2,6-Dinitrotoluene | BRL | mg/kg dry | 0.42 | 0.056 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2-Chloronaphthalene | BRL | mg/kg dry | 0.42 | 0.061 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2-Chlorophenol | BRL | mg/kg dry | 0.42 | 0.060 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2-Methylnaphthalene | BRL | mg/kg dry | 0.42 | 0.068 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2-Methylphenol | BRL | mg/kg dry | 0.42 | 0.054 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 2-Nitrophenol | BRL | mg/kg dry | 0.42 | 0.077 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 3,3'-Dichlorobenzidine | BRL | mg/kg dry | 0.42 | 0.083 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 3/4-Methylphenol | BRL | mg/kg dry | 0.42 | 0.052 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 4,6-Dinitro-2-methylphenol | BRL | mg/kg dry | 0.42 | 0.063 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 4-Bromophenyl phenyl ether | BRL | mg/kg dry | 0.42 | 0.073 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 4-Chloro-3-methylphenol | BRL | mg/kg dry | 0.42 | 0.059 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 4-Chloroaniline | BRL | mg/kg dry | 0.42 | 0.051 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 4-Chlorophenyl phenyl ether | BRL | mg/kg dry | 0.42 | 0.055 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| 4-Nitrophenol | BRL | mg/kg dry | 0.42 | 0.065 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Acenaphthene | BRL | mg/kg dry | 0.42 | 0.057 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Acenaphthylene | BRL | mg/kg dry | 0.42 | 0.061 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Anthracene | BRL | mg/kg dry | 0.42 | 0.068 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Azobenzene | BRL | mg/kg dry | 0.42 | 0.056 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Benzo(a)anthracene | BRL | mg/kg dry | 0.42 | 0.055 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Benzo(a)pyrene | BRL | mg/kg dry | 0.42 | 0.046 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-5
Prism Sample ID: 7030286-01
Prism Work Order: 7030286
Time Collected: 03/15/17 17:40
Time Submitted: 03/16/17 08:00

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| Benzo(b)fluoranthene | BRL | mg/kg dry | 0.42 | 0.049 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Benzo(g,h,i)perylene | BRL | mg/kg dry | 0.42 | 0.046 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Benzo(k)fluoranthene | BRL | mg/kg dry | 0.42 | 0.055 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Benzoic Acid | BRL | mg/kg dry | 0.42 | 0.036 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Benzyl alcohol | BRL | mg/kg dry | 0.42 | 0.056 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| bis(2-Chloroethoxy)methane | BRL | mg/kg dry | 0.42 | 0.073 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Bis(2-Chloroethyl)ether | BRL | mg/kg dry | 0.42 | 0.060 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Bis(2-chloroisopropyl)ether | BRL | mg/kg dry | 0.42 | 0.072 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Bis(2-Ethylhexyl)phthalate | BRL | mg/kg dry | 0.42 | 0.063 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Butyl benzyl phthalate | BRL | mg/kg dry | 0.42 | 0.060 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Chrysene | BRL | mg/kg dry | 0.42 | 0.053 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Dibenzo(a,h)anthracene | BRL | mg/kg dry | 0.42 | 0.051 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Dibenzofuran | BRL | mg/kg dry | 0.42 | 0.064 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Diethyl phthalate | BRL | mg/kg dry | 0.42 | 0.058 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Dimethyl phthalate | BRL | mg/kg dry | 0.42 | 0.056 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Di-n-butyl phthalate | BRL | mg/kg dry | 0.42 | 0.060 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Di-n-octyl phthalate | BRL | mg/kg dry | 0.42 | 0.052 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Fluoranthene | BRL | mg/kg dry | 0.42 | 0.054 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Fluorene | BRL | mg/kg dry | 0.42 | 0.061 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Hexachlorobenzene | BRL | mg/kg dry | 0.42 | 0.067 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Hexachlorobutadiene | BRL | mg/kg dry | 0.42 | 0.076 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Hexachlorocyclopentadiene | BRL | mg/kg dry | 0.42 | 0.075 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Hexachloroethane | BRL | mg/kg dry | 0.42 | 0.071 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Indeno(1,2,3-cd)pyrene | BRL | mg/kg dry | 0.42 | 0.048 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Isophorone | BRL | mg/kg dry | 0.42 | 0.057 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Naphthalene | BRL | mg/kg dry | 0.42 | 0.068 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Nitrobenzene | BRL | mg/kg dry | 0.42 | 0.060 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| N-Nitroso-di-n-propylamine | BRL | mg/kg dry | 0.42 | 0.067 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| N-Nitrosodiphenylamine | BRL | mg/kg dry | 0.42 | 0.064 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Pentachlorophenol | BRL | mg/kg dry | 0.42 | 0.050 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Phenanthrene | BRL | mg/kg dry | 0.42 | 0.055 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Phenol | BRL | mg/kg dry | 0.42 | 0.062 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |
| Pyrene | BRL | mg/kg dry | 0.42 | 0.056 | 1 | *8270D | 3/17/17 0:12 | JMV | P7C0264 |

| Surrogate | Recovery | Control Limits |
|---|---|---|
| 2,4,6-Tribromophenol | *89 %* | *39-132* |
| 2-Fluorobiphenyl | *83 %* | *44-115* |
| 2-Fluorophenol | *83 %* | *35-115* |
| Nitrobenzene-d5 | *77 %* | *37-122* |
| Phenol-d5 | *81 %* | *34-121* |
| Terphenyl-d14 | *98 %* | *54-127* |

**Volatile Organic Compounds by GC/MS**

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BRL | mg/kg dry | 0.0052 | 0.00043 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,1,1-Trichloroethane | BRL | mg/kg dry | 0.0052 | 0.00025 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-5
Prism Sample ID: 7030286-01
Prism Work Order: 7030286
Time Collected: 03/15/17 17:40
Time Submitted: 03/16/17 08:00

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | BRL | mg/kg dry | 0.0052 | 0.00035 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,1,2-Trichloroethane | BRL | mg/kg dry | 0.0052 | 0.00046 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,1-Dichloroethane | BRL | mg/kg dry | 0.0052 | 0.00015 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,1-Dichloroethylene | BRL | mg/kg dry | 0.0052 | 0.00023 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,1-Dichloropropylene | BRL | mg/kg dry | 0.0052 | 0.00029 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,2,3-Trichlorobenzene | BRL | mg/kg dry | 0.0052 | 0.00030 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,2,3-Trichloropropane | BRL | mg/kg dry | 0.0052 | 0.00067 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,2,4-Trichlorobenzene | BRL | mg/kg dry | 0.0052 | 0.00039 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **1,2,4-Trimethylbenzene** | **0.0089** | **mg/kg dry** | **0.0052** | **0.00040** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| 1,2-Dibromoethane | BRL | mg/kg dry | 0.0052 | 0.00021 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **1,2-Dichlorobenzene** | **0.0073** | **mg/kg dry** | **0.0052** | **0.00025** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| 1,2-Dichloroethane | BRL | mg/kg dry | 0.0052 | 0.00031 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,2-Dichloropropane | BRL | mg/kg dry | 0.0052 | 0.00033 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,3,5-Trimethylbenzene | BRL | mg/kg dry | 0.0052 | 0.00040 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,3-Dichlorobenzene | BRL | mg/kg dry | 0.0052 | 0.00035 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,3-Dichloropropane | BRL | mg/kg dry | 0.0052 | 0.00026 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 1,4-Dichlorobenzene | BRL | mg/kg dry | 0.0052 | 0.00021 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 2,2-Dichloropropane | BRL | mg/kg dry | 0.0052 | 0.00025 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 2-Chlorotoluene | BRL | mg/kg dry | 0.0052 | 0.00027 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| 4-Chlorotoluene | BRL | mg/kg dry | 0.0052 | 0.00031 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **4-Isopropyltoluene** | **0.025** | **mg/kg dry** | **0.0052** | **0.00025** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| Acetone | BRL | mg/kg dry | 0.052 | 0.0013 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Benzene | BRL | mg/kg dry | 0.0031 | 0.00031 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Bromobenzene | BRL | mg/kg dry | 0.0052 | 0.00044 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Bromochloromethane | BRL | mg/kg dry | 0.0052 | 0.00029 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Bromodichloromethane | BRL | mg/kg dry | 0.0052 | 0.00029 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Bromoform | BRL | mg/kg dry | 0.0052 | 0.00060 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Bromomethane | BRL | mg/kg dry | 0.010 | 0.00065 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Carbon Tetrachloride | BRL | mg/kg dry | 0.0052 | 0.00026 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **Chlorobenzene** | **0.0053** | **mg/kg dry** | **0.0052** | **0.00028** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| Chloroethane | BRL | mg/kg dry | 0.010 | 0.00044 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Chloroform | BRL | mg/kg dry | 0.0052 | 0.00038 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Chloromethane | BRL | mg/kg dry | 0.0052 | 0.00035 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| cis-1,2-Dichloroethylene | BRL | mg/kg dry | 0.0052 | 0.00022 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| cis-1,3-Dichloropropylene | BRL | mg/kg dry | 0.0052 | 0.00018 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Dibromochloromethane | BRL | mg/kg dry | 0.0052 | 0.00022 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Dichlorodifluoromethane | BRL | mg/kg dry | 0.0052 | 0.00024 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **Ethylbenzene** | **0.0078** | **mg/kg dry** | **0.0052** | **0.00020** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| Isopropyl Ether | BRL | mg/kg dry | 0.0052 | 0.00021 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Isopropylbenzene (Cumene) | BRL | mg/kg dry | 0.0052 | 0.00031 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| m,p-Xylenes | BRL | mg/kg dry | 0.010 | 0.00048 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Methyl Butyl Ketone (2-Hexanone) | BRL | mg/kg dry | 0.052 | 0.00047 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Methyl Ethyl Ketone (2-Butanone) | BRL | mg/kg dry | 0.10 | 0.00047 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-5
Prism Sample ID: 7030286-01
Prism Work Order: 7030286
Time Collected: 03/15/17 17:40
Time Submitted: 03/16/17 08:00

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| Methyl Isobutyl Ketone | BRL | mg/kg dry | 0.052 | 0.00045 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Methylene Chloride | BRL | mg/kg dry | 0.0052 | 0.00029 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Methyl-tert-Butyl Ether | BRL | mg/kg dry | 0.010 | 0.00017 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **Naphthalene** | **0.13** | **mg/kg dry** | **0.010** | **0.00017** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| **n-Butylbenzene** | **0.0092** | **mg/kg dry** | **0.0052** | **0.00027** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| **n-Propylbenzene** | **0.017** | **mg/kg dry** | **0.0052** | **0.00031** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| o-Xylene | BRL | mg/kg dry | 0.0052 | 0.00022 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| **sec-Butylbenzene** | **0.015** | **mg/kg dry** | **0.0052** | **0.00025** | **1** | ***8260B** | **3/17/17 12:54** | **ANG** | **P7C0297** |
| Styrene | BRL | mg/kg dry | 0.0052 | 0.00032 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| tert-Butylbenzene | BRL | mg/kg dry | 0.0052 | 0.00018 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Tetrachloroethylene | BRL | mg/kg dry | 0.0052 | 0.00025 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Toluene | BRL | mg/kg dry | 0.0052 | 0.00030 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| trans-1,2-Dichloroethylene | BRL | mg/kg dry | 0.0052 | 0.00031 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| trans-1,3-Dichloropropylene | BRL | mg/kg dry | 0.0052 | 0.00028 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Trichloroethylene | BRL | mg/kg dry | 0.0052 | 0.00034 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Trichlorofluoromethane | BRL | mg/kg dry | 0.0052 | 0.00034 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Vinyl acetate | BRL | mg/kg dry | 0.026 | 0.00072 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Vinyl chloride | BRL | mg/kg dry | 0.0052 | 0.00025 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |
| Xylenes, total | BRL | mg/kg dry | 0.016 | 0.00098 | 1 | *8260B | 3/17/17 12:54 | ANG | P7C0297 |

| Surrogate | Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | *101 %* | *70-130* |
| Dibromofluoromethane | *99 %* | *84-123* |
| Toluene-d8 | *98 %* | *76-129* |

## Volatile Petroleum Hydrocarbons by GC/PID/FID

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatics | BRL | mg/kg dry | 34 | 1.0 | 1000 | *MADEP VPH | 3/20/17 11:27 | ANG | P7C0299 |
| **C9-C12 Aliphatics** | **75** | **mg/kg dry** | **34** | **4.1** | **1000** | ***MADEP VPH** | **3/20/17 11:27** | **ANG** | **P7C0299** |
| **C9-C10 Aromatics** | **110** | **mg/kg dry** | **34** | **0.32** | **1000** | ***MADEP VPH** | **3/20/17 11:27** | **ANG** | **P7C0299** |

| Surrogate | Recovery | Control Limits | |
|---|---|---|---|
| 2,5-Dibromotoluene (PID) | *0 %* | *70-130* | *DO* |
| 2,5-Dibromotoluene (FID) | *0 %* | *70-130* | *DO* |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Volatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0297 - 5035** | | | | | | | | | | |
| **Blank (P7C0297-BLK1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| 1,1,1,2-Tetrachloroethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,1,1-Trichloroethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,1,2,2-Tetrachloroethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,1,2-Trichloroethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,1-Dichloroethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,1-Dichloroethylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,1-Dichloropropylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2,3-Trichlorobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2,3-Trichloropropane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2,4-Trichlorobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2,4-Trimethylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2-Dibromoethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2-Dichlorobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2-Dichloroethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,2-Dichloropropane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,3,5-Trimethylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,3-Dichlorobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,3-Dichloropropane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 1,4-Dichlorobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 2,2-Dichloropropane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 2-Chlorotoluene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 4-Chlorotoluene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| 4-Isopropyltoluene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Acetone | BRL | 0.050 | mg/kg wet | | | | | | | |
| Benzene | BRL | 0.0030 | mg/kg wet | | | | | | | |
| Bromobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Bromochloromethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Bromodichloromethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Bromoform | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Bromomethane | BRL | 0.010 | mg/kg wet | | | | | | | |
| Carbon Tetrachloride | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Chlorobenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Chloroethane | BRL | 0.010 | mg/kg wet | | | | | | | |
| Chloroform | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Chloromethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| cis-1,2-Dichloroethylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| cis-1,3-Dichloropropylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Dibromochloromethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Dichlorodifluoromethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Ethylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Isopropyl Ether | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Isopropylbenzene (Cumene) | BRL | 0.0050 | mg/kg wet | | | | | | | |
| m,p-Xylenes | BRL | 0.010 | mg/kg wet | | | | | | | |
| Methyl Butyl Ketone (2-Hexanone) | BRL | 0.050 | mg/kg wet | | | | | | | |
| Methyl Ethyl Ketone (2-Butanone) | BRL | 0.10 | mg/kg wet | | | | | | | |
| Methyl Isobutyl Ketone | BRL | 0.050 | mg/kg wet | | | | | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Volatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0297 - 5035** | | | | | | | | | | |
| **Blank (P7C0297-BLK1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| Methylene Chloride | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Methyl-tert-Butyl Ether | BRL | 0.010 | mg/kg wet | | | | | | | |
| Naphthalene | BRL | 0.010 | mg/kg wet | | | | | | | |
| n-Butylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| n-Propylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| o-Xylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| sec-Butylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Styrene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| tert-Butylbenzene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Tetrachloroethylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Toluene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| trans-1,2-Dichloroethylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| trans-1,3-Dichloropropylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Trichloroethylene | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Trichlorofluoromethane | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Vinyl acetate | BRL | 0.025 | mg/kg wet | | | | | | | |
| Vinyl chloride | BRL | 0.0050 | mg/kg wet | | | | | | | |
| Xylenes, total | BRL | 0.015 | mg/kg wet | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *51.3* | | *ug/L* | *50.00* | | *103* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *49.8* | | *ug/L* | *50.00* | | *100* | *84-123* | | | |
| *Surrogate: Toluene-d8* | *49.8* | | *ug/L* | *50.00* | | *100* | *76-129* | | | |
| **LCS (P7C0297-BS1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| 1,1,1,2-Tetrachloroethane | 0.0476 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 72-115 | | | |
| 1,1,1-Trichloroethane | 0.0511 | 0.0050 | mg/kg wet | 0.05000 | | 102 | 67-131 | | | |
| 1,1,2,2-Tetrachloroethane | 0.0496 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 56-126 | | | |
| 1,1,2-Trichloroethane | 0.0488 | 0.0050 | mg/kg wet | 0.05000 | | 98 | 70-133 | | | |
| 1,1-Dichloroethane | 0.0466 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 74-127 | | | |
| 1,1-Dichloroethylene | 0.0485 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 67-149 | | | |
| 1,1-Dichloropropylene | 0.0498 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 71-130 | | | |
| 1,2,3-Trichlorobenzene | 0.0499 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 68-130 | | | |
| 1,2,3-Trichloropropane | 0.0500 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 60-137 | | | |
| 1,2,4-Trichlorobenzene | 0.0507 | 0.0050 | mg/kg wet | 0.05000 | | 101 | 66-125 | | | |
| 1,2,4-Trimethylbenzene | 0.0510 | 0.0050 | mg/kg wet | 0.05000 | | 102 | 69-129 | | | |
| 1,2-Dibromoethane | 0.0512 | 0.0050 | mg/kg wet | 0.05000 | | 102 | 70-132 | | | |
| 1,2-Dichlorobenzene | 0.0506 | 0.0050 | mg/kg wet | 0.05000 | | 101 | 72-123 | | | |
| 1,2-Dichloroethane | 0.0468 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 68-128 | | | |
| 1,2-Dichloropropane | 0.0470 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 73-130 | | | |
| 1,3,5-Trimethylbenzene | 0.0499 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 69-128 | | | |
| 1,3-Dichlorobenzene | 0.0496 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 71-120 | | | |
| 1,3-Dichloropropane | 0.0484 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 75-124 | | | |
| 1,4-Dichlorobenzene | 0.0501 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 71-123 | | | |
| 2,2-Dichloropropane | 0.0490 | 0.0050 | mg/kg wet | 0.05000 | | 98 | 50-142 | | | |
| 2-Chlorotoluene | 0.0493 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 67-124 | | | |
| 4-Chlorotoluene | 0.0499 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 71-126 | | | |
| 4-Isopropyltoluene | 0.0501 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 68-129 | | | |
| Acetone | 0.0990 | 0.050 | mg/kg wet | 0.1000 | | 99 | 29-198 | | | |

Hart & Hickman (Raleigh)
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Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Volatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0297 - 5035** | | | | | | | | | | |
| **LCS (P7C0297-BS1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| Benzene | 0.0474 | 0.0030 | mg/kg wet | 0.05000 | | 95 | 74-127 | | | |
| Bromobenzene | 0.0482 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 73-125 | | | |
| Bromochloromethane | 0.0485 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 72-134 | | | |
| Bromodichloromethane | 0.0530 | 0.0050 | mg/kg wet | 0.05000 | | 106 | 75-122 | | | |
| Bromoform | 0.0470 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 66-135 | | | |
| Bromomethane | 0.0513 | 0.010 | mg/kg wet | 0.05000 | | 103 | 20-180 | | | |
| Carbon Tetrachloride | 0.0558 | 0.0050 | mg/kg wet | 0.05000 | | 112 | 64-143 | | | |
| Chlorobenzene | 0.0488 | 0.0050 | mg/kg wet | 0.05000 | | 98 | 74-118 | | | |
| Chloroethane | 0.0501 | 0.010 | mg/kg wet | 0.05000 | | 100 | 33-149 | | | |
| Chloroform | 0.0475 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 73-127 | | | |
| Chloromethane | 0.0535 | 0.0050 | mg/kg wet | 0.05000 | | 107 | 45-143 | | | |
| cis-1,2-Dichloroethylene | 0.0473 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 76-134 | | | |
| cis-1,3-Dichloropropylene | 0.0536 | 0.0050 | mg/kg wet | 0.05000 | | 107 | 71-125 | | | |
| Dibromochloromethane | 0.0494 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 73-122 | | | |
| Dichlorodifluoromethane | 0.0501 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 26-146 | | | |
| Ethylbenzene | 0.0497 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 74-128 | | | |
| Isopropyl Ether | 0.0459 | 0.0050 | mg/kg wet | 0.05000 | | 92 | 59-159 | | | |
| Isopropylbenzene (Cumene) | 0.0494 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 68-126 | | | |
| m,p-Xylenes | 0.0998 | 0.010 | mg/kg wet | 0.1000 | | 100 | 75-124 | | | |
| Methyl Butyl Ketone (2-Hexanone) | 0.0499 | 0.050 | mg/kg wet | 0.05000 | | 100 | 61-157 | | | |
| Methyl Ethyl Ketone (2-Butanone) | 0.0434 | 0.10 | mg/kg wet | 0.05000 | | 87 | 63-149 | | | |
| Methyl Isobutyl Ketone | 0.0496 | 0.050 | mg/kg wet | 0.05000 | | 99 | 57-162 | | | |
| Methylene Chloride | 0.0438 | 0.0050 | mg/kg wet | 0.05000 | | 88 | 74-129 | | | |
| Methyl-tert-Butyl Ether | 0.0491 | 0.010 | mg/kg wet | 0.05000 | | 98 | 70-130 | | | |
| Naphthalene | 0.0504 | 0.010 | mg/kg wet | 0.05000 | | 101 | 57-157 | | | |
| n-Butylbenzene | 0.0514 | 0.0050 | mg/kg wet | 0.05000 | | 103 | 65-135 | | | |
| n-Propylbenzene | 0.0502 | 0.0050 | mg/kg wet | 0.05000 | | 100 | 67-130 | | | |
| o-Xylene | 0.0490 | 0.0050 | mg/kg wet | 0.05000 | | 98 | 74-126 | | | |
| sec-Butylbenzene | 0.0505 | 0.0050 | mg/kg wet | 0.05000 | | 101 | 66-131 | | | |
| Styrene | 0.0506 | 0.0050 | mg/kg wet | 0.05000 | | 101 | 77-121 | | | |
| tert-Butylbenzene | 0.0493 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 67-132 | | | |
| Tetrachloroethylene | 0.0477 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 68-130 | | | |
| Toluene | 0.0478 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 71-129 | | | |
| trans-1,2-Dichloroethylene | 0.0483 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 73-132 | | | |
| trans-1,3-Dichloropropylene | 0.0473 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 68-123 | | | |
| Trichloroethylene | 0.0482 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 75-133 | | | |
| Trichlorofluoromethane | 0.0549 | 0.0050 | mg/kg wet | 0.05000 | | 110 | 44-146 | | | |
| Vinyl acetate | 0.0538 | 0.025 | mg/kg wet | 0.05000 | | 108 | 85-161 | | | |
| Vinyl chloride | 0.0505 | 0.0050 | mg/kg wet | 0.05000 | | 101 | 48-147 | | | |
| Xylenes, total | 0.149 | 0.015 | mg/kg wet | 0.1500 | | 99 | 74-126 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *50.4* | | *ug/L* | *50.00* | | *101* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *48.2* | | *ug/L* | *50.00* | | *96* | *84-123* | | | |
| *Surrogate: Toluene-d8* | *49.8* | | *ug/L* | *50.00* | | *100* | *76-129* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Volatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0297 - 5035** | | | | | | | | | | |
| **LCS Dup (P7C0297-BSD1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| 1,1,1,2-Tetrachloroethane | 0.0462 | 0.0050 | mg/kg wet | 0.05000 | | 92 | 72-115 | 3 | 20 | |
| 1,1,1-Trichloroethane | 0.0477 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 67-131 | 7 | 20 | |
| 1,1,2,2-Tetrachloroethane | 0.0476 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 56-126 | 4 | 20 | |
| 1,1,2-Trichloroethane | 0.0469 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 70-133 | 4 | 20 | |
| 1,1-Dichloroethane | 0.0443 | 0.0050 | mg/kg wet | 0.05000 | | 89 | 74-127 | 5 | 20 | |
| 1,1-Dichloroethylene | 0.0446 | 0.0050 | mg/kg wet | 0.05000 | | 89 | 67-149 | 8 | 20 | |
| 1,1-Dichloropropylene | 0.0464 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 71-130 | 7 | 20 | |
| 1,2,3-Trichlorobenzene | 0.0483 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 68-130 | 3 | 20 | |
| 1,2,3-Trichloropropane | 0.0475 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 60-137 | 5 | 20 | |
| 1,2,4-Trichlorobenzene | 0.0490 | 0.0050 | mg/kg wet | 0.05000 | | 98 | 66-125 | 3 | 20 | |
| 1,2,4-Trimethylbenzene | 0.0486 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 69-129 | 5 | 20 | |
| 1,2-Dibromoethane | 0.0493 | 0.0050 | mg/kg wet | 0.05000 | | 99 | 70-132 | 4 | 20 | |
| 1,2-Dichlorobenzene | 0.0485 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 72-123 | 4 | 20 | |
| 1,2-Dichloroethane | 0.0445 | 0.0050 | mg/kg wet | 0.05000 | | 89 | 68-128 | 5 | 20 | |
| 1,2-Dichloropropane | 0.0456 | 0.0050 | mg/kg wet | 0.05000 | | 91 | 73-130 | 3 | 20 | |
| 1,3,5-Trimethylbenzene | 0.0476 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 69-128 | 5 | 20 | |
| 1,3-Dichlorobenzene | 0.0478 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 71-120 | 4 | 20 | |
| 1,3-Dichloropropane | 0.0471 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 75-124 | 3 | 20 | |
| 1,4-Dichlorobenzene | 0.0482 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 71-123 | 4 | 20 | |
| 2,2-Dichloropropane | 0.0462 | 0.0050 | mg/kg wet | 0.05000 | | 92 | 50-142 | 6 | 20 | |
| 2-Chlorotoluene | 0.0475 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 67-124 | 4 | 20 | |
| 4-Chlorotoluene | 0.0479 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 71-126 | 4 | 20 | |
| 4-Isopropyltoluene | 0.0470 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 68-129 | 6 | 20 | |
| Acetone | 0.0932 | 0.050 | mg/kg wet | 0.1000 | | 93 | 29-198 | 6 | 20 | |
| Benzene | 0.0452 | 0.0030 | mg/kg wet | 0.05000 | | 90 | 74-127 | 5 | 20 | |
| Bromobenzene | 0.0466 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 73-125 | 4 | 20 | |
| Bromochloromethane | 0.0466 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 72-134 | 4 | 20 | |
| Bromodichloromethane | 0.0506 | 0.0050 | mg/kg wet | 0.05000 | | 101 | 75-122 | 5 | 20 | |
| Bromoform | 0.0456 | 0.0050 | mg/kg wet | 0.05000 | | 91 | 66-135 | 3 | 20 | |
| Bromomethane | 0.0494 | 0.010 | mg/kg wet | 0.05000 | | 99 | 20-180 | 4 | 20 | |
| Carbon Tetrachloride | 0.0522 | 0.0050 | mg/kg wet | 0.05000 | | 104 | 64-143 | 7 | 20 | |
| Chlorobenzene | 0.0467 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 74-118 | 5 | 20 | |
| Chloroethane | 0.0458 | 0.010 | mg/kg wet | 0.05000 | | 92 | 33-149 | 9 | 20 | |
| Chloroform | 0.0449 | 0.0050 | mg/kg wet | 0.05000 | | 90 | 73-127 | 6 | 20 | |
| Chloromethane | 0.0477 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 45-143 | 11 | 20 | |
| cis-1,2-Dichloroethylene | 0.0450 | 0.0050 | mg/kg wet | 0.05000 | | 90 | 76-134 | 5 | 20 | |
| cis-1,3-Dichloropropylene | 0.0518 | 0.0050 | mg/kg wet | 0.05000 | | 104 | 71-125 | 3 | 20 | |
| Dibromochloromethane | 0.0468 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 73-122 | 5 | 20 | |
| Dichlorodifluoromethane | 0.0451 | 0.0050 | mg/kg wet | 0.05000 | | 90 | 26-146 | 10 | 20 | |
| Ethylbenzene | 0.0467 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 74-128 | 6 | 20 | |
| Isopropyl Ether | 0.0439 | 0.0050 | mg/kg wet | 0.05000 | | 88 | 59-159 | 5 | 20 | |
| Isopropylbenzene (Cumene) | 0.0470 | 0.0050 | mg/kg wet | 0.05000 | | 94 | 68-126 | 5 | 20 | |
| m,p-Xylenes | 0.0944 | 0.010 | mg/kg wet | 0.1000 | | 94 | 75-124 | 6 | 20 | |
| Methyl Butyl Ketone (2-Hexanone) | 0.0470 | 0.050 | mg/kg wet | 0.05000 | | 94 | 61-157 | 6 | 20 | |
| Methyl Ethyl Ketone (2-Butanone) | 0.0417 | 0.10 | mg/kg wet | 0.05000 | | 83 | 63-149 | 4 | 20 | |
| Methyl Isobutyl Ketone | 0.0464 | 0.050 | mg/kg wet | 0.05000 | | 93 | 57-162 | 7 | 20 | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Volatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0297 - 5035** | | | | | | | | | | |
| **LCS Dup (P7C0297-BSD1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| Methylene Chloride | 0.0422 | 0.0050 | mg/kg wet | 0.05000 | | 84 | 74-129 | 4 | 20 | |
| Methyl-tert-Butyl Ether | 0.0479 | 0.010 | mg/kg wet | 0.05000 | | 96 | 70-130 | 2 | 20 | |
| Naphthalene | 0.0492 | 0.010 | mg/kg wet | 0.05000 | | 98 | 57-157 | 3 | 20 | |
| n-Butylbenzene | 0.0483 | 0.0050 | mg/kg wet | 0.05000 | | 97 | 65-135 | 6 | 20 | |
| n-Propylbenzene | 0.0479 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 67-130 | 5 | 20 | |
| o-Xylene | 0.0464 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 74-126 | 5 | 20 | |
| sec-Butylbenzene | 0.0475 | 0.0050 | mg/kg wet | 0.05000 | | 95 | 66-131 | 6 | 20 | |
| Styrene | 0.0479 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 77-121 | 5 | 20 | |
| tert-Butylbenzene | 0.0466 | 0.0050 | mg/kg wet | 0.05000 | | 93 | 67-132 | 6 | 20 | |
| Tetrachloroethylene | 0.0445 | 0.0050 | mg/kg wet | 0.05000 | | 89 | 68-130 | 7 | 20 | |
| Toluene | 0.0454 | 0.0050 | mg/kg wet | 0.05000 | | 91 | 71-129 | 5 | 20 | |
| trans-1,2-Dichloroethylene | 0.0451 | 0.0050 | mg/kg wet | 0.05000 | | 90 | 73-132 | 7 | 20 | |
| trans-1,3-Dichloropropylene | 0.0456 | 0.0050 | mg/kg wet | 0.05000 | | 91 | 68-123 | 4 | 20 | |
| Trichloroethylene | 0.0454 | 0.0050 | mg/kg wet | 0.05000 | | 91 | 75-133 | 6 | 20 | |
| Trichlorofluoromethane | 0.0481 | 0.0050 | mg/kg wet | 0.05000 | | 96 | 44-146 | 13 | 20 | |
| Vinyl acetate | 0.0529 | 0.025 | mg/kg wet | 0.05000 | | 106 | 85-161 | 2 | 20 | |
| Vinyl chloride | 0.0452 | 0.0050 | mg/kg wet | 0.05000 | | 90 | 48-147 | 11 | 20 | |
| Xylenes, total | 0.141 | 0.015 | mg/kg wet | 0.1500 | | 94 | 74-126 | 6 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *51.4* | | *ug/L* | *50.00* | | *103* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *48.8* | | *ug/L* | *50.00* | | *98* | *84-123* | | | |
| *Surrogate: Toluene-d8* | *49.5* | | *ug/L* | *50.00* | | *99* | *76-129* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0264 - 3546** | | | | | | | | | | |
| **Blank (P7C0264-BLK1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| 1,2,4-Trichlorobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 1,2-Dichlorobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 1,3-Dichlorobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 1,4-Dichlorobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 1-Methylnaphthalene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2,4,6-Trichlorophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2,4-Dichlorophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2,4-Dimethylphenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2,4-Dinitrophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2,4-Dinitrotoluene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2,6-Dinitrotoluene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2-Chloronaphthalene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2-Chlorophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2-Methylnaphthalene | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2-Methylphenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 2-Nitrophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 3,3'-Dichlorobenzidine | BRL | 0.33 | mg/kg wet | | | | | | | |
| 3/4-Methylphenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 4,6-Dinitro-2-methylphenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 4-Bromophenyl phenyl ether | BRL | 0.33 | mg/kg wet | | | | | | | |
| 4-Chloro-3-methylphenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| 4-Chloroaniline | BRL | 0.33 | mg/kg wet | | | | | | | |
| 4-Chlorophenyl phenyl ether | BRL | 0.33 | mg/kg wet | | | | | | | |
| 4-Nitrophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| Acenaphthene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Acenaphthylene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Anthracene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Azobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzo(a)anthracene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzo(a)pyrene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzo(b)fluoranthene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzo(g,h,i)perylene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzo(k)fluoranthene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzoic Acid | BRL | 0.33 | mg/kg wet | | | | | | | |
| Benzyl alcohol | BRL | 0.33 | mg/kg wet | | | | | | | |
| bis(2-Chloroethoxy)methane | BRL | 0.33 | mg/kg wet | | | | | | | |
| Bis(2-Chloroethyl)ether | BRL | 0.33 | mg/kg wet | | | | | | | |
| Bis(2-chloroisopropyl)ether | BRL | 0.33 | mg/kg wet | | | | | | | |
| Bis(2-Ethylhexyl)phthalate | BRL | 0.33 | mg/kg wet | | | | | | | |
| Butyl benzyl phthalate | BRL | 0.33 | mg/kg wet | | | | | | | |
| Chrysene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Dibenzo(a,h)anthracene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Dibenzofuran | BRL | 0.33 | mg/kg wet | | | | | | | |
| Diethyl phthalate | BRL | 0.33 | mg/kg wet | | | | | | | |
| Dimethyl phthalate | BRL | 0.33 | mg/kg wet | | | | | | | |
| Di-n-butyl phthalate | BRL | 0.33 | mg/kg wet | | | | | | | |

Hart & Hickman (Raleigh)
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3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0264 - 3546** | | | | | | | | | | |
| **Blank (P7C0264-BLK1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| Di-n-octyl phthalate | BRL | 0.33 | mg/kg wet | | | | | | | |
| Fluoranthene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Fluorene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Hexachlorobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Hexachlorobutadiene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Hexachlorocyclopentadiene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Hexachloroethane | BRL | 0.33 | mg/kg wet | | | | | | | |
| Indeno(1,2,3-cd)pyrene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Isophorone | BRL | 0.33 | mg/kg wet | | | | | | | |
| Naphthalene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Nitrobenzene | BRL | 0.33 | mg/kg wet | | | | | | | |
| N-Nitroso-di-n-propylamine | BRL | 0.33 | mg/kg wet | | | | | | | |
| N-Nitrosodiphenylamine | BRL | 0.33 | mg/kg wet | | | | | | | |
| Pentachlorophenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| Phenanthrene | BRL | 0.33 | mg/kg wet | | | | | | | |
| Phenol | BRL | 0.33 | mg/kg wet | | | | | | | |
| Pyrene | BRL | 0.33 | mg/kg wet | | | | | | | |
| *Surrogate: 2,4,6-Tribromophenol* | *3.08* | | *mg/kg wet* | *3.333* | | *92* | *39-132* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *1.42* | | *mg/kg wet* | *1.667* | | *85* | *44-115* | | | |
| *Surrogate: 2-Fluorophenol* | *3.07* | | *mg/kg wet* | *3.333* | | *92* | *35-115* | | | |
| *Surrogate: Nitrobenzene-d5* | *1.36* | | *mg/kg wet* | *1.667* | | *81* | *37-122* | | | |
| *Surrogate: Phenol-d5* | *2.91* | | *mg/kg wet* | *3.333* | | *87* | *34-121* | | | |
| *Surrogate: Terphenyl-d14* | *1.80* | | *mg/kg wet* | *1.667* | | *108* | *54-127* | | | |
| **LCS (P7C0264-BS1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| 1,2,4-Trichlorobenzene | 1.14 | 0.33 | mg/kg wet | 1.667 | | 68 | 34-118 | | | |
| 1,2-Dichlorobenzene | 1.16 | 0.33 | mg/kg wet | 1.667 | | 70 | 33-117 | | | |
| 1,3-Dichlorobenzene | 1.17 | 0.33 | mg/kg wet | 1.667 | | 70 | 30-115 | | | |
| 1,4-Dichlorobenzene | 1.13 | 0.33 | mg/kg wet | 1.667 | | 68 | 31-115 | | | |
| 1-Methylnaphthalene | 1.27 | 0.33 | mg/kg wet | 1.667 | | 76 | 40-119 | | | |
| 2,4,6-Trichlorophenol | 1.45 | 0.33 | mg/kg wet | 1.667 | | 87 | 39-126 | | | |
| 2,4-Dichlorophenol | 1.27 | 0.33 | mg/kg wet | 1.667 | | 76 | 40-122 | | | |
| 2,4-Dimethylphenol | 1.49 | 0.33 | mg/kg wet | 1.667 | | 90 | 30-127 | | | |
| 2,4-Dinitrophenol | 1.76 | 0.33 | mg/kg wet | 1.667 | | 106 | 27-129 | | | |
| 2,4-Dinitrotoluene | 1.56 | 0.33 | mg/kg wet | 1.667 | | 94 | 48-126 | | | |
| 2,6-Dinitrotoluene | 1.55 | 0.33 | mg/kg wet | 1.667 | | 93 | 46-124 | | | |
| 2-Chloronaphthalene | 1.36 | 0.33 | mg/kg wet | 1.667 | | 82 | 41-114 | | | |
| 2-Chlorophenol | 1.41 | 0.33 | mg/kg wet | 1.667 | | 84 | 34-121 | | | |
| 2-Methylnaphthalene | 1.23 | 0.33 | mg/kg wet | 1.667 | | 74 | 38-122 | | | |
| 2-Methylphenol | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 32-122 | | | |
| 2-Nitrophenol | 1.22 | 0.33 | mg/kg wet | 1.667 | | 73 | 36-123 | | | |
| 3,3'-Dichlorobenzidine | 1.32 | 0.33 | mg/kg wet | 1.667 | | 79 | 22-121 | | | |
| 3/4-Methylphenol | 1.30 | 0.33 | mg/kg wet | 1.667 | | 78 | 34-119 | | | |
| 4,6-Dinitro-2-methylphenol | 1.51 | 0.33 | mg/kg wet | 1.667 | | 90 | 29-132 | | | |
| 4-Bromophenyl phenyl ether | 1.52 | 0.33 | mg/kg wet | 1.667 | | 91 | 46-124 | | | |
| 4-Chloro-3-methylphenol | 1.38 | 0.33 | mg/kg wet | 1.667 | | 83 | 45-122 | | | |
| 4-Chloroaniline | 1.07 | 0.33 | mg/kg wet | 1.667 | | 64 | 17-106 | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0264 - 3546** | | | | | | | | | | |
| **LCS (P7C0264-BS1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| 4-Chlorophenyl phenyl ether | 1.43 | 0.33 | mg/kg wet | 1.667 | | 86 | 45-121 | | | |
| 4-Nitrophenol | 1.50 | 0.33 | mg/kg wet | 1.667 | | 90 | 30-132 | | | |
| Acenaphthene | 1.47 | 0.33 | mg/kg wet | 1.667 | | 88 | 40-123 | | | |
| Acenaphthylene | 1.41 | 0.33 | mg/kg wet | 1.667 | | 84 | 32-132 | | | |
| Anthracene | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 47-123 | | | |
| Azobenzene | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 39-125 | | | |
| Benzo(a)anthracene | 1.54 | 0.33 | mg/kg wet | 1.667 | | 92 | 49-126 | | | |
| Benzo(a)pyrene | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 45-129 | | | |
| Benzo(b)fluoranthene | 1.55 | 0.33 | mg/kg wet | 1.667 | | 93 | 45-132 | | | |
| Benzo(g,h,i)perylene | 1.51 | 0.33 | mg/kg wet | 1.667 | | 90 | 43-134 | | | |
| Benzo(k)fluoranthene | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 47-132 | | | |
| Benzoic Acid | 0.936 | 0.33 | mg/kg wet | 1.667 | | 56 | 10-83 | | | |
| Benzyl alcohol | 1.34 | 0.33 | mg/kg wet | 1.667 | | 81 | 29-122 | | | |
| bis(2-Chloroethoxy)methane | 1.21 | 0.33 | mg/kg wet | 1.667 | | 73 | 36-121 | | | |
| Bis(2-Chloroethyl)ether | 3.02 | 0.33 | mg/kg wet | 1.667 | | 181 | 31-120 | | | L1 |
| Bis(2-chloroisopropyl)ether | 1.19 | 0.33 | mg/kg wet | 1.667 | | 72 | 33-131 | | | |
| Bis(2-Ethylhexyl)phthalate | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 51-133 | | | |
| Butyl benzyl phthalate | 1.55 | 0.33 | mg/kg wet | 1.667 | | 93 | 48-132 | | | |
| Chrysene | 1.72 | 0.33 | mg/kg wet | 1.667 | | 103 | 50-124 | | | |
| Dibenzo(a,h)anthracene | 1.36 | 0.33 | mg/kg wet | 1.667 | | 82 | 45-134 | | | |
| Dibenzofuran | 1.47 | 0.33 | mg/kg wet | 1.667 | | 88 | 44-120 | | | |
| Diethyl phthalate | 1.51 | 0.33 | mg/kg wet | 1.667 | | 90 | 50-124 | | | |
| Dimethyl phthalate | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 48-124 | | | |
| Di-n-butyl phthalate | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 51-128 | | | |
| Di-n-octyl phthalate | 1.54 | 0.33 | mg/kg wet | 1.667 | | 93 | 45-140 | | | |
| Fluoranthene | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 50-127 | | | |
| Fluorene | 1.45 | 0.33 | mg/kg wet | 1.667 | | 87 | 43-125 | | | |
| Hexachlorobenzene | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 45-122 | | | |
| Hexachlorobutadiene | 1.25 | 0.33 | mg/kg wet | 1.667 | | 75 | 32-123 | | | |
| Hexachlorocyclopentadiene | 1.04 | 0.33 | mg/kg wet | 1.667 | | 63 | 32-117 | | | |
| Hexachloroethane | 1.16 | 0.33 | mg/kg wet | 1.667 | | 69 | 28-117 | | | |
| Indeno(1,2,3-cd)pyrene | 1.74 | 0.33 | mg/kg wet | 1.667 | | 104 | 45-133 | | | |
| Isophorone | 1.30 | 0.33 | mg/kg wet | 1.667 | | 78 | 30-122 | | | |
| Naphthalene | 1.18 | 0.33 | mg/kg wet | 1.667 | | 71 | 35-123 | | | |
| Nitrobenzene | 1.22 | 0.33 | mg/kg wet | 1.667 | | 73 | 34-122 | | | |
| N-Nitroso-di-n-propylamine | 1.28 | 0.33 | mg/kg wet | 1.667 | | 77 | 36-120 | | | |
| N-Nitrosodiphenylamine | 1.79 | 0.33 | mg/kg wet | 1.667 | | 107 | 38-127 | | | |
| Pentachlorophenol | 1.78 | 0.33 | mg/kg wet | 1.667 | | 107 | 25-133 | | | |
| Phenanthrene | 1.50 | 0.33 | mg/kg wet | 1.667 | | 90 | 50-121 | | | |
| Phenol | 1.42 | 0.33 | mg/kg wet | 1.667 | | 85 | 34-121 | | | |
| Pyrene | 1.50 | 0.33 | mg/kg wet | 1.667 | | 90 | 47-127 | | | |
| *Surrogate: 2,4,6-Tribromophenol* | *3.05* | | *mg/kg wet* | *3.333* | | *91* | *39-132* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *1.43* | | *mg/kg wet* | *1.667* | | *86* | *44-115* | | | |
| *Surrogate: 2-Fluorophenol* | *2.89* | | *mg/kg wet* | *3.333* | | *87* | *35-115* | | | |
| *Surrogate: Nitrobenzene-d5* | *1.19* | | *mg/kg wet* | *1.667* | | *71* | *37-122* | | | |
| *Surrogate: Phenol-d5* | *2.77* | | *mg/kg wet* | *3.333* | | *83* | *34-121* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0264 - 3546** | | | | | | | | | | |
| **LCS (P7C0264-BS1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| *Surrogate: Terphenyl-d14* | *1.71* | | *mg/kg wet* | *1.667* | | *103* | *54-127* | | | |
| **LCS Dup (P7C0264-BSD1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| 1,2,4-Trichlorobenzene | 1.13 | 0.33 | mg/kg wet | 1.667 | | 68 | 34-118 | 0.6 | 20 | |
| 1,2-Dichlorobenzene | 1.18 | 0.33 | mg/kg wet | 1.667 | | 71 | 33-117 | 2 | 20 | |
| 1,3-Dichlorobenzene | 1.17 | 0.33 | mg/kg wet | 1.667 | | 70 | 30-115 | 0.6 | 20 | |
| 1,4-Dichlorobenzene | 1.18 | 0.33 | mg/kg wet | 1.667 | | 71 | 31-115 | 4 | 20 | |
| 1-Methylnaphthalene | 1.25 | 0.33 | mg/kg wet | 1.667 | | 75 | 40-119 | 2 | 20 | |
| 2,4,6-Trichlorophenol | 1.51 | 0.33 | mg/kg wet | 1.667 | | 91 | 39-126 | 4 | 20 | |
| 2,4-Dichlorophenol | 1.24 | 0.33 | mg/kg wet | 1.667 | | 74 | 40-122 | 3 | 20 | |
| 2,4-Dimethylphenol | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 30-127 | 1 | 20 | |
| 2,4-Dinitrophenol | 1.78 | 0.33 | mg/kg wet | 1.667 | | 107 | 27-129 | 1 | 20 | |
| 2,4-Dinitrotoluene | 1.57 | 0.33 | mg/kg wet | 1.667 | | 94 | 48-126 | 0.3 | 20 | |
| 2,6-Dinitrotoluene | 1.55 | 0.33 | mg/kg wet | 1.667 | | 93 | 46-124 | 0.06 | 20 | |
| 2-Chloronaphthalene | 1.37 | 0.33 | mg/kg wet | 1.667 | | 82 | 41-114 | 0.7 | 20 | |
| 2-Chlorophenol | 1.40 | 0.33 | mg/kg wet | 1.667 | | 84 | 34-121 | 0.7 | 20 | |
| 2-Methylnaphthalene | 1.21 | 0.33 | mg/kg wet | 1.667 | | 73 | 38-122 | 2 | 20 | |
| 2-Methylphenol | 1.44 | 0.33 | mg/kg wet | 1.667 | | 86 | 32-122 | 3 | 20 | |
| 2-Nitrophenol | 1.26 | 0.33 | mg/kg wet | 1.667 | | 76 | 36-123 | 4 | 20 | |
| 3,3'-Dichlorobenzidine | 1.32 | 0.33 | mg/kg wet | 1.667 | | 79 | 22-121 | 0 | 20 | |
| 3/4-Methylphenol | 1.29 | 0.33 | mg/kg wet | 1.667 | | 77 | 34-119 | 0.6 | 20 | |
| 4,6-Dinitro-2-methylphenol | 1.49 | 0.33 | mg/kg wet | 1.667 | | 89 | 29-132 | 1 | 20 | |
| 4-Bromophenyl phenyl ether | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 46-124 | 3 | 20 | |
| 4-Chloro-3-methylphenol | 1.38 | 0.33 | mg/kg wet | 1.667 | | 83 | 45-122 | 0.3 | 20 | |
| 4-Chloroaniline | 1.04 | 0.33 | mg/kg wet | 1.667 | | 62 | 17-106 | 3 | 20 | |
| 4-Chlorophenyl phenyl ether | 1.45 | 0.33 | mg/kg wet | 1.667 | | 87 | 45-121 | 1 | 20 | |
| 4-Nitrophenol | 1.56 | 0.33 | mg/kg wet | 1.667 | | 93 | 30-132 | 4 | 20 | |
| Acenaphthene | 1.49 | 0.33 | mg/kg wet | 1.667 | | 89 | 40-123 | 1 | 20 | |
| Acenaphthylene | 1.42 | 0.33 | mg/kg wet | 1.667 | | 85 | 32-132 | 1 | 20 | |
| Anthracene | 1.55 | 0.33 | mg/kg wet | 1.667 | | 93 | 47-123 | 1 | 20 | |
| Azobenzene | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 39-125 | 0.04 | 20 | |
| Benzo(a)anthracene | 1.51 | 0.33 | mg/kg wet | 1.667 | | 90 | 49-126 | 2 | 20 | |
| Benzo(a)pyrene | 1.51 | 0.33 | mg/kg wet | 1.667 | | 91 | 45-129 | 1 | 20 | |
| Benzo(b)fluoranthene | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 45-132 | 1 | 20 | |
| Benzo(g,h,i)perylene | 1.50 | 0.33 | mg/kg wet | 1.667 | | 90 | 43-134 | 0.7 | 20 | |
| Benzo(k)fluoranthene | 1.51 | 0.33 | mg/kg wet | 1.667 | | 90 | 47-132 | 1 | 20 | |
| Benzoic Acid | 0.884 | 0.33 | mg/kg wet | 1.667 | | 53 | 10-83 | 6 | 20 | |
| Benzyl alcohol | 1.37 | 0.33 | mg/kg wet | 1.667 | | 82 | 29-122 | 2 | 20 | |
| bis(2-Chloroethoxy)methane | 1.20 | 0.33 | mg/kg wet | 1.667 | | 72 | 36-121 | 1 | 20 | |
| Bis(2-Chloroethyl)ether | 1.39 | 0.33 | mg/kg wet | 1.667 | | 83 | 31-120 | 74 | 20 | D |
| Bis(2-chloroisopropyl)ether | 1.20 | 0.33 | mg/kg wet | 1.667 | | 72 | 33-131 | 0.1 | 20 | |
| Bis(2-Ethylhexyl)phthalate | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 51-133 | 0.1 | 20 | |
| Butyl benzyl phthalate | 1.50 | 0.33 | mg/kg wet | 1.667 | | 90 | 48-132 | 3 | 20 | |
| Chrysene | 1.69 | 0.33 | mg/kg wet | 1.667 | | 101 | 50-124 | 2 | 20 | |
| Dibenzo(a,h)anthracene | 1.06 | 0.33 | mg/kg wet | 1.667 | | 64 | 45-134 | 25 | 20 | D |
| Dibenzofuran | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 44-120 | 0.9 | 20 | |
| Diethyl phthalate | 1.55 | 0.33 | mg/kg wet | 1.667 | | 93 | 50-124 | 3 | 20 | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0264 - 3546** | | | | | | | | | | |
| **LCS Dup (P7C0264-BSD1)** | | | | Prepared & Analyzed: 03/16/17 | | | | | | |
| Dimethyl phthalate | 1.54 | 0.33 | mg/kg wet | 1.667 | | 93 | 48-124 | 0.7 | 20 | |
| Di-n-butyl phthalate | 1.51 | 0.33 | mg/kg wet | 1.667 | | 90 | 51-128 | 2 | 20 | |
| Di-n-octyl phthalate | 1.53 | 0.33 | mg/kg wet | 1.667 | | 92 | 45-140 | 0.7 | 20 | |
| Fluoranthene | 1.50 | 0.33 | mg/kg wet | 1.667 | | 90 | 50-127 | 2 | 20 | |
| Fluorene | 1.48 | 0.33 | mg/kg wet | 1.667 | | 89 | 43-125 | 2 | 20 | |
| Hexachlorobenzene | 1.47 | 0.33 | mg/kg wet | 1.667 | | 88 | 45-122 | 0.6 | 20 | |
| Hexachlorobutadiene | 1.25 | 0.33 | mg/kg wet | 1.667 | | 75 | 32-123 | 0.7 | 20 | |
| Hexachlorocyclopentadiene | 1.05 | 0.33 | mg/kg wet | 1.667 | | 63 | 32-117 | 0.8 | 20 | |
| Hexachloroethane | 1.13 | 0.33 | mg/kg wet | 1.667 | | 68 | 28-117 | 2 | 20 | |
| Indeno(1,2,3-cd)pyrene | 1.67 | 0.33 | mg/kg wet | 1.667 | | 100 | 45-133 | 4 | 20 | |
| Isophorone | 1.27 | 0.33 | mg/kg wet | 1.667 | | 76 | 30-122 | 2 | 20 | |
| Naphthalene | 1.17 | 0.33 | mg/kg wet | 1.667 | | 70 | 35-123 | 0.4 | 20 | |
| Nitrobenzene | 1.23 | 0.33 | mg/kg wet | 1.667 | | 74 | 34-122 | 0.6 | 20 | |
| N-Nitroso-di-n-propylamine | 1.26 | 0.33 | mg/kg wet | 1.667 | | 76 | 36-120 | 1 | 20 | |
| N-Nitrosodiphenylamine | 1.84 | 0.33 | mg/kg wet | 1.667 | | 110 | 38-127 | 3 | 20 | |
| Pentachlorophenol | 1.83 | 0.33 | mg/kg wet | 1.667 | | 110 | 25-133 | 3 | 20 | |
| Phenanthrene | 1.52 | 0.33 | mg/kg wet | 1.667 | | 91 | 50-121 | 2 | 20 | |
| Phenol | 1.41 | 0.33 | mg/kg wet | 1.667 | | 85 | 34-121 | 0.2 | 20 | |
| Pyrene | 1.51 | 0.33 | mg/kg wet | 1.667 | | 91 | 47-127 | 0.6 | 20 | |
| *Surrogate: 2,4,6-Tribromophenol* | *3.10* | | *mg/kg wet* | *3.333* | | *93* | *39-132* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *1.41* | | *mg/kg wet* | *1.667* | | *85* | *44-115* | | | |
| *Surrogate: 2-Fluorophenol* | *2.80* | | *mg/kg wet* | *3.333* | | *84* | *35-115* | | | |
| *Surrogate: Nitrobenzene-d5* | *1.16* | | *mg/kg wet* | *1.667* | | *70* | *37-122* | | | |
| *Surrogate: Phenol-d5* | *2.70* | | *mg/kg wet* | *3.333* | | *81* | *34-121* | | | |
| *Surrogate: Terphenyl-d14* | *1.69* | | *mg/kg wet* | *1.667* | | *101* | *54-127* | | | |



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Volatile Petroleum Hydrocarbons by GC/PID/FID - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0299 - MADEP VPH (S)** | | | | | | | | | | |
| **Blank (P7C0299-BLK1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| C5-C8 Aliphatics | BRL | 5.0 | mg/kg wet | | | | | | | |
| C9-C12 Aliphatics | BRL | 5.0 | mg/kg wet | | | | | | | |
| C9-C10 Aromatics | BRL | 5.0 | mg/kg wet | | | | | | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *9.94* | | *mg/kg wet* | *10.67* | | *93* | *70-130* | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *9.76* | | *mg/kg wet* | *10.67* | | *91* | *70-130* | | | |
| **LCS (P7C0299-BS1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| C5-C8 Aliphatics | 36.4 | 5.0 | mg/kg wet | 32.00 | | 114 | 70-130 | | | |
| C9-C10 Aromatics | 10.6 | 5.0 | mg/kg wet | 10.67 | | 99 | 70-130 | | | |
| C9-C12 Aliphatic | 33.5 | 5.0 | mg/kg wet | 32.00 | | 105 | 70-130 | | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *9.98* | | *mg/kg wet* | *10.67* | | *94* | *70-130* | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *9.73* | | *mg/kg wet* | *10.67* | | *91* | *70-130* | | | |
| **LCS Dup (P7C0299-BSD1)** | | | | Prepared & Analyzed: 03/17/17 | | | | | | |
| C5-C8 Aliphatics | 37.1 | 5.0 | mg/kg wet | 32.00 | | 116 | 70-130 | 2 | 50 | |
| C9-C10 Aromatics | 10.7 | 5.0 | mg/kg wet | 10.67 | | 101 | 70-130 | 1 | 50 | |
| C9-C12 Aliphatic | 33.7 | 5.0 | mg/kg wet | 32.00 | | 105 | 70-130 | 0.8 | 50 | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *10.1* | | *mg/kg wet* | *10.67* | | *95* | *70-130* | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *9.88* | | *mg/kg wet* | *10.67* | | *93* | *70-130* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
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Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**Extractable Petroleum Hydrocarbons by GC/FID - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0256 - 3546** | | | | | | | | | | |
| **Blank (P7C0256-BLK1)** | | | | Prepared: 03/15/17 Analyzed: 03/16/17 | | | | | | |
| C9-C18 Aliphatics | BRL | 25 | mg/kg wet | | | | | | | |
| C19-C36 Aliphatics | BRL | 25 | mg/kg wet | | | | | | | |
| C11-C22 Aromatics | BRL | 10 | mg/kg wet | | | | | | | |
| *Surrogate: 1-Chlorooctadecane* | *1.58* | | *mg/kg wet* | *2.000* | | *79* | *40-140* | | | |
| *Surrogate: o-Terphenyl* | *1.72* | | *mg/kg wet* | *2.000* | | *86* | *40-140* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *3.39* | | *mg/kg wet* | *4.000* | | *85* | *40-140* | | | |
| *Surrogate: 2-Bromonaphthalene* | *4.14* | | *mg/kg wet* | *4.000* | | *103* | *40-140* | | | |
| **LCS (P7C0256-BS1)** | | | | Prepared: 03/15/17 Analyzed: 03/16/17 | | | | | | |
| C9-C18 Aliphatics | 30.6 | 25 | mg/kg wet | 60.00 | | 51 | 40-140 | | | |
| C19-C36 Aliphatics | 55.3 | 25 | mg/kg wet | 80.00 | | 69 | 40-140 | | | |
| C11-C22 Aromatics | 147 | 10 | mg/kg wet | 170.0 | | 86 | 40-140 | | | |
| *Surrogate: 1-Chlorooctadecane* | *1.60* | | *mg/kg wet* | *2.000* | | *80* | *40-140* | | | |
| *Surrogate: o-Terphenyl* | *1.73* | | *mg/kg wet* | *2.000* | | *86* | *40-140* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *3.71* | | *mg/kg wet* | *4.000* | | *93* | *40-140* | | | |
| *Surrogate: 2-Bromonaphthalene* | *4.38* | | *mg/kg wet* | *4.000* | | *109* | *40-140* | | | |
| **LCS Dup (P7C0256-BSD1)** | | | | Prepared: 03/15/17 Analyzed: 03/16/17 | | | | | | |
| C9-C18 Aliphatics | 31.8 | 25 | mg/kg wet | 60.00 | | 53 | 40-140 | 4 | 50 | |
| C19-C36 Aliphatics | 54.8 | 25 | mg/kg wet | 80.00 | | 69 | 40-140 | 0.9 | 50 | |
| C11-C22 Aromatics | 138 | 10 | mg/kg wet | 170.0 | | 81 | 40-140 | 6 | 50 | |
| *Surrogate: 1-Chlorooctadecane* | *1.63* | | *mg/kg wet* | *2.000* | | *82* | *40-140* | | | |
| *Surrogate: o-Terphenyl* | *1.66* | | *mg/kg wet* | *2.000* | | *83* | *40-140* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *3.53* | | *mg/kg wet* | *4.000* | | *88* | *40-140* | | | |
| *Surrogate: 2-Bromonaphthalene* | *4.09* | | *mg/kg wet* | *4.000* | | *102* | *40-140* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCLT.003
Project No: TCLT.003

Prism Work Order: 7030286
Time Submitted: 3/16/2017 8:00:00AM

**General Chemistry Parameters - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7C0309 - Solids, Dry Weight** | | | | | | | | | | |
| **Duplicate (P7C0309-DUP1)** | | | **Source: 7030286-01** | Prepared & Analyzed: 03/17/17 | | | | | | |
| % Solids | 79.0 | 0.100 | % by Weight | | 78.0 | | | 1 | 20 | |

## Sample Extraction Data

**Prep Method: 3546**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7030286-01 | P7C0256 | 10.05 g | 2 mL | 03/16/17 11:30 |

**Prep Method: Solids, Dry Weight**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7030286-01 | P7C0309 | 30 g | 30 g | 03/17/17 16:00 |

**Prep Method: 3546**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7030286-01 | P7C0264 | 30.07 g | 1 mL | 03/16/17 11:30 |

**Prep Method: 5035**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7030286-01 | P7C0297 | 6.11 g | 5 mL | 03/17/17 9:52 |

**Prep Method: MADEP VPH (S)**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7030286-01 | P7C0299 | 28.45 g | 16 mL | 03/17/17 14:47 |

# CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: Town of Chapel Hill - American Legion
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Client Company Name: Hart & Hickman
Report To/Contact Name: Joe Starr
Reporting Address: 3334 Hillsborough St. Raleigh, NC 27607
Phone: 919-847-4241 Fax (Yes) (No): _____
Email Address: JStarr@harthickman.com
EDD Type: PDF X Excel X Other _____
Site Location Name: American Legion
Site Location Physical Address: 1714 Legion Rd Chapel Hill, NC

Invoice To: accountspayable@harthickman.com
Address: 2923 S. Tryon St Charlotte, NC 28203
Purchase Order No./Billing Reference TCH.003

Requested Due Date ☐ 1 Day ☑ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

**LAB USE ONLY**

| | YES | NO | N/A |
|---|---|---|---|
| Samples INTACT upon arrival? | ✓ | | |
| Received ON WET ICE? | ✓ | | |
| PROPER PRESERVATIVES indicated? | | | |
| Received WITHIN HOLDING TIMES? | ✓ | | |
| CUSTODY SEALS INTACT? | | | ✓ |
| VOLATILES rec'd W/OUT HEADSPACE? | ✓ | | ✓ |
| PROPER CONTAINERS used? | | | |

TEMP: Therm ID: INT-4 Observed: 3.2 °C / Corr: 2.5 °C

**TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL**

Certification: NELAC____ DoD____ FL____ NC X____
SC____ OTHER_____ N/A_____
Water Chlorinated: YES___ NO___
Sample Iced Upon Collection: YES X NO___

| CLIENT SAMPLE DESCRIPTION | DATE COLLECTED | TIME COLLECTED MILITARY HOURS | MATRIX (SOIL, WATER OR SLUDGE) | SAMPLE CONTAINER *TYPE SEE BELOW | NO. | SIZE | PRESERVATIVES | ANALYSIS REQUESTED 8260 | 8270 | VPH | EPH | | | REMARKS | PRISM LAB ID NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-5 | 3-15-17 | 1740 | Soil | VOAs, A | 8 | | Sodium Bisulfate preserved / Soil on ice. | X | X | X | X | | | | 01 |
| | | | | | | | | | | | | | | | |
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PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature _____ Sampled By (Print Name) Jeffrey Ollison Affiliation Hart

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

| | | Date | Military/Hours |
|---|---|---|---|
| Relinquished By: (Signature) | Received By: (Signature) | 3/15/17 | 17:53 |
| Relinquished By: (Signature) | Received By: (Signature) | 3/16/17 | 0640 |
| Relinquished By: (Signature) | Received For Prism Laboratories By: | 3/16/17 | 0800 |

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other Brandt 1-Cooler

COC Group No. 7030286

Additional Comments:

**PRISM USE ONLY**
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

| NPDES: | UST: | GROUNDWATER: | DRINKING WATER: | SOLID WASTE: | RCRA: | CERCLA | LANDFILL | OTHER: |
|---|---|---|---|---|---|---|---|---|
| ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC |
| ☐ _____ | ☐ _____ | ☐ _____ | ☐ _____ | ☐ _____ | ☐ _____ | ☐ _____ | ☐ _____ | ☐ _____ |

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
NC Drinking Water Cert No. 37735
SC Certification No. 99012

# Case Narrative

05/26/2017

Hart & Hickman (Raleigh)
Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill TCH.003
Project No.: TCLT.003
Lab Submittal Date: 05/18/2017
Prism Work Order: 7050329

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

**PRISM LABORATORIES, INC.**

Robbi A. Jones

President/Project Manager

Reviewed By Robbi A. Jones

President/Project Manager

**Data Qualifiers Key Reference:**

| | |
|---|---|
| CCV | CCV result is above the control limits. Analyte not detected in the sample. No further action taken. |
| D | RPD value outside of the control limits. |
| J | Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). |
| L | Parameter reported with possible low bias. LCS recovery below the QC limit. |
| L1 | LCS recovery outside of the QC limits. LCSD recovery within the limits. No further action taken. |
| BRL | Below Reporting Limit |
| MDL | Method Detection Limit |
| RPD | Relative Percent Difference |
| * | Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J. |

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

# Sample Receipt Summary

05/26/2017

Prism Work Order: 7050329

| Client Sample ID | Lab Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB-6 | 7050329-01 | Solid | 05/16/17 | 05/18/17 |
| SB-7 | 7050329-02 | Solid | 05/16/17 | 05/18/17 |
| SB-8 | 7050329-03 | Solid | 05/16/17 | 05/18/17 |
| TMW-1 | 7050329-04 | Water | 05/16/17 | 05/18/17 |

Samples were received in good condition at 3.0 degrees C unless otherwise noted.



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

# Summary of Detections

05/26/2017

Prism Work Order: 7050329

| Prism ID | Client ID | Parameter | Method | Result | Units |
|---|---|---|---|---|---|
| 7050329-01 | SB-6 | Diesel Range Organics | *8015C | 9.9 | mg/kg dry |
| 7050329-02 | SB-7 | Diesel Range Organics | *8015C | 14 | mg/kg dry |
| 7050329-04 | TMW-1 | Unknown 1 | 625 | 25 | ug/L |



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
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Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-6
Prism Sample ID: 7050329-01
Prism Work Order: 7050329
Time Collected: 05/16/17 10:10
Time Submitted: 05/18/17 08:40

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| **Diesel Range Organics by GC/FID** | | | | | | | | | |
| **Diesel Range Organics** | **9.9** | **mg/kg dry** | **8.2** | **3.2** | **1** | ***8015C** | **5/18/17 21:38** | **ZRC** | **P7E0349** |
| | | | Surrogate | | | Recovery | | Control Limits | |
| | | | o-Terphenyl | | | *92 %* | | *49-124* | |
| **General Chemistry Parameters** | | | | | | | | | |
| **% Solids** | **83.2** | **% by Weight** | **0.100** | **0.100** | **1** | ***SM2540 G** | **5/18/17 16:45** | **JLB** | **P7E0377** |



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-7
Prism Sample ID: 7050329-02
Prism Work Order: 7050329
Time Collected: 05/16/17 10:35
Time Submitted: 05/18/17 08:40

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| **Diesel Range Organics by GC/FID** | | | | | | | | | |
| **Diesel Range Organics** | **14** | **mg/kg dry** | **8.6** | **3.4** | **1** | ***8015C** | **5/18/17 22:15** | **ZRC** | **P7E0349** |
| | | | Surrogate | | | Recovery | | Control Limits | |
| | | | o-Terphenyl | | | *98 %* | | *49-124* | |
| **General Chemistry Parameters** | | | | | | | | | |
| **% Solids** | **80.2** | **% by Weight** | **0.100** | **0.100** | **1** | ***SM2540 G** | **5/18/17 16:45** | **JLB** | **P7E0377** |



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No.: TCLT.003
Sample Matrix: Solid

Client Sample ID: SB-8
Prism Sample ID: 7050329-03
Prism Work Order: 7050329
Time Collected: 05/16/17 13:10
Time Submitted: 05/18/17 08:40

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| **Diesel Range Organics by GC/FID** | | | | | | | | | |
| Diesel Range Organics | BRL | mg/kg dry | 8.6 | 3.4 | 1 | *8015C | 5/18/17 22:52 | ZRC | P7E0349 |
| | | | Surrogate | | | Recovery | | Control Limits | |
| | | | o-Terphenyl | | | *92 %* | | *49-124* | |
| **General Chemistry Parameters** | | | | | | | | | |
| **% Solids** | **79.6** | **% by Weight** | **0.100** | **0.100** | **1** | ***SM2540 G** | **5/18/17 16:45** | **JLB** | **P7E0377** |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No.: TCLT.003
Sample Matrix: Water

Client Sample ID: TMW-1
Prism Sample ID: 7050329-04
Prism Work Order: 7050329
Time Collected: 05/16/17 15:00
Time Submitted: 05/18/17 08:40

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| **Extractable Petroleum Hydrocarbons by GC/FID** | | | | | | | | | |
| C9-C18 Aliphatics | BRL | ug/L | 350 | 22 | 1 | MADEP EPH | 5/24/17 17:17 | ZRC | P7E0441 |
| C19-C36 Aliphatics | BRL | ug/L | 500 | 63 | 1 | MADEP EPH | 5/24/17 17:17 | ZRC | P7E0441 |
| C11-C22 Aromatics | BRL | ug/L | 100 | 55 | 1 | MADEP EPH | 5/24/17 17:17 | ZRC | P7E0441 |

| Surrogate | Recovery | Control Limits |
|---|---|---|
| 1-Chlorooctadecane | *63 %* | *40-140* |
| o-Terphenyl | *75 %* | *40-140* |
| 2-Fluorobiphenyl | *83 %* | *40-140* |
| 2-Bromonaphthalene | *114 %* | *40-140* |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Semivolatile Organic Compounds by GC/MS** | | | | | | | | | |
| 1,2,4-Trichlorobenzene | BRL | ug/L | 10 | 1.5 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 1,2-Dichlorobenzene | BRL | ug/L | 10 | 1.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 1,3-Dichlorobenzene | BRL | ug/L | 10 | 1.3 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 1,4-Dichlorobenzene | BRL | ug/L | 10 | 1.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 1-Methylnaphthalene | BRL | ug/L | 10 | 2.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2,4,6-Trichlorophenol | BRL | ug/L | 10 | 1.9 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2,4-Dichlorophenol | BRL | ug/L | 10 | 1.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2,4-Dimethylphenol | BRL | ug/L | 10 | 2.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2,4-Dinitrophenol | BRL | ug/L | 10 | 1.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2,4-Dinitrotoluene | BRL | ug/L | 10 | 3.0 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2,6-Dinitrotoluene | BRL | ug/L | 10 | 3.0 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2-Chloronaphthalene | BRL | ug/L | 10 | 2.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2-Chlorophenol | BRL | ug/L | 10 | 1.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2-Methylnaphthalene | BRL | ug/L | 10 | 1.9 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 2-Nitrophenol | BRL | ug/L | 10 | 1.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 3,3'-Dichlorobenzidine | BRL | ug/L | 10 | 2.8 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 3/4-Methylphenol | BRL | ug/L | 10 | 1.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 4,6-Dinitro-2-methylphenol | BRL | ug/L | 10 | 1.9 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 4-Bromophenyl phenyl ether | BRL | ug/L | 10 | 3.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 4-Chloro-3-methylphenol | BRL | ug/L | 10 | 2.3 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 4-Chloroaniline | BRL | ug/L | 10 | 1.7 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 4-Chlorophenyl phenyl ether | BRL | ug/L | 10 | 2.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| 4-Nitrophenol | BRL | ug/L | 51 | 1.7 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Acenaphthene | BRL | ug/L | 10 | 2.3 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Acenaphthylene | BRL | ug/L | 10 | 2.3 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Anthracene | BRL | ug/L | 10 | 3.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzidine | BRL CCV | ug/L | 100 | 14 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzo(a)anthracene | BRL | ug/L | 10 | 3.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzo(a)pyrene | BRL | ug/L | 10 | 3.7 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzo(b)fluoranthene | BRL | ug/L | 10 | 3.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzo(g,h,i)perylene | BRL | ug/L | 10 | 3.5 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzo(k)fluoranthene | BRL | ug/L | 10 | 3.9 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Benzoic Acid | BRL | ug/L | 100 | 0.75 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No.: TCLT.003
Sample Matrix: Water

Client Sample ID: TMW-1
Prism Sample ID: 7050329-04
Prism Work Order: 7050329
Time Collected: 05/16/17 15:00
Time Submitted: 05/18/17 08:40

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl alcohol | BRL | ug/L | 10 | 1.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| bis(2-Chloroethoxy)methane | BRL | ug/L | 10 | 1.8 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Bis(2-Chloroethyl)ether | BRL | ug/L | 10 | 1.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Bis(2-chloroisopropyl)ether | BRL CCV | ug/L | 10 | 1.7 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Bis(2-Ethylhexyl)phthalate | BRL | ug/L | 10 | 3.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Butyl benzyl phthalate | BRL | ug/L | 10 | 2.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Chrysene | BRL | ug/L | 10 | 3.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Dibenzo(a,h)anthracene | BRL | ug/L | 10 | 3.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Dibenzofuran | BRL | ug/L | 10 | 2.3 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Diethyl phthalate | BRL | ug/L | 10 | 2.3 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Dimethyl phthalate | BRL | ug/L | 10 | 1.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Di-n-butyl phthalate | BRL | ug/L | 10 | 3.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Di-n-octyl phthalate | BRL CCV | ug/L | 10 | 3.6 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Fluoranthene | BRL | ug/L | 10 | 3.5 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Fluorene | BRL | ug/L | 10 | 2.8 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Hexachlorobenzene | BRL | ug/L | 10 | 2.5 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Hexachlorobutadiene | BRL | ug/L | 10 | 2.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Hexachlorocyclopentadiene | BRL | ug/L | 10 | 1.7 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Hexachloroethane | BRL CCV | ug/L | 10 | 1.5 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Indeno(1,2,3-cd)pyrene | BRL | ug/L | 10 | 3.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Isophorone | BRL | ug/L | 10 | 2.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Naphthalene | BRL | ug/L | 10 | 2.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Nitrobenzene | BRL | ug/L | 10 | 1.4 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| N-Nitrosodimethylamine | BRL | ug/L | 10 | 0.84 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| N-Nitroso-di-n-propylamine | BRL | ug/L | 10 | 2.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| N-Nitrosodiphenylamine | BRL | ug/L | 10 | 2.9 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Pentachlorophenol | BRL | ug/L | 10 | 2.1 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Phenanthrene | BRL | ug/L | 10 | 3.2 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Phenol | BRL | ug/L | 10 | 0.48 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| Pyrene | BRL | ug/L | 10 | 3.5 | 1 | 625 | 5/23/17 17:56 | JMV | P7E0398 |
| **TIC: Unknown 1** | **25** | **ug/L** | | | **1** | **625** | **5/23/17 17:56** | **JMV** | **P7E0398** |

| Surrogate | Recovery | Control Limits |
|---|---|---|
| 2,4,6-Tribromophenol | *31 %* | *31-144* |
| 2-Fluorobiphenyl | *72 %* | *49-118* |
| 2-Fluorophenol | *37 %* | *22-84* |
| Nitrobenzene-d5 | *75 %* | *43-123* |
| Phenol-d5 | *30 %* | *10-63* |
| Terphenyl-d14 | *112 %* | *49-151* |

## Volatile Organic 602 Compounds by GC/MS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | BRL | ug/L | 0.50 | 0.048 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Chlorobenzene | BRL | ug/L | 0.50 | 0.062 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Ethylbenzene | BRL | ug/L | 1.0 | 0.061 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Isopropyl Ether | BRL | ug/L | 5.0 | 0.050 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No.: TCLT.003
Sample Matrix: Water

Client Sample ID: TMW-1
Prism Sample ID: 7050329-04
Prism Work Order: 7050329
Time Collected: 05/16/17 15:00
Time Submitted: 05/18/17 08:40

| Parameter | Result | Units | Report Limit | MDL | Dilution Factor | Method | Analysis Date/Time | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|
| m,p-Xylenes | BRL | ug/L | 2.0 | 0.12 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Methyl-tert-Butyl Ether | BRL | ug/L | 5.0 | 0.042 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Naphthalene | BRL | ug/L | 5.0 | 0.19 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| o-Xylene | BRL | ug/L | 1.0 | 0.044 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Toluene | BRL | ug/L | 1.0 | 0.044 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |
| Xylenes, total | BRL | ug/L | 3.0 | 0.15 | 1 | SM6200 B | 5/22/17 23:24 | KDM | P7E0409 |

| Surrogate | Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | *96 %* | *70-130* |
| Dibromofluoromethane | *117 %* | *70-130* |
| Toluene-d8 | *100 %* | *70-130* |

**Volatile Petroleum Hydrocarbons by GC/PID/FID**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatics | BRL | ug/L | 50 | 6.1 | 1 | MADEP VPH | 5/18/17 18:56 | CGP | P7E0382 |
| C9-C12 Aliphatics | BRL | ug/L | 50 | 1.9 | 1 | MADEP VPH | 5/18/17 18:56 | CGP | P7E0382 |
| C9-C10 Aromatics | BRL | ug/L | 50 | 0.28 | 1 | MADEP VPH | 5/18/17 18:56 | CGP | P7E0382 |

| Surrogate | Recovery | Control Limits |
|---|---|---|
| 2,5-Dibromotoluene (PID) | *100 %* | *70-130* |
| 2,5-Dibromotoluene (FID) | *105 %* | *70-130* |



**449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543**
**Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409**

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Volatile Organic 602 Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0409 - SM6200 B** | | | | | | | | | | |
| **Blank (P7E0409-BLK1)** | | | | Prepared & Analyzed: 05/22/17 | | | | | | |
| Benzene | BRL | 0.50 | ug/L | | | | | | | |
| Chlorobenzene | BRL | 0.50 | ug/L | | | | | | | |
| Ethylbenzene | BRL | 1.0 | ug/L | | | | | | | |
| Isopropyl Ether | BRL | 5.0 | ug/L | | | | | | | |
| m,p-Xylenes | BRL | 2.0 | ug/L | | | | | | | |
| Methyl-tert-Butyl Ether | BRL | 5.0 | ug/L | | | | | | | |
| Naphthalene | BRL | 5.0 | ug/L | | | | | | | |
| o-Xylene | BRL | 1.0 | ug/L | | | | | | | |
| Toluene | BRL | 1.0 | ug/L | | | | | | | |
| Xylenes, total | BRL | 3.0 | ug/L | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *46.4* | | *ug/L* | *50.00* | | *93* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *51.9* | | *ug/L* | *50.00* | | *104* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *44.9* | | *ug/L* | *50.00* | | *90* | *70-130* | | | |
| **LCS (P7E0409-BS1)** | | | | Prepared & Analyzed: 05/22/17 | | | | | | |
| Benzene | 22.4 | 0.50 | ug/L | 20.00 | | 112 | 70-130 | | | |
| Chlorobenzene | 20.6 | 0.50 | ug/L | 20.00 | | 103 | 70-130 | | | |
| Ethylbenzene | 20.8 | 1.0 | ug/L | 20.00 | | 104 | 70-130 | | | |
| Isopropyl Ether | 21.6 | 5.0 | ug/L | 20.00 | | 108 | 70-130 | | | |
| m,p-Xylenes | 40.9 | 2.0 | ug/L | 40.00 | | 102 | 70-130 | | | |
| Methyl-tert-Butyl Ether | 20.1 | 5.0 | ug/L | 20.00 | | 100 | 70-130 | | | |
| Naphthalene | 17.0 | 5.0 | ug/L | 20.00 | | 85 | 70-130 | | | |
| o-Xylene | 19.7 | 1.0 | ug/L | 20.00 | | 99 | 70-130 | | | |
| Toluene | 22.1 | 1.0 | ug/L | 20.00 | | 110 | 70-130 | | | |
| Xylenes, total | 60.7 | 3.0 | ug/L | 60.00 | | 101 | 70-130 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *45.9* | | *ug/L* | *50.00* | | *92* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *50.0* | | *ug/L* | *50.00* | | *100* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *45.0* | | *ug/L* | *50.00* | | *90* | *70-130* | | | |

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Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Volatile Organic 602 Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0409 - SM6200 B** | | | | | | | | | | |
| **LCS Dup (P7E0409-BSD1)** | | | | Prepared & Analyzed: 05/22/17 | | | | | | |
| Benzene | 21.3 | 0.50 | ug/L | 20.00 | | 107 | 70-130 | 5 | 20 | |
| Chlorobenzene | 20.3 | 0.50 | ug/L | 20.00 | | 101 | 70-130 | 2 | 20 | |
| Ethylbenzene | 20.3 | 1.0 | ug/L | 20.00 | | 101 | 70-130 | 3 | 20 | |
| Isopropyl Ether | 20.9 | 5.0 | ug/L | 20.00 | | 104 | 70-130 | 3 | 20 | |
| m,p-Xylenes | 40.3 | 2.0 | ug/L | 40.00 | | 101 | 70-130 | 2 | 20 | |
| Methyl-tert-Butyl Ether | 19.6 | 5.0 | ug/L | 20.00 | | 98 | 70-130 | 2 | 20 | |
| Naphthalene | 18.3 | 5.0 | ug/L | 20.00 | | 92 | 70-130 | 7 | 20 | |
| o-Xylene | 19.7 | 1.0 | ug/L | 20.00 | | 98 | 70-130 | 0.4 | 20 | |
| Toluene | 21.1 | 1.0 | ug/L | 20.00 | | 105 | 70-130 | 5 | 20 | |
| Xylenes, total | 60.0 | 3.0 | ug/L | 60.00 | | 100 | 70-130 | 1 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *45.0* | | *ug/L* | *50.00* | | *90* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *49.8* | | *ug/L* | *50.00* | | *100* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *46.6* | | *ug/L* | *50.00* | | *93* | *70-130* | | | |

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TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0398 - 625** | | | | | | | | | | |
| **Blank (P7E0398-BLK1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| 1,2,4-Trichlorobenzene | BRL | 10 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | BRL | 10 | ug/L | | | | | | | |
| 1,3-Dichlorobenzene | BRL | 10 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | BRL | 10 | ug/L | | | | | | | |
| 1-Methylnaphthalene | BRL | 10 | ug/L | | | | | | | |
| 2,4,6-Trichlorophenol | BRL | 10 | ug/L | | | | | | | |
| 2,4-Dichlorophenol | BRL | 10 | ug/L | | | | | | | |
| 2,4-Dimethylphenol | BRL | 10 | ug/L | | | | | | | |
| 2,4-Dinitrophenol | BRL | 10 | ug/L | | | | | | | |
| 2,4-Dinitrotoluene | BRL | 10 | ug/L | | | | | | | |
| 2,6-Dinitrotoluene | BRL | 10 | ug/L | | | | | | | |
| 2-Chloronaphthalene | BRL | 10 | ug/L | | | | | | | |
| 2-Chlorophenol | BRL | 10 | ug/L | | | | | | | |
| 2-Methylnaphthalene | BRL | 10 | ug/L | | | | | | | |
| 2-Nitrophenol | BRL | 10 | ug/L | | | | | | | |
| 3,3'-Dichlorobenzidine | BRL | 10 | ug/L | | | | | | | |
| 3/4-Methylphenol | BRL | 10 | ug/L | | | | | | | |
| 4,6-Dinitro-2-methylphenol | BRL | 10 | ug/L | | | | | | | |
| 4-Bromophenyl phenyl ether | BRL | 10 | ug/L | | | | | | | |
| 4-Chloro-3-methylphenol | BRL | 10 | ug/L | | | | | | | |
| 4-Chloroaniline | BRL | 10 | ug/L | | | | | | | |
| 4-Chlorophenyl phenyl ether | BRL | 10 | ug/L | | | | | | | |
| 4-Nitrophenol | BRL | 50 | ug/L | | | | | | | |
| Acenaphthene | BRL | 10 | ug/L | | | | | | | |
| Acenaphthylene | BRL | 10 | ug/L | | | | | | | |
| Anthracene | BRL | 10 | ug/L | | | | | | | |
| Benzidine | BRL | 100 | ug/L | | | | | | | |
| Benzo(a)anthracene | BRL | 10 | ug/L | | | | | | | |
| Benzo(a)pyrene | BRL | 10 | ug/L | | | | | | | |
| Benzo(b)fluoranthene | BRL | 10 | ug/L | | | | | | | |
| Benzo(g,h,i)perylene | BRL | 10 | ug/L | | | | | | | |
| Benzo(k)fluoranthene | BRL | 10 | ug/L | | | | | | | |
| Benzoic Acid | BRL | 100 | ug/L | | | | | | | |
| Benzyl alcohol | BRL | 10 | ug/L | | | | | | | |
| bis(2-Chloroethoxy)methane | BRL | 10 | ug/L | | | | | | | |
| Bis(2-Chloroethyl)ether | BRL | 10 | ug/L | | | | | | | |
| Bis(2-chloroisopropyl)ether | BRL | 10 | ug/L | | | | | | | |
| Bis(2-Ethylhexyl)phthalate | BRL | 10 | ug/L | | | | | | | |
| Butyl benzyl phthalate | BRL | 10 | ug/L | | | | | | | |
| Chrysene | BRL | 10 | ug/L | | | | | | | |
| Dibenzo(a,h)anthracene | BRL | 10 | ug/L | | | | | | | |
| Dibenzofuran | BRL | 10 | ug/L | | | | | | | |
| Diethyl phthalate | BRL | 10 | ug/L | | | | | | | |
| Dimethyl phthalate | BRL | 10 | ug/L | | | | | | | |
| Di-n-butyl phthalate | BRL | 10 | ug/L | | | | | | | |
| Di-n-octyl phthalate | BRL | 10 | ug/L | | | | | | | |

Hart & Hickman (Raleigh)
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Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0398 - 625** | | | | | | | | | | |
| **Blank (P7E0398-BLK1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| Fluoranthene | BRL | 10 | ug/L | | | | | | | |
| Fluorene | BRL | 10 | ug/L | | | | | | | |
| Hexachlorobenzene | BRL | 10 | ug/L | | | | | | | |
| Hexachlorobutadiene | BRL | 10 | ug/L | | | | | | | |
| Hexachlorocyclopentadiene | BRL | 10 | ug/L | | | | | | | |
| Hexachloroethane | BRL | 10 | ug/L | | | | | | | |
| Indeno(1,2,3-cd)pyrene | BRL | 10 | ug/L | | | | | | | |
| Isophorone | BRL | 10 | ug/L | | | | | | | |
| Naphthalene | BRL | 10 | ug/L | | | | | | | |
| Nitrobenzene | BRL | 10 | ug/L | | | | | | | |
| N-Nitrosodimethylamine | BRL | 10 | ug/L | | | | | | | |
| N-Nitroso-di-n-propylamine | BRL | 10 | ug/L | | | | | | | |
| N-Nitrosodiphenylamine | BRL | 10 | ug/L | | | | | | | |
| Pentachlorophenol | BRL | 10 | ug/L | | | | | | | |
| Phenanthrene | BRL | 10 | ug/L | | | | | | | |
| Phenol | BRL | 10 | ug/L | | | | | | | |
| Pyrene | BRL | 10 | ug/L | | | | | | | |
| Tentatively Identified Compounds | Not Detected | | ug/L | | | | | | | |
| *Surrogate: 2,4,6-Tribromophenol* | *33.4* | | *ug/L* | *100.0* | | *33* | *31-144* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *40.3* | | *ug/L* | *50.00* | | *81* | *49-118* | | | |
| *Surrogate: 2-Fluorophenol* | *41.9* | | *ug/L* | *100.0* | | *42* | *22-84* | | | |
| *Surrogate: Nitrobenzene-d5* | *33.7* | | *ug/L* | *50.00* | | *67* | *43-123* | | | |
| *Surrogate: Phenol-d5* | *37.1* | | *ug/L* | *100.0* | | *37* | *10-63* | | | |
| *Surrogate: Terphenyl-d14* | *52.0* | | *ug/L* | *50.00* | | *104* | *49-151* | | | |
| **LCS (P7E0398-BS1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| 1,2,4-Trichlorobenzene | 59.1 | 10 | ug/L | 100.0 | | 59 | 44-142 | | | |
| 1,2-Dichlorobenzene | 58.8 | 10 | ug/L | 100.0 | | 59 | 32-129 | | | |
| 1,3-Dichlorobenzene | 58.2 | 10 | ug/L | 100.0 | | 58 | 20-124 | | | |
| 1,4-Dichlorobenzene | 57.2 | 10 | ug/L | 100.0 | | 57 | 20-124 | | | |
| 1-Methylnaphthalene | 70.6 | 10 | ug/L | 100.0 | | 71 | 40-135 | | | |
| 2,4,6-Trichlorophenol | 51.2 | 10 | ug/L | 100.0 | | 51 | 37-144 | | | |
| 2,4-Dichlorophenol | 64.1 | 10 | ug/L | 100.0 | | 64 | 39-135 | | | |
| 2,4-Dimethylphenol | 79.6 | 10 | ug/L | 100.0 | | 80 | 32-119 | | | |
| 2,4-Dinitrophenol | 28.9 | 10 | ug/L | 100.0 | | 29 | 10-191 | | | |
| 2,4-Dinitrotoluene | 80.2 | 10 | ug/L | 100.0 | | 80 | 39-139 | | | |
| 2,6-Dinitrotoluene | 75.5 | 10 | ug/L | 100.0 | | 75 | 50-158 | | | |
| 2-Chloronaphthalene | 72.4 | 10 | ug/L | 100.0 | | 72 | 60-118 | | | |
| 2-Chlorophenol | 66.3 | 10 | ug/L | 100.0 | | 66 | 23-134 | | | |
| 2-Methylnaphthalene | 66.0 | 10 | ug/L | 100.0 | | 66 | 18-121 | | | |
| 2-Nitrophenol | 55.3 | 10 | ug/L | 100.0 | | 55 | 29-182 | | | |
| 3,3'-Dichlorobenzidine | 80.8 | 10 | ug/L | 100.0 | | 81 | 10-262 | | | |
| 3/4-Methylphenol | 57.4 | 10 | ug/L | 100.0 | | 57 | 76-107 | | | L |
| 4,6-Dinitro-2-methylphenol | 34.0 | 10 | ug/L | 100.0 | | 34 | 10-181 | | | |
| 4-Bromophenyl phenyl ether | 87.1 | 10 | ug/L | 100.0 | | 87 | 53-127 | | | |
| 4-Chloro-3-methylphenol | 84.4 | 10 | ug/L | 100.0 | | 84 | 22-147 | | | |
| 4-Chloroaniline | 75.2 | 10 | ug/L | 100.0 | | 75 | 44-163 | | | |

Hart & Hickman (Raleigh)
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Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0398 - 625** | | | | | | | | | | |
| **LCS (P7E0398-BS1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| 4-Chlorophenyl phenyl ether | 68.5 | 10 | ug/L | 100.0 | | 69 | 25-158 | | | |
| 4-Nitrophenol | 20.2 | 50 | ug/L | 100.0 | | 20 | 10-132 | | | J |
| Acenaphthene | 78.8 | 10 | ug/L | 100.0 | | 79 | 47-145 | | | |
| Acenaphthylene | 82.4 | 10 | ug/L | 100.0 | | 82 | 33-145 | | | |
| Anthracene | 101 | 10 | ug/L | 100.0 | | 101 | 27-133 | | | |
| Benzidine | 21.6 | 100 | ug/L | 100.0 | | 22 | 15-150 | | | J |
| Benzo(a)anthracene | 85.4 | 10 | ug/L | 100.0 | | 85 | 33-143 | | | |
| Benzo(a)pyrene | 83.2 | 10 | ug/L | 100.0 | | 83 | 17-163 | | | |
| Benzo(b)fluoranthene | 81.0 | 10 | ug/L | 100.0 | | 81 | 24-159 | | | |
| Benzo(g,h,i)perylene | 69.9 | 10 | ug/L | 100.0 | | 70 | 10-219 | | | |
| Benzo(k)fluoranthene | 83.7 | 10 | ug/L | 100.0 | | 84 | 11-162 | | | |
| Benzoic Acid | 8.98 | 100 | ug/L | 100.0 | | 9 | 10-125 | | | L1, J |
| Benzyl alcohol | 75.8 | 10 | ug/L | 100.0 | | 76 | 16-107 | | | |
| bis(2-Chloroethoxy)methane | 72.2 | 10 | ug/L | 100.0 | | 72 | 33-184 | | | |
| Bis(2-Chloroethyl)ether | 64.8 | 10 | ug/L | 100.0 | | 65 | 12-158 | | | |
| Bis(2-chloroisopropyl)ether | 70.6 | 10 | ug/L | 100.0 | | 71 | 36-166 | | | |
| Bis(2-Ethylhexyl)phthalate | 93.2 | 10 | ug/L | 100.0 | | 93 | 10-158 | | | |
| Butyl benzyl phthalate | 71.0 | 10 | ug/L | 100.0 | | 71 | 10-152 | | | |
| Chrysene | 86.0 | 10 | ug/L | 100.0 | | 86 | 17-168 | | | |
| Dibenzo(a,h)anthracene | 74.1 | 10 | ug/L | 100.0 | | 74 | 10-227 | | | |
| Dibenzofuran | 80.0 | 10 | ug/L | 100.0 | | 80 | 39-114 | | | |
| Diethyl phthalate | 53.6 | 10 | ug/L | 100.0 | | 54 | 10-114 | | | |
| Dimethyl phthalate | 20.4 | 10 | ug/L | 100.0 | | 20 | 10-112 | | | |
| Di-n-butyl phthalate | 83.4 | 10 | ug/L | 100.0 | | 83 | 10-118 | | | |
| Di-n-octyl phthalate | 92.5 | 10 | ug/L | 100.0 | | 92 | 10-146 | | | |
| Fluoranthene | 94.7 | 10 | ug/L | 100.0 | | 95 | 26-137 | | | |
| Fluorene | 73.8 | 10 | ug/L | 100.0 | | 74 | 59-121 | | | |
| Hexachlorobenzene | 85.7 | 10 | ug/L | 100.0 | | 86 | 10-152 | | | |
| Hexachlorobutadiene | 54.1 | 10 | ug/L | 100.0 | | 54 | 24-116 | | | |
| Hexachlorocyclopentadiene | 13.8 | 10 | ug/L | 100.0 | | 14 | 32-117 | | | L |
| Hexachloroethane | 52.3 | 10 | ug/L | 100.0 | | 52 | 40-113 | | | |
| Indeno(1,2,3-cd)pyrene | 76.6 | 10 | ug/L | 100.0 | | 77 | 10-171 | | | |
| Isophorone | 71.7 | 10 | ug/L | 100.0 | | 72 | 21-196 | | | |
| Naphthalene | 67.2 | 10 | ug/L | 100.0 | | 67 | 21-133 | | | |
| Nitrobenzene | 68.9 | 10 | ug/L | 100.0 | | 69 | 35-180 | | | |
| N-Nitrosodimethylamine | 56.1 | 10 | ug/L | 100.0 | | 56 | 10-119 | | | |
| N-Nitroso-di-n-propylamine | 72.6 | 10 | ug/L | 100.0 | | 73 | 10-230 | | | |
| N-Nitrosodiphenylamine | 105 | 10 | ug/L | 100.0 | | 105 | 69-152 | | | |
| Pentachlorophenol | 52.9 | 10 | ug/L | 100.0 | | 53 | 14-176 | | | |
| Phenanthrene | 99.0 | 10 | ug/L | 100.0 | | 99 | 54-120 | | | |
| Phenol | 35.2 | 10 | ug/L | 100.0 | | 35 | 10-112 | | | |
| Pyrene | 89.8 | 10 | ug/L | 100.0 | | 90 | 52-115 | | | |
| *Surrogate: 2,4,6-Tribromophenol* | *51.7* | | *ug/L* | *100.0* | | *52* | *31-144* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *35.0* | | *ug/L* | *50.00* | | *70* | *49-118* | | | |
| *Surrogate: 2-Fluorophenol* | *41.3* | | *ug/L* | *100.0* | | *41* | *22-84* | | | |
| *Surrogate: Nitrobenzene-d5* | *33.1* | | *ug/L* | *50.00* | | *66* | *43-123* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0398 - 625** | | | | | | | | | | |
| **LCS (P7E0398-BS1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| *Surrogate: Phenol-d5* | *32.7* | | *ug/L* | *100.0* | | *33* | *10-63* | | | |
| *Surrogate: Terphenyl-d14* | *47.4* | | *ug/L* | *50.00* | | *95* | *49-151* | | | |
| **LCS Dup (P7E0398-BSD1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| 1,2,4-Trichlorobenzene | 56.5 | 10 | ug/L | 100.0 | | 57 | 44-142 | 4 | 20 | |
| 1,2-Dichlorobenzene | 58.1 | 10 | ug/L | 100.0 | | 58 | 32-129 | 1 | 20 | |
| 1,3-Dichlorobenzene | 56.6 | 10 | ug/L | 100.0 | | 57 | 20-124 | 3 | 20 | |
| 1,4-Dichlorobenzene | 55.8 | 10 | ug/L | 100.0 | | 56 | 20-124 | 3 | 20 | |
| 1-Methylnaphthalene | 68.4 | 10 | ug/L | 100.0 | | 68 | 40-135 | 3 | 20 | |
| 2,4,6-Trichlorophenol | 77.5 | 10 | ug/L | 100.0 | | 77 | 37-144 | 41 | 20 | D |
| 2,4-Dichlorophenol | 68.1 | 10 | ug/L | 100.0 | | 68 | 39-135 | 6 | 20 | |
| 2,4-Dimethylphenol | 79.9 | 10 | ug/L | 100.0 | | 80 | 32-119 | 0.3 | 20 | |
| 2,4-Dinitrophenol | 78.0 | 10 | ug/L | 100.0 | | 78 | 10-191 | 92 | 20 | D |
| 2,4-Dinitrotoluene | 78.4 | 10 | ug/L | 100.0 | | 78 | 39-139 | 2 | 20 | |
| 2,6-Dinitrotoluene | 91.9 | 10 | ug/L | 100.0 | | 92 | 50-158 | 20 | 20 | |
| 2-Chloronaphthalene | 74.6 | 10 | ug/L | 100.0 | | 75 | 60-118 | 3 | 20 | |
| 2-Chlorophenol | 73.8 | 10 | ug/L | 100.0 | | 74 | 23-134 | 11 | 20 | |
| 2-Methylnaphthalene | 63.9 | 10 | ug/L | 100.0 | | 64 | 18-121 | 3 | 20 | |
| 2-Nitrophenol | 68.8 | 10 | ug/L | 100.0 | | 69 | 29-182 | 22 | 20 | D |
| 3,3'-Dichlorobenzidine | 82.3 | 10 | ug/L | 100.0 | | 82 | 10-262 | 2 | 20 | |
| 3/4-Methylphenol | 57.9 | 10 | ug/L | 100.0 | | 58 | 76-107 | 0.8 | 20 | L |
| 4,6-Dinitro-2-methylphenol | 68.7 | 10 | ug/L | 100.0 | | 69 | 10-181 | 67 | 20 | D |
| 4-Bromophenyl phenyl ether | 75.3 | 10 | ug/L | 100.0 | | 75 | 53-127 | 15 | 20 | |
| 4-Chloro-3-methylphenol | 84.9 | 10 | ug/L | 100.0 | | 85 | 22-147 | 0.6 | 20 | |
| 4-Chloroaniline | 74.6 | 10 | ug/L | 100.0 | | 75 | 44-163 | 0.9 | 20 | |
| 4-Chlorophenyl phenyl ether | 75.3 | 10 | ug/L | 100.0 | | 75 | 25-158 | 9 | 20 | |
| 4-Nitrophenol | 35.9 | 50 | ug/L | 100.0 | | 36 | 10-132 | 56 | 20 | D, J |
| Acenaphthene | 80.1 | 10 | ug/L | 100.0 | | 80 | 47-145 | 2 | 20 | |
| Acenaphthylene | 79.7 | 10 | ug/L | 100.0 | | 80 | 33-145 | 3 | 20 | |
| Anthracene | 83.4 | 10 | ug/L | 100.0 | | 83 | 27-133 | 19 | 20 | |
| Benzidine | 22.7 | 100 | ug/L | 100.0 | | 23 | 15-150 | 5 | 20 | J |
| Benzo(a)anthracene | 87.2 | 10 | ug/L | 100.0 | | 87 | 33-143 | 2 | 20 | |
| Benzo(a)pyrene | 88.7 | 10 | ug/L | 100.0 | | 89 | 17-163 | 6 | 20 | |
| Benzo(b)fluoranthene | 83.2 | 10 | ug/L | 100.0 | | 83 | 24-159 | 3 | 20 | |
| Benzo(g,h,i)perylene | 70.5 | 10 | ug/L | 100.0 | | 71 | 10-219 | 0.8 | 20 | |
| Benzo(k)fluoranthene | 84.3 | 10 | ug/L | 100.0 | | 84 | 11-162 | 0.7 | 20 | |
| Benzoic Acid | 26.9 | 100 | ug/L | 100.0 | | 27 | 10-125 | 100 | 20 | D, J |
| Benzyl alcohol | 75.3 | 10 | ug/L | 100.0 | | 75 | 16-107 | 0.7 | 20 | |
| bis(2-Chloroethoxy)methane | 72.9 | 10 | ug/L | 100.0 | | 73 | 33-184 | 0.9 | 20 | |
| Bis(2-Chloroethyl)ether | 63.8 | 10 | ug/L | 100.0 | | 64 | 12-158 | 2 | 20 | |
| Bis(2-chloroisopropyl)ether | 70.4 | 10 | ug/L | 100.0 | | 70 | 36-166 | 0.3 | 20 | |
| Bis(2-Ethylhexyl)phthalate | 92.3 | 10 | ug/L | 100.0 | | 92 | 10-158 | 1 | 20 | |
| Butyl benzyl phthalate | 86.5 | 10 | ug/L | 100.0 | | 86 | 10-152 | 20 | 20 | |
| Chrysene | 88.4 | 10 | ug/L | 100.0 | | 88 | 17-168 | 3 | 20 | |
| Dibenzo(a,h)anthracene | 74.5 | 10 | ug/L | 100.0 | | 75 | 10-227 | 0.5 | 20 | |
| Dibenzofuran | 71.8 | 10 | ug/L | 100.0 | | 72 | 39-114 | 11 | 20 | |
| Diethyl phthalate | 58.0 | 10 | ug/L | 100.0 | | 58 | 10-114 | 8 | 20 | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Semivolatile Organic Compounds by GC/MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0398 - 625** | | | | | | | | | | |
| **LCS Dup (P7E0398-BSD1)** | | | | Prepared: 05/22/17 Analyzed: 05/23/17 | | | | | | |
| Dimethyl phthalate | 22.0 | 10 | ug/L | 100.0 | | 22 | 10-112 | 8 | 20 | |
| Di-n-butyl phthalate | 68.4 | 10 | ug/L | 100.0 | | 68 | 10-118 | 20 | 20 | |
| Di-n-octyl phthalate | 91.4 | 10 | ug/L | 100.0 | | 91 | 10-146 | 1 | 20 | |
| Fluoranthene | 79.9 | 10 | ug/L | 100.0 | | 80 | 26-137 | 17 | 20 | |
| Fluorene | 81.8 | 10 | ug/L | 100.0 | | 82 | 59-121 | 10 | 20 | |
| Hexachlorobenzene | 77.9 | 10 | ug/L | 100.0 | | 78 | 10-152 | 9 | 20 | |
| Hexachlorobutadiene | 51.9 | 10 | ug/L | 100.0 | | 52 | 24-116 | 4 | 20 | |
| Hexachlorocyclopentadiene | 13.8 | 10 | ug/L | 100.0 | | 14 | 32-117 | 0.3 | 20 | L |
| Hexachloroethane | 51.2 | 10 | ug/L | 100.0 | | 51 | 40-113 | 2 | 20 | |
| Indeno(1,2,3-cd)pyrene | 92.7 | 10 | ug/L | 100.0 | | 93 | 10-171 | 19 | 20 | |
| Isophorone | 73.2 | 10 | ug/L | 100.0 | | 73 | 21-196 | 2 | 20 | |
| Naphthalene | 65.1 | 10 | ug/L | 100.0 | | 65 | 21-133 | 3 | 20 | |
| Nitrobenzene | 68.3 | 10 | ug/L | 100.0 | | 68 | 35-180 | 0.8 | 20 | |
| N-Nitrosodimethylamine | 56.5 | 10 | ug/L | 100.0 | | 56 | 10-119 | 0.7 | 20 | |
| N-Nitroso-di-n-propylamine | 72.9 | 10 | ug/L | 100.0 | | 73 | 10-230 | 0.5 | 20 | |
| N-Nitrosodiphenylamine | 94.0 | 10 | ug/L | 100.0 | | 94 | 69-152 | 11 | 20 | |
| Pentachlorophenol | 87.6 | 10 | ug/L | 100.0 | | 88 | 14-176 | 49 | 20 | D |
| Phenanthrene | 84.0 | 10 | ug/L | 100.0 | | 84 | 54-120 | 16 | 20 | |
| Phenol | 37.7 | 10 | ug/L | 100.0 | | 38 | 10-112 | 7 | 20 | |
| Pyrene | 104 | 10 | ug/L | 100.0 | | 104 | 52-115 | 15 | 20 | |
| *Surrogate: 2,4,6-Tribromophenol* | *75.9* | | *ug/L* | *100.0* | | *76* | *31-144* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *36.2* | | *ug/L* | *50.00* | | *72* | *49-118* | | | |
| *Surrogate: 2-Fluorophenol* | *52.8* | | *ug/L* | *100.0* | | *53* | *22-84* | | | |
| *Surrogate: Nitrobenzene-d5* | *33.1* | | *ug/L* | *50.00* | | *66* | *43-123* | | | |
| *Surrogate: Phenol-d5* | *34.6* | | *ug/L* | *100.0* | | *35* | *10-63* | | | |
| *Surrogate: Terphenyl-d14* | *50.3* | | *ug/L* | *50.00* | | *101* | *49-151* | | | |

Hart & Hickman (Raleigh)
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3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Volatile Petroleum Hydrocarbons by GC/PID/FID - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0382 - MADEP VPH (W)** | | | | | | | | | | |
| **Blank (P7E0382-BLK1)** | | | | Prepared & Analyzed: 05/18/17 | | | | | | |
| C5-C8 Aliphatics | BRL | 50 | ug/L | | | | | | | |
| C9-C12 Aliphatics | BRL | 50 | ug/L | | | | | | | |
| C9-C10 Aromatics | BRL | 50 | ug/L | | | | | | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *98.9* | | *ug/L* | *100.0* | | *99* | *70-130* | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *105* | | *ug/L* | *100.0* | | *105* | *70-130* | | | |
| **LCS (P7E0382-BS1)** | | | | Prepared & Analyzed: 05/18/17 | | | | | | |
| C5-C8 Aliphatics | 357 | 50 | ug/L | 300.0 | | 119 | 70-130 | | | |
| C9-C10 Aromatics | 101 | 50 | ug/L | 100.0 | | 101 | 70-130 | | | |
| C9-C12 Aliphatic | 354 | 50 | ug/L | 300.0 | | 118 | 70-130 | | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *98.6* | | *ug/L* | *100.0* | | *99* | *70-130* | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *103* | | *ug/L* | *100.0* | | *103* | *70-130* | | | |
| **LCS Dup (P7E0382-BSD1)** | | | | Prepared & Analyzed: 05/18/17 | | | | | | |
| C5-C8 Aliphatics | 354 | 50 | ug/L | 300.0 | | 118 | 70-130 | 0.7 | 50 | |
| C9-C10 Aromatics | 99.5 | 50 | ug/L | 100.0 | | 99 | 70-130 | 1 | 50 | |
| C9-C12 Aliphatic | 349 | 50 | ug/L | 300.0 | | 116 | 70-130 | 1 | 50 | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *99.5* | | *ug/L* | *100.0* | | *99* | *70-130* | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *104* | | *ug/L* | *100.0* | | *104* | *70-130* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Extractable Petroleum Hydrocarbons by GC/FID - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0441 - MADEP EPH (W)** | | | | | | | | | | |
| **Blank (P7E0441-BLK1)** | | | | Prepared & Analyzed: 05/24/17 | | | | | | |
| C9-C18 Aliphatics | BRL | 350 | ug/L | | | | | | | |
| C19-C36 Aliphatics | BRL | 500 | ug/L | | | | | | | |
| C11-C22 Aromatics | BRL | 100 | ug/L | | | | | | | |
| *Surrogate: 1-Chlorooctadecane* | *14.6* | | *ug/L* | *20.00* | | *73* | *40-140* | | | |
| *Surrogate: o-Terphenyl* | *13.5* | | *ug/L* | *20.00* | | *68* | *40-140* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *32.6* | | *ug/L* | *40.00* | | *82* | *40-140* | | | |
| *Surrogate: 2-Bromonaphthalene* | *41.5* | | *ug/L* | *40.00* | | *104* | *40-140* | | | |
| **LCS (P7E0441-BS1)** | | | | Prepared & Analyzed: 05/24/17 | | | | | | |
| C9-C18 Aliphatics | 329 | 350 | ug/L | 600.0 | | 55 | 40-140 | | | J |
| C19-C36 Aliphatics | 818 | 500 | ug/L | 800.0 | | 102 | 40-140 | | | |
| C11-C22 Aromatics | 1430 | 100 | ug/L | 1700 | | 84 | 40-140 | | | |
| *Surrogate: 1-Chlorooctadecane* | *14.9* | | *ug/L* | *20.00* | | *75* | *40-140* | | | |
| *Surrogate: o-Terphenyl* | *15.7* | | *ug/L* | *20.00* | | *79* | *40-140* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *36.3* | | *ug/L* | *40.00* | | *91* | *40-140* | | | |
| *Surrogate: 2-Bromonaphthalene* | *45.1* | | *ug/L* | *40.00* | | *113* | *40-140* | | | |
| **LCS Dup (P7E0441-BSD1)** | | | | Prepared & Analyzed: 05/24/17 | | | | | | |
| C9-C18 Aliphatics | 308 | 350 | ug/L | 600.0 | | 51 | 40-140 | 7 | 50 | J |
| C19-C36 Aliphatics | 893 | 500 | ug/L | 800.0 | | 112 | 40-140 | 9 | 50 | |
| C11-C22 Aromatics | 1400 | 100 | ug/L | 1700 | | 82 | 40-140 | 3 | 50 | |
| *Surrogate: 1-Chlorooctadecane* | *16.0* | | *ug/L* | *20.00* | | *80* | *40-140* | | | |
| *Surrogate: o-Terphenyl* | *15.1* | | *ug/L* | *20.00* | | *76* | *40-140* | | | |
| *Surrogate: 2-Fluorobiphenyl* | *36.3* | | *ug/L* | *40.00* | | *91* | *40-140* | | | |
| *Surrogate: 2-Bromonaphthalene* | *44.3* | | *ug/L* | *40.00* | | *111* | *40-140* | | | |

Hart & Hickman (Raleigh)
Attn: Joe Starr
3334 Hillsborough St.
Raleigh, NC 27607

Project: American Legion - Chapel Hill
TCH.003
Project No: TCLT.003

Prism Work Order: 7050329
Time Submitted: 5/18/2017 8:40:00AM

**Diesel Range Organics by GC/FID - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch P7E0349 - 3546** | | | | | | | | | | |
| **Blank (P7E0349-BLK1)** | | | | Prepared & Analyzed: 05/18/17 | | | | | | |
| Diesel Range Organics | BRL | 6.9 | mg/kg wet | | | | | | | |
| *Surrogate: o-Terphenyl* | *1.20* | | *mg/kg wet* | *1.314* | | *91* | *49-124* | | | |
| **LCS (P7E0349-BS1)** | | | | Prepared & Analyzed: 05/18/17 | | | | | | |
| Diesel Range Organics | 57.6 | 6.9 | mg/kg wet | 65.49 | | 88 | 55-109 | | | |
| *Surrogate: o-Terphenyl* | *1.21* | | *mg/kg wet* | *1.310* | | *93* | *49-124* | | | |
| **LCS Dup (P7E0349-BSD1)** | | | | Prepared & Analyzed: 05/18/17 | | | | | | |
| Diesel Range Organics | 58.6 | 6.9 | mg/kg wet | 65.47 | | 89 | 55-109 | 2 | 20 | |
| *Surrogate: o-Terphenyl* | *1.30* | | *mg/kg wet* | *1.309* | | *100* | *49-124* | | | |

## Sample Extraction Data

**Prep Method: 3546**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7050329-01 | P7E0349 | 30.63 g | 1 mL | 05/18/17 10:15 |
| 7050329-02 | P7E0349 | 30.3 g | 1 mL | 05/18/17 10:15 |
| 7050329-03 | P7E0349 | 30.59 g | 1 mL | 05/18/17 10:15 |

**Prep Method: MADEP EPH (W)**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7050329-04 | P7E0441 | 1000 mL | 2 mL | 05/24/17 8:45 |

**Prep Method: Solids, Dry Weight**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7050329-01 | P7E0377 | 30 g | 30 g | 05/18/17 16:45 |
| 7050329-02 | P7E0377 | 30 g | 30 g | 05/18/17 16:45 |
| 7050329-03 | P7E0377 | 30 g | 30 g | 05/18/17 16:45 |

**Prep Method: 625**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7050329-04 | P7E0398 | 990 mL | 1 mL | 05/22/17 8:45 |

**Prep Method: SM6200 B**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7050329-04 | P7E0409 | 10 mL | 10 mL | 05/22/17 10:57 |

**Prep Method: MADEP VPH (W)**

| Lab Number | Batch | Initial | Final | Date/Time |
|---|---|---|---|---|
| 7050329-04 | P7E0382 | 44 mL | 44 mL | 05/18/17 12:48 |

# CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 1 OF ____ QUOTE # TO ENSURE PROPER BILLING: ____

**Client Company Name:** Hart & Hickman
**Report To/Contact Name:** Joe Starr
**Reporting Address:** 3334 Hillsborough St Raleigh, NC 27607
**Phone:** 919-847-4241 **Fax (Yes) (No):** ____
**Email Address:** Jstarr@harthickman.com
**EDD Type: PDF** ✓ **Excel** ✓ **Other** ____
**Site Location Name:** American Legion
**Site Location Physical Address:** 1714 Legion Rd Chapel Hill, NC

**Project Name:** TCH-003
**Short Hold Analysis:** (Yes) (No) **UST Project:** (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
**Invoice To:** same as client
**Address:** ____

**Purchase Order No./Billing Reference** TCH-003
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☑ 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

## LAB USE ONLY

| | YES | NO | N/A |
|---|---|---|---|
| Samples INTACT upon arrival? | ✓ | | |
| Received ON WET ICE? | ✓ | | |
| PROPER PRESERVATIVES indicated? | ✓ | | |
| Received WITHIN HOLDING TIMES? | ✓ | | |
| CUSTODY SEALS INTACT? | | | ✓ |
| VOLATILES rec'd W/OUT HEADSPACE? | ✓ | | |
| PROPER CONTAINERS used? | ✓ | | |

TEMP: Therm ID: IRT-7 Observed: 4.2 °C / Corr: 3.0 °C

## TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

**Certification:** NELAC____ DoD____ FL____ NC ✓
SC____ OTHER____ N/A____
**Water Chlorinated:** YES____ NO ✓
**Sample Iced Upon Collection:** YES ✓ NO____

| CLIENT SAMPLE DESCRIPTION | DATE COLLECTED | TIME COLLECTED MILITARY HOURS | MATRIX (SOIL, WATER OR SLUDGE) | SAMPLE CONTAINER *TYPE SEE BELOW | NO. | SIZE | PRESERVATIVES | ANALYSIS REQUESTED: TPH-DRO | TPH-GRO | 8260 | 8270 | MADEP EPH/VPH | 602 w/ xylene | 625 w/ 1,4-dioxane BNA+10 | REMARKS | PRISM LAB ID NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-6 | 5/16/17 | 1010 | soil | VOA | 3 | 40 mL | methanol | ✓ | H | H | H | H | | | H=hold | 01 |
| | | | | VOA | 2 | 4 oz | | | | | | | | | | |
| | | | | A,C | 2 | 8 oz | NaHSO4 | | | | | | | | | |
| SB-7 | | 1035 | soil | VOA | 3 | 40 mL | methanol | ✓ | H | H | H | H | | | H=hold | 02 |
| | | | | VOA | 2 | 4 oz | | | | | | | | | | |
| | | | | A,C | 2 | 8 oz | NaHSO4 | | | | | | | | | |
| SB-8 | | 1310 | soil | VOA | 3 | 40 mL | methanol | ✓ | H | H | H | H | | | H=hold | 03 |
| | | | | VOA | 2 | 8 oz | | | | | | | | | | |
| | | | | A,C | 2 | 8 oz | NaHSO4 HCl | | | | | | | | | |
| TMW-1 | | 1500 | water | VOA | 6 | 40 mL | | | | | | ✓ | ✓ | ✓ | | 04 |
| | | | | A | 2 | 1 L | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | |

Holds cancelled by Joe Starr 5/24/17 mgj

**PRESS DOWN FIRMLY - 3 COPIES**

Sampler's Signature for Leatha Moretz | Sampled By (Print Name) Leatha Moretz | Affiliation H & H

**Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.**

| | | Date | Military/Hours |
|---|---|---|---|
| Relinquished By: (Signature) | Received By: (Signature) | 5/17/17 | 1417 |
| Relinquished By: (Signature) | Received By: (Signature) | 5-18-17 | 0815 |
| Relinquished By: (Signature) 5-18-17 0840 | Received For Prism Laboratories By: | 5-18-17 | 0840 |

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☒ Other Reuse

COC Group No. 7050329

Additional Comments:

## PRISM USE ONLY

Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

| CODES: | UST: | GROUNDWATER: | DRINKING WATER: | SOLID WASTE: | RCRA: | CERCLA | LANDFILL | OTHER: |
|---|---|---|---|---|---|---|---|---|
| ☐ NC ☐ SC | ☐ NC ☐ SC | ☒ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC | ☐ NC ☐ SC |
| ____ | ☐ ____ | ☐ ____ | ☐ ____ | ☐ ____ | ☐ ____ | ☐ ____ | ☐ ____ | ☐ ____ |

**CONTAINER TYPE CODES:** A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL