

Phase II Remedial Investigation Report

**Chapel Hill Police Department
Property
Chapel Hill, North Carolina
DEQ ID NONCD0001486**

**H&H Job No. TCH-002
January 26, 2017**



SMARTER ENVIRONMENTAL SOLUTIONS

Remediating Party Certification Page

“I certify that, to the best of my knowledge, after thorough investigation, the information contained in or accompanying this certification is true, accurate, and complete.”

Lance R. Norris
Name of Remediating Party

[Signature]
Signature of Remediating Party

2/26/17
Date

NOTARIZATION

North Carolina
(Enter State)

Alamance COUNTY

I, a Notary Public of said County and State, do hereby certify that Lance R. Norris did personally appear and sign before me this day, produced proper identification in the form of NCDL, was duly sworn or affirmed, and declared that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certification is true and accurate, and he or she then signed this Certification in my presence.

WITNESS my hand and official seal this 26th day of January, 2017.

[Signature]
Notary Public (signature)

(OFFICIAL SEAL)

My commission expires: 10/14/2020



Consultant Certification Page

“I certify that, to the best of my knowledge, after thorough investigation, the information contained in or accompanying this certification is true, accurate, and complete.”

Steven Hart Harte & Hickman, PC
Name of Consultant
[Signature] 1/26/2017
Signature of Consultant Date

NOTARIZATION

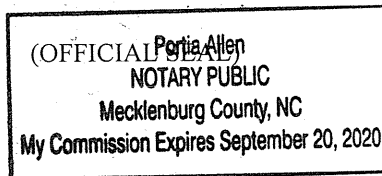
North Carolina
(Enter State)

Mecklenburg COUNTY

I, a Notary Public of said County and State, do hereby certify that Steven Hart did personally appear and sign before me this day, produced proper identification in the form of NC DL, was duly sworn or affirmed, and declared that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certification is true and accurate, and he or she then signed this Certification in my presence.

WITNESS my hand and official seal this 26 day of, January, 2017

[Signature]
Notary Public (signature)



My commission expires: 9/20/2020

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 Chapel Hill Police Department Property
 828 Martin Luther King Jr. Blvd
 Chapel Hill, North Carolina
H&H Job No. TCH-002**

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Glossary of Abbreviations

2B Surface Water Standard	North Carolina Surface Water Standard from NCAC Title 15A 2B
2L Groundwater Standard	North Carolina Groundwater Standard from NCAC Title 15A 2L.0202
CCPs	Coal Combustion Products
COPCs	Compounds of Potential Concern
DEQ	Department of Environmental Quality
DO	Dissolved Oxygen
DOT	Department of Transportation
DPT	Direct Push Technology
ESV	Ecological Screening Value
ft	feet
bgs	below ground surface
HASP	Health and Safety Plan
IHSB	Inactive Hazardous Sites Branch
IMAC	Interim Maximum Allowable Concentration
J	Laboratory Qualifier which indicates that a compound was detected but the detected concentration is above the method detection limit (MDL) but less than the laboratory sample quantitation limit (SQL) and is an estimated value
MDL	Method Detection Limit
NCAC	North Carolina Administrative Code
NTU	Nephelometric Turbidity Units
ORP	Oxidation Reduction Potential
POG	Protection of Groundwater

Glossary of Abbreviations (cont.)

PSRG	Preliminary Soil Remedial Goal
PVC	Polyvinyl chloride
PWR	Partially Weathered Rock
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
SESD	Science and Ecosystem Support Division
SQL	Sample Quantitation Limit
UCL	Upper Confidence Level

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1.0 Introduction

On behalf of the Town of Chapel Hill, Hart & Hickman, PC (H&H) has prepared this Phase II Remedial Investigation Report (RIR) for the Chapel Hill Police Department property located at 828 Martin Luther King Jr. Boulevard, Chapel Hill, Orange County, North Carolina (site). A Site Location Map is included as Figure 1.

Previous assessment activities indicate that the site was initially used as a borrow pit from the late 1950s to early 1960s, and then was used as a fill site from the mid-1960s to the mid-1970s. It appears that the fill initially consisted of construction debris, and then coal combustion products (CCPs) were placed above the construction debris for structural fill. Please note that the Town of Chapel Hill did not place the construction debris or CCPs at the site, but has voluntarily agreed to conduct additional assessment as the current site owner. The Town of Chapel Hill acquired the site in 1980 and constructed the Town of Chapel Hill Police Department building on the site in the early 1980s.

Results of previous environmental assessment activities conducted from 2013 to 2016 by Falcon Engineering indicate that certain metals are present in the CCPs that appear to have migrated to nearby soil and groundwater. In a letter dated May 5, 2016, the North Carolina Department of Environmental Quality (DEQ) Inactive Hazardous Sites Branch (IHSB) requested that the Town of Chapel Hill conduct a Phase II Remedial Investigation (RI) of the site. H&H submitted a Phase II Remedial Investigation Work Plan (Phase II RIWP) to DEQ dated July 28, 2016. Based upon DEQ comments, the work plan was revised and Revision 1 of the Phase II RIWP was submitted to DEQ on September 15, 2016. On October 6, 2016, DEQ approved Revision 1 of the Phase II RIWP. The approved Phase II RIWP includes background information about the site including site setting and potential receptors, a summary and evaluation of previous assessment activities, identification of data gaps, and a plan for detailed additional assessment activities. This report

presents the methods and results of the additional assessment activities performed in accordance with the approved Phase II RIWP.

The purpose of the Phase II RI is to further evaluate geologic and hydrogeologic conditions at the site and to collect additional data to better define the extent of impacts identified during previous assessment activities. The Phase II RI activities built upon the previous assessment activities conducted by others at the site and included the following:

- Visual evaluation of shallow soil [within approximately 2 feet below ground surface (ft bgs)] for the presence of CCPs to determine where CCP may be exposed at or near the ground surface and potential susceptibility to current or future exposure or erosion;
- Collection and analysis of shallow soil samples in the northern “elevated” portion of the site to evaluate concentrations of metals in shallow soil in the elevated portions of the site;
- Collection of CCP samples for leachate analysis to evaluate the potential for metals present in CCP to leach into groundwater;
- Collection and analysis of shallow soil samples along the southern “lower” portion of the site to evaluate previous chromium detections and further evaluate compound concentrations in shallow soils along the greenway;
- Collection of background soil samples to establish naturally occurring conditions of metals in soil;
- Installation of additional groundwater monitoring wells and sampling of existing and newly installed monitoring wells to evaluate background concentrations of metals in groundwater, evaluate groundwater conditions at the site, and evaluate groundwater flow direction;

- Collection of surface water and streambed sediment samples to evaluate the potential for impacts to Bolin Creek; and
- Performance of aquifer slug tests to determine aquifer hydraulic conductivity.

This report is organized into the following sections:

- Section 2.0 – Site Background Information
- Section 3.0 – Environmental Setting
- Section 4.0 – Remedial Investigation Activities
- Section 5.0 – Conceptual Site Model
- Section 6.0 – References

The IHSB certification statements are included inside the front cover of the report.

2.0 Site Background Information

2.1 Site Location

The Town of Chapel Hill Police Department property is located at 828 Martin Luther King, Jr. Blvd. in Chapel Hill, Orange County, North Carolina. The approximate coordinates of the Police Department Building are 35°55'36.69"N latitude and 79°03'10.47"W longitude. The DEQ IHSB identification number for the site is NONCD0001486. A USGS topographic map indicating the location of the site is provided as Figure 1.

2.2 Site Description

The Police Department property is comprised of one land parcel that is approximately 10.24 acres in size and contains a two-story approximately 35,000 sq. ft building located on the north-central portion of the site that is used for police department operations. Asphalt parking lots are located in the northwestern and central portions of the site, and wooded areas are located in the southern and eastern portions of the site. Bolin Creek traverses the southern portion of the site, and a portion of the Bolin Creek Greenway Trail is located in the southern portion of the site just north of and parallel to Bolin Creek. A site plan is included as Figure 2.

The site topography consists of an elevated area where the police department building and parking lots are located which slopes steeply to the south to a lower area along Bolin Creek. Site topography is indicated in Figure 2. Based upon the results of previous assessment and the Phase II RI activities reported herein, the area where CCPs were placed at the site covers approximately 198,000 sq. ft (approximately 4.5 acres). (Note that this amount does not include the small areas where CCPs have been eroded from the location where they were initially placed). The area of CCP placement is depicted in Figure 7.

2.3 Land Usage and Zoning

The site is zoned R-2 Residential by the Town of Chapel Hill. Adjacent properties are zoned as R-2, with the exception of southern adjacent properties. Southwest and southeast adjacent properties are zoned as R-4 Medium Density Residential Conditional and the south adjacent properties are zoned as NC Neighborhood Commercial.

The surrounding properties are occupied by the following:

- North and Northeast – Bolinwood Drive with residential properties located beyond
- East – Stratford Hills apartment complex followed by vacant land
- South – Greenway and Bolin Creek followed by Lloyd Tire & Alignment and a Gas Station
- West – Martin Luther King, Jr. Blvd. followed by vacant land with residential properties located beyond

A site map with aerial photograph showing surrounding land use is provided as Figure 2.

2.4 Site Ownership

As indicated by the Orange County Tax Records, the owner of the facility prior to Town of Chapel Hill was Richard W. Sparrow. The Town of Chapel Hill purchased the property in 1980 and constructed the Town of Chapel Hill Police Department building on the site in the early 1980s.

3.0 Environmental Setting

3.1 Surface Water Hydrology

The site lies within the Piedmont Physiographic region and is part of the Cape Fear River basin. The Piedmont is a plateau that divides North Carolina's mountain and coastal plain regions. It has variable topography, with elevations ranging from approximately 300 feet above mean sea level (msl) in the eastern portion of the Piedmont to approximately 1,500 feet msl in the western portion. The Piedmont is separated from the Coastal Plain region by a fall line, or the point in which rivers transition from rocky, shallow streams to smooth-flowing streams.

Overall, the site slopes to the south from an elevation of approximately 375 ft msl near Bolinwood Drive to an elevation of approximately 300 ft above msl near Bolin Creek, which transverses the southern boundary of the site. The site topography is segmented into two gently graded areas referred to as the "elevated area" and the "lower area" that are separated by a steep embankment which generally runs east-west. The elevated area includes the northern and central portion of the site where the police department building and asphalt parking lots are located. The lower area of the site gently slopes to the southeast toward Bolin Creek and includes the Bolin Creek Trail.

Stormwater features include a storm water drain located in the northwestern portion of the site, and a stormwater catchment basin located east of the parking lot area. PVC piping was noted emerging and running south down the embankment in the western area of the site. A drainage channel runs southeast from Bolinwood Drive, to the east of the police department building, into the catchment basin and then south, down the embankment and into the lower area of the site. Portions of this steep embankment show evidence of erosion, such as small gullies in the embankment transitioning to deposition of material along silt barriers installed north of the Bolin Creek Trail.

Bolin Creek discharges into Little Creek, which feeds into Jordan Lake. Jordan Lake discharges to the Haw River, which joins with the Deep River to form the Cape Fear River.

3.2 Regional Geology and Hydrogeology

The site is located in the Piedmont Geologic Province of North Carolina, which consists of metamorphic and igneous crystalline bedrock overlain by a region of fractured and folded metamorphic and igneous crystalline bedrock. Meta-igneous and meta-volcanic felsic rocks are typical for Orange County, including the site location (Cunningham and Daniel, 2001). Meta-igneous felsic rocks are light colored, massive to foliated metamorphosed igneous rock bodies. It is common to find local shearing and jointing in meta-igneous felsic rocks. Meta-volcanic felsic rocks are primarily dense, fine-grained, light colored felsic tuffs and felsic crystal tuffs. The recrystallized fine-grained meta-volcanic rocks may be locally sheared and phyllitic zones are common.

In the Piedmont, the bedrock is overlain by regolith (or saprolite) of varying thickness which is derived from the in-place weathering of underlying bedrock. The regolith consists of fine grained material such as clays and silts near the ground surface to partially weathered rock above bedrock.

The hydrogeologic units in the Piedmont generally consist of the following (in descending order):

- Surficial aquifer – The surficial aquifer consists of saprolite, alluvium and soil. In the Piedmont region, these sediments consists of predominately clay-rich saprolite weathered from metamorphic and igneous crystalline bedrock. In locations of active and former stream channels, alluvium deposits may replace or overlie the saprolite. The thickness of this layer can vary from zero to more than 150 ft, with an average thickness of approximately 50 ft. The surficial aquifer typically has high porosity and provides the bulk of the water storage in the Piedmont region.
- Transition zone – In the transition zone, the unconsolidated sediments characteristic of the surficial aquifer grade into bedrock, consisting primarily of weathered bedrock and lesser amounts of saprolite. The thickness of the transition zone depends primarily on the parent rock type and the degree of weathering. Highly foliated metamorphic parent rocks contain planes of weakness that facilitate fractures during weathering that typically form a thicker, well defined transition zone. Massive igneous parent rocks do not fracture as easily and thus

tend to have a thinner, less distinct transition zone in the Piedmont region. The water storage capacity is dependent on the extent of weathering and fracturing in the transition zone.

- Fractured bedrock – The fractured bedrock aquifer includes crystalline rocks below the transition zone. The bedrock contains water in sheet-like openings formed along fractures, and the abundance and size of fractures in bedrock generally decreases with depth. The surficial aquifer feeds the bedrock aquifer system, which can transmit water through a network of fractures to discharge into surface water features.

3.3 Site Geology

According to the Geologic Map of North Carolina (1985), the underlying bedrock in the site area is characterized as metamorphosed granitic rock. Depth to bedrock at the site generally ranges from approximately 10 to 15 ft bgs in the northern portion of the site near Bolinwood Rd. and in the southern portion of the site near Bolin Creek. Depth to bedrock in the central portion of the site where fill material has been placed is approximately 45 ft to 50 ft bgs. A north to south trending geologic cross-section is provided as Figure 5. The cross-section extends from MW-5 north of the site across Bolinwood Drive, then across the police department parking lot, through the embankment, and then south to Bolin Creek. A cross-section transect location map is provided as Figure 4.

Soil borings conducted at the site as part of the previous and recent assessment activities indicate that the materials present above bedrock generally consist of the following in descending order.

- The native shallow soil generally consists of silty clay saprolite which is approximately 5 to 15 ft thick. In areas where fill material is not present, the saprolite is underlain by a partially weathered rock (PWR) zone that is approximately 5 ft thick, and the PWR is underlain by bedrock.
- In areas where fill has been placed, the shallow cover soil generally consists of clayey silt fill which, in some locations, appears to be mixed with CCP. The CCP was likely mixed with the fill during placement of the cover materials. Where present, the cover material is

less than approximately 2 ft thick to approximately 10 ft thick. In some areas along the embankment, the fill cover is absent (see Section 4.1.1 for additional details about the CCP cover).

- The upper fill material below the cover layer (where present) consists of CCP which ranges in thickness from less than 1 ft where it pinches out in the northern portion of the site, to greater than 20 ft at the embankment separating the elevated and lower areas of the site. Based upon assessment activities, the average CCP thickness appears to be approximately 8 ft. There is also a small area of CCP which has eroded from the embankment and been deposited along the north side of the Bolin Creek Trail (see Figure 7 and Section 4.1.1). This depositional layer of CCP is less than 1 ft to 1.5 ft thick.
- Below the CCP layer appears to be general fill material such as concrete, other debris, and soil, although the character of this material is hard to discern from the limited number of borings which penetrated the material. This material is visible in some portions of the embankment and consists of large pieces of concrete, brick, gravel, soil, and metal debris.

3.4 Site Hydrogeology

3.4.1 Groundwater Elevation and Flow Direction

On November 9, 2016, existing and newly installed monitoring wells were gauged as part of the Phase II RI. Gauging data are provided in Table 1. Water level data were collected with a decontaminated electronic water level meter. The top of casing elevations for the site monitoring wells were surveyed by CE Group of North Carolina, PLLC on December 8 and 9, 2016. The CE Group survey report is provided in Appendix A.

Initial groundwater was encountered in the unconsolidated materials in all of the borings except MW-5 and MW-7, where initial groundwater was encountered in bedrock. Initial groundwater is present at depths of approximately 5 ft bgs along the Bolin Creek Greenway to approximately 35 ft bgs in the central portion of the site. Where present above bedrock, initial groundwater appears

to be present primarily in the PWR and fill/debris material. It does not appear that CCP materials were placed below the water table (see Figure 5).

During the November 2016 RI, groundwater elevation ranged from approximately 360 ft above msl in background monitoring well MW-5, located northwest of the site across Bolinwood Drive, to approximately 291 ft above msl in downgradient monitoring well MW-4A, located in the southeast portion of the site. An inferred shallow groundwater potentiometric map based on the groundwater elevation data collected on November 9, 2016 is provided as Figure 6. As indicated in the figure, groundwater at the site generally flows south/southeast towards Bolin Creek.

3.4.2 Horizontal Gradient

The horizontal hydraulic gradient is a measure of the slope of the potentiometric head of an aquifer. The horizontal hydraulic gradient calculated for shallow groundwater across the site is approximately 0.07 ft/ft for the November 2016 gauging event.

3.4.3 Hydraulic Conductivity and Groundwater Flow Velocity

Hydraulic Conductivity

Hydraulic conductivity is a measure of an aquifer's ability to transmit water. Rising head slug tests were conducted by H&H at six monitoring wells (MW-1, MW-3A, MW-4A, MW-5, MW-6, and MW-7) in December 2016 to evaluate aquifer hydraulic conductivity. During the slug test, a slug of water was removed from each well using a 36-inch or 48-inch long disposable bailer, and the water level recovery in the wells was monitored over time using a Solinst pressure transducer and data logger. The slug test data were analyzed by Bouwer and Rice solution method for an unconfined aquifer using AQTESOLV aquifer test analysis software. The calculated hydraulic conductivities are presented in the table below:

Well ID	Hydraulic Conductivity (ft/day)
MW-1	0.2
MW-3A	0.04
MW-4A	0.04
MW-5	0.1
MW-6	6
MW-7	0.2

The geometric mean hydraulic conductivity for the slug tests in the shallow groundwater is approximately 0.2 ft/day. The slug test data plots are included in Appendix B.

Groundwater Flow Velocity

The average linear groundwater flow velocity of groundwater is calculated utilizing the following equation:

$$V_x = \frac{K}{n_e} \times \frac{dH}{dL}$$

Where:

V_x = average linear groundwater velocity parallel to groundwater flow direction;

K = hydraulic conductivity;

n_e = effective porosity; and

$\frac{dH}{dL}$ = hydraulic gradient

Utilizing the average hydraulic gradient for the shallow aquifer (0.07 ft/ft), the geometric mean hydraulic conductivity for the shallow aquifer (0.2 ft/day), and an assumed effective porosity of 0.25, the average groundwater flow velocity for the shallow groundwater is estimated to be approximately 0.06 ft/day (approximately 20 ft/year). Please note that most compounds (such as metals) present in an aquifer do not travel at the same rate as groundwater because their mobility

is reduced by geochemical conditions including adsorption onto aquifer matrix surfaces and chemical transformations that may occur.

4.0 Phase II Remedial Investigation Activities

The RI activities were conducted by H&H in October 2016 through December 2016. Field activities were performed in accordance with a site-specific Health and Safety Plan (HASP) and the Phase II RIWP Revision 1 dated September 15, 2016. Field activities performed during the Phase II RI consisted of the following:

- Installation of 47 shallow soil borings along the steep embankment on the southern portion of the site and select locations along the border of the site to visually assess shallow soil for the presence of CCP;
- Sampling of shallow soil and CCP from six soil borings in the elevated portion of the site;
- Sampling of shallow soil from four soil borings on the lower portion of the site along the Bolin Creek Trail;
- Installation and sampling of soil from five soil borings in background locations;
- Installation of three permanent shallow monitoring wells;
- Collection of depth-to-groundwater measurements from the six site monitoring wells to allow an evaluation of groundwater flow;
- Collection of groundwater samples from three existing and three newly-installed monitoring wells;
- Collection of five surface water and sediment samples from Bolin Creek; and
- Performance of aquifer slug tests at six monitoring wells.

Select photographs of site activities are provided in Appendix C. Sampling locations are provided on Figure 3. Note that the locations of the all of the Phase II RI sampling locations were determined by CE Group, a registered land surveyor. The surveyor report is provided in Appendix A.

4.1 Soil Investigation Activities

4.1.1 CCP Cover Evaluation

H&H advanced 47 shallow hand auger borings to perform a visual inspection of shallow soil along the embankment that separates the elevated and lower areas of the site and in perimeter areas in the western, northern, and northeastern portions of the site. The locations of the CCP cover evaluation borings are indicated in Figures 3 and 7. The soil borings were advanced on a rough 50-ft grid along the embankment, taking into account topography and access to the boring locations. In perimeter areas, the locations were based upon the work plan locations and field judgment. The borings were advanced with a stainless steel hand auger to a depth of 2 ft. During boring advancement, visual observations of the soil were performed and logged to evaluate the presence of soil and/or CCPs. If CCPs were observed within the upper 2 ft of a perimeter boring, additional borings were advanced to delineate the extent of CCP near ground surface.

The CCP cover evaluation boring designations were given an alpha-numeric designation based upon the rough 50-ft grid established across the site. East-west boring row “A” is present in the southern portion of the site, and east-west boring row “I” is located in the northern portion of the site. In a boring row, borings were labeled “1” through “12” from west to east. For example, CCP cover evaluation boring D1 is located in boring row D near the Bolin Creek Trail and is the furthest west boring near Martin Luther King, Jr. Blvd.

4.1.2 Elevated Area

Five soil borings (HH-1 through HH-5) were advanced in the northern, elevated portion of the site. The locations of the borings are indicated in Figures 3 and 8. The purpose of these borings was to 1) evaluate shallow soil metals concentrations in the elevated portions of the site, and 2) to collect samples of the underlying CCPs for leachate analysis to evaluate the potential for metals to leach to groundwater. An additional shallow soil sample was collected from the boring for monitoring well MW-7 to evaluate shallow soil metal concentrations in the eastern portion of the site. Soil borings HH-1 and HH-3 were advanced with a Geoprobe® direct push technology (DPT) drill rig to approximately 10 ft and 15 ft bgs, respectively. The remaining soil borings were advanced using a stainless steel hand auger to a depth of approximately 5 ft bgs. At each boring, one shallow

soil sample from a depth of 0-1 ft was collected for analysis of the site soil compounds of potential concern (COPCs). The soil COPCs are antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, strontium, thallium, vanadium, and zinc (analysis by EPA Method 6010/7471) and hexavalent chromium (analysis by EPA Method 7199). In addition, a sample of CCP was collected from a deeper depth from each boring for analysis of the site groundwater COPCs (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, strontium, thallium, vanadium, and zinc) following the Synthetic Precipitation Leaching Procedure (SPLP) by EPA Method 1312.

4.1.3 Lower Area

H&H advanced three shallow soil borings (HH-6 through HH-8) in the southern, lower portion of the site with a stainless steel hand auger. The locations of the borings are indicated in Figures 3 and 8. In addition, one shallow soil sample was collected from the newly installed monitoring well boring MW-6. Soil borings HH-6 and HH-7 were advanced along the Bolin Creek Trail to evaluate previous total chromium detections near these borings. Soil samples were collected from 0 to 1 ft bgs and analyzed for total chromium by EPA Method 6010 and hexavalent chromium by EPA Method 7199. Soil boring HH-8 was advanced in the southeastern portion of the site along the Bolin Creek Trail. Shallow soil samples collected from HH-8 and MW-6 were collected to further evaluate compound concentrations in the shallow soil along the Bolin Creek Trail and were analyzed for the site soil COPCs.

4.1.4 Background Samples

H&H advanced four soil borings (BG-1 through BG-4) in locations along Bolin Creek to the west (upgradient) of the site. The samples were collected from the sewer line right of way along the creek in the locations indicated in Figure 8. The borings were advanced to a depth of 3 ft using a stainless steel hand auger. Two soil samples were collected from each boring, one from a shallow depth (0-1 ft) and one from deeper depth (2-3 ft). In addition to these four soil boring locations, two soil samples were collected from background monitoring well MW-5 at depths of 0-1 ft and 6-7 ft bgs. The background soil samples were analyzed for the site soil COPCs.

4.1.5 General Soil Sampling Procedures

Laboratory supplied sample bottles were used for sample collection. A chain-of-custody record was completed for the samples submitted for analysis and included the sample description, date and time collected, sample matrix, sample container information, and requested analyses. The chain-of-custody forms were signed by H&H sampling personnel and placed with the sample containers into an iced cooler for delivery to a North Carolina certified laboratory (Prism Laboratories, Inc.). Soil samples collected for analysis of hexavalent chromium by EPA Method 7199 were delivered to TestAmerica or SGS Laboratory.

After soil sampling was completed, the DPT boreholes were backfilled with bentonite chips to surface grade and the surface was restored to match the surrounding area.

4.2 Soil Investigation Results

4.2.1 CCP Cover Evaluation

The results of the CCP cover evaluation are summarized in the CCP cover evaluation map provided as Figure 7. Soil boring logs are included in Appendix D. Based upon the results of the previous and Phase II RI activities, H&H categorized CCP presence and cover into the following categories:

- Areas where CCP is not present. There were no observations of CCP in soil south of the Bolin Creek Trail, in some areas north of the Bolin Creek Trail, in the eastern portion of the site, in the northeastern portion of the site, and in the southwestern portion of the site.
- Areas where CCP is present under at least 2 ft of cover soil. Areas that are covered with 2 ft or more of cover soil are depicted in blue in Figure 7 and include most of the area in the central and northwestern portions of the site and some areas along the steep embankment. In some areas, the cover soil contained intermixed CCP. The cover soil is predominately silty clay.
- Areas where CCP is under less than 2 ft of cover soil. Areas that are covered with less than 2 ft of cover soil are depicted in yellow in Figure 7. These areas are located in the far northwestern portion of the site and along the western portion of the embankment. The northwestern portion of the site is primarily covered by grass, with some areas covered by

a paved driveway. As noted above, cover soil is generally composed of silty clay and may be intermixed with CCP.

- Areas where CCP is visible at the ground surface. Areas where CCP is exposed at ground surface are depicted in pink in Figure 7. These areas are located in the eastern portion of the embankment and an isolated area in the central portion of the embankment. Observations of concrete, brick, and other structural debris were also noted along the embankment.
- Areas where CCP appears to have been eroded and deposited in lower areas. Areas where CCP appears to have been eroded and deposited in lower areas are depicted in green in Figure 7, and are located predominately in the eastern portion of the embankment but also a small area in the western portion of the embankment. In these areas, a relatively thin layer of CCP generally less than 1 to 1.5 ft thick is present overlying native soil. This soil profile and the presence of nearby exposed CCP indicates that the CCP layer in the lower area was placed via erosion. The buildup of CCP along erosion barriers placed at the site also indicates movement of CCP from the eastern half of the embankment to the lower area via erosion.

4.2.2 Analytical Data

The results of analysis of the soil samples collected during the Phase II RI were compared to the site-specific background concentrations and the IHSB Protection of Groundwater (POG), Residential, and Industrial Health-Based Preliminary Soil Remediation Goals (PSRGs). For the background evaluation, the data were compared to the range of background detections and the 95% upper confidence level (UCL) of the background data. The 95% UCLs were determined using EPA's ProUCL software (Version 5.1). The ProUCL software printouts are included in Appendix G. In addition, published regional background levels in soil in North Carolina are also included in Table 2. Please note that the PSRGs are preliminary screening levels only and are not "cleanup" values. A concentration above a PSRG does not indicate that remediation needs to be performed, only that further evaluation may be warranted.

Analytical data for soil samples is summarized on Table 2, and laboratory analytical reports are included in Appendix E. Soil sample locations are provided on Figure 8. A summary of soil analytical results is provided below.

Elevated Area

The results of analysis of the shallow soil samples collected from the elevated portions of the site as part of the Phase II RI (HH-1 through HH-5 and MW-7) indicate that, of the metals detected, only arsenic and selenium were detected above site-specific background concentrations and PSRGs. A discussion of the data for these metals is provided below.

Arsenic

Arsenic was detected in soil samples collected in the elevated area of the site at concentrations ranging from 2.4 mg/kg (HH-4 and HH-5) to 9.9 mg/kg (HH-3). Arsenic was detected in background samples ranging from 1.4 mg/kg to 2.3 mg/kg, with a 95% UCL of 2.1 mg/kg. Arsenic was detected significantly above background and PSRGs in samples HH-1, HH-2, and HH-3 only at concentrations ranging from 3.4 mg/kg to 9.9 mg/kg as compared to the residential health-based PSRG of 0.68 mg/kg, the industrial health-based PSRG of 3.0 mg/kg, and the POG PSRG of 5.8 mg/kg.

As noted previously, results of the CCP cover evaluation indicate that small amounts of CCP are intermixed with cover soil. Therefore, the presence of elevated levels of arsenic in the shallow cover soil is likely associated with the presence of minor CCP, which has been shown to contain arsenic up to 72 mg/kg. It is also possible that the cover soil was obtained from a location removed the site with higher concentrations of naturally occurring arsenic than are present near the site because the arsenic detections are consistent with regional background levels in North Carolina (up to 18 mg/kg).

Selenium

Selenium was detected in one sample (HH-3) significantly above the site-specific background level. In this sample, selenium was detected at 2.4 mg/kg versus the background range of up to

1.7 mg/kg and the 95% UCL of 1.4 mg/kg. The concentration detected in HH-3 slightly exceeds the POG PSRG of 2.1 mg/kg, but does not exceed the residential or industrial PSRGs.

Lower Area

The results of analysis of the shallow soil samples collected from the lower portions of the site in which analysis of the full suite of soil COPCs was performed (HH-8 and MW-6) indicates that, of the metals detected, only arsenic in HH-8 significantly exceeded the background level and PSRGs. In HH-8, arsenic was detected at 3.6 mg/kg versus the background range of 1.4 to 2.3 mg/kg and the 95% UCL of 2.1 mg/kg. The arsenic concentration detected exceeds the residential and industrial PSRGs but does not exceed the POG PSRG.

HH-6 and HH-7 were collected to evaluate previous detections of chromium in samples collected near the Bolin Creek Trail. In these samples, chromium was detected at concentrations of 20 mg/kg to 22 mg/kg which are consistent with background levels and the previous detections from this area. Hexavalent chromium was not detected in the samples, indicating that the detected chromium is in a trivalent state. Trivalent chromium concentrations were significantly below PSRGs.

4.2.3 SPLP Data

CCP samples were analyzed for the site-specific groundwater COPCs following SPLP. Please note that the SPLP analysis simulates leaching of rainwater through soil to groundwater and the analytical procedure produces an aqueous leachate which is then analyzed for the COPCs. Therefore, the results of the SPLP analyses are compared to the North Carolina Administrative Code (NCAC) Title 15A 2L.0202 Groundwater Standards (2L Groundwater Standards), Interim Maximum Allowable Concentration (IMAC), and site-specific background groundwater concentrations. Analytical data for the CCP samples is summarized in Table 3, and laboratory analytical reports are included in Appendix E. Soil boring locations are provided on Figure 8.

Several metals were detected above the 2L Groundwater Standards or IMACs and background groundwater concentrations in leachate from the CCP samples (HH-1 through HH-5). A summary

of metal detections in leachate is provided below. Please note that in this report a “J” is present after some of the sample concentrations. A “J” is a laboratory qualifier which is used to identify a concentration which is above the method detection limit (MDL) but below the laboratory sample quantitation limit (SQL) and is therefore an estimated concentration.

- Antimony was detected in the leachate of three of six CCP samples collected at estimated concentrations ranging from 3.3J $\mu\text{g/L}$ (HH-5) to 5.1J $\mu\text{g/L}$ (HH-4). The detected concentrations are slightly above the IMAC of 1.0 $\mu\text{g/L}$.
- Arsenic was detected in the leachate of CCP sample HH-3 at an estimated concentration of 18J $\mu\text{g/L}$ which is slightly above the 2L Groundwater Standard of 10 $\mu\text{g/L}$.
- Barium was detected above the 2L Groundwater Standard in the leachate of the CCP samples collected from borings HH-2 (830 $\mu\text{g/L}$ and its duplicate at 1,300 $\mu\text{g/L}$), HH-3 (740 $\mu\text{g/L}$), and HH-5 (1,900 $\mu\text{g/L}$). The 2L Groundwater Standard is 700 $\mu\text{g/L}$.
- Cobalt was detected in the leachate of CCP sample HH-3 at an estimated concentration of 4.6J $\mu\text{g/L}$, which is slightly above the IMAC of 1.0 $\mu\text{g/L}$.
- Lead was detected in the leachate of CCP sample HH-3 at a concentration of 45 $\mu\text{g/L}$, which is above of the 2L Groundwater Standard of 15 $\mu\text{g/L}$.
- Manganese was detected in the leachate of CCP samples HH-3 and HH-2 (duplicate only) at concentrations of 290 $\mu\text{g/L}$ and 69 $\mu\text{g/L}$, respectively. These concentrations are above the 2L Groundwater Standard of 50 $\mu\text{g/L}$ but do not exceed the site-specific background groundwater concentration of 580 $\mu\text{g/L}$.
- Selenium was detected in the leachate of all of the CCP samples at concentrations ranging from 28J $\mu\text{g/L}$ (HH-3) to 130 $\mu\text{g/L}$ (HH-1). These selenium concentrations are above the 2L Groundwater Standard of 20 $\mu\text{g/L}$ and the background concentration of 23 $\mu\text{g/L}$.

- Vanadium was detected in the leachate of five of six CCP samples (all except HH-1) at estimated concentrations of ranging from 2.6J $\mu\text{g/L}$ (HH-2 duplicate) to 23J $\mu\text{g/L}$ (HH-3). The detected concentrations are above the IMAC of 0.3 $\mu\text{g/L}$.
- Strontium was detected in the SPLP leachate at concentrations ranging from 100 $\mu\text{g/L}$ to 2,500 $\mu\text{g/L}$. There is no 2L Groundwater Standard for strontium but the site-specific background concentration is 190 $\mu\text{g/L}$. Strontium was detected significantly above the background level in HH-1 and HH-4.

Although antimony, arsenic, barium, cobalt, lead, selenium, strontium, vanadium, and were detected in the CCP leachate above background groundwater concentrations and the 2L Groundwater Standards or IMACs, as discussed below, results of the Phase II RI groundwater investigation indicate that cobalt, chromium, manganese, selenium, thallium, strontium, and vanadium were detected in groundwater samples above background and 2L Groundwater Standards and IMACs.

4.3 Groundwater Investigation

Monitoring well installations and sampling of all site monitoring wells were conducted in November 2016 in accordance with the Phase II RIWP. The methods and results of the groundwater assessment activities are summarized in the following sections.

4.3.1 Monitoring Well Installation

Three additional monitoring wells were installed at the site in the locations described below. The locations of the wells are indicated in Figure 9.

- MW-5 was installed northwest of the site across Bolinwood Drive to evaluate background concentrations of metals in groundwater. Please note that the location of MW-5 was moved from the northwestern portion of the site because of the presence of CCP in shallow soil in this area. The background well was re-located in the Bolinwood right-of-way northwest of the site as indicated in Figure 9.

- MW-6 was installed in the southwestern, downgradient portion of the site along Bolin Creek Trail to evaluate groundwater conditions southwest of the CCP fill area.
- MW-7 was installed in the eastern portion of the site to evaluate groundwater conditions east of the CCP fill area.

Monitoring wells MW-5 and MW-7 were installed utilizing air rotary drilling methods, and monitoring well MW-6 was installed using hollow stem auger drilling methods. MW-6 was installed to a depth 17.5 ft bgs at auger refusal and groundwater was encountered at approximately 10 ft bgs. For MW-5 and MW-7, groundwater was not encountered above bedrock and the wells were installed upon encountering a water bearing fracture. In MW-5, bedrock was encountered at approximately 15 ft bgs, and the wells was installed to a depth of 27.5 ft bgs. In MW-7, bedrock was encountered at approximately 15 ft, and the well was installed to a depth of 69.5 ft bgs.

The monitoring wells were constructed in accordance with the North Carolina well construction regulations. The monitoring wells were constructed of 2-inch diameter PVC with a 10-ft well screen. To reduce turbidity, the monitoring wells were installed with pre-packed well screens. All monitoring wells were completed flush with the ground surface inside flush mount manholes secured with 2 ft by 2 ft concrete pads.

Well construction details are summarized in Table 1. Monitoring well diagrams are included in Appendix D, and well construction records are included in Appendix F.

4.3.2 Monitoring Well Development

The newly installed monitoring wells were developed in accordance with the Phase II RIWP and EPA Region 4 Science and Ecosystem Support Division (SESD) protocols to remove silt and fines in the wells and sand pack. Development water was containerized in 55-gallon steel drums, properly labeled, and staged onsite for waste characterization and subsequent off-site disposal.

4.3.3 Monitoring Well Sampling

Following monitoring well installation, groundwater samples were collected from the newly installed and existing site monitoring wells (MW-1, MW-3A, MW-4A, MW-5, MW-6, and MW-7) on November 9 and 10, 2016, except MW-7. Due to high turbidity levels in MW-7, H&H redeveloped the monitoring well on November 11, 2016 and then resampled MW-7 on November 14, 2016. Final sample turbidity levels are indicated in Table 4. As indicated in Table 4, all of the sample turbidity levels were less than 10 Nephelometric Turbidity Units (NTU), except for MW-1. Consistent with previous sampling events, turbidity levels in MW-1 remained elevated despite efforts to lower the turbidity. The final sample turbidity in MW-1 was 475 NTU. Because of the elevated turbidity, H&H collected a filtered and unfiltered sample from MW-1. The filtered sample was filtered in the field using a 0.45 micron filter.

As part of the groundwater sampling effort, a complete round of water level measurements was collected from each monitoring well using an electronic water level meter, and the results are discussed above in Section 3.4. Purging and sampling of the monitoring wells were completed using the low flow/low stress purging and sampling method in accordance with EPA Region 4 SESD protocols.

The groundwater samples were submitted to a North Carolina certified laboratory or field tested as follows:

- Groundwater from each monitoring well was field analyzed for dissolved oxygen, oxidation-reduction potential (ORP), pH, conductivity, temperature, and turbidity.
- Groundwater samples collected from each monitoring well were analyzed for the groundwater COPCs antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, strontium, thallium, vanadium, and zinc by EPA Method 6010/74710

Laboratory supplied sample bottles were used for sample collection and laboratory analyses were performed by Prism Laboratories, Inc. A chain-of-custody record was completed for the samples

submitted for chemical analysis and included the sample description, date and time collected, sample matrix, sample container information, and requested analyses. The chain-of-custody forms were signed by H&H sampling personnel and placed with the sample containers into an iced cooler for delivery to their respective laboratory. Groundwater sampling logs are provided in Appendix H.

4.4 Groundwater Investigation Results

Analytical data for groundwater samples are summarized on Table 4, and laboratory analytical reports are included in Appendix E. Monitoring well locations are depicted in Figure 9. Monitoring wells MW-1, MW-3A, and MW-5 are also depicted in the Figure 5 cross-section. A summary of groundwater analytical results is provided below. The groundwater data were compared to the background concentrations in MW-5 and the 2L Groundwater Standards or IMACs.

Metals

The results of analysis of the groundwater samples indicate that, of the compounds detected, only chromium, cobalt, manganese, selenium, thallium, and vanadium were detected above 2L Groundwater Standards. A discussion of the data for these metals is provided below. Compounds detected above 2L Groundwater Standards are depicted in Figure 9. There is no 2L Groundwater Standard for strontium, but it was also detected above the background level; therefore, a discussion of the strontium data is also provided below.

Chromium

Chromium was detected at a concentration of 29 µg/L in MW-6, which is above the 2L Groundwater Standard of 10 µg/L. Chromium was also detected in the unfiltered sample from MW-1 at 31 µg/L, but was not detected in the filtered sample indicating that the detection in MW-1 is associated with suspended sediment. Chromium concentrations were not detected above the 2L Groundwater Standard in other groundwater samples. Because chromium has not been detected in other wells above the 2L Groundwater Standard and this well has only been sampled once, the chromium detection should be confirmed during future sampling events.

Cobalt

Cobalt was detected at a concentration of 32 µg/L in the MW-1 unfiltered sample, and 6.0 µg/L, in the MW-1 filtered sample, which are above the IMAC of 1.0 µg/L. The reduction of cobalt concentrations following filtration indicates that the concentration in the unfiltered sample from MW-1 was primarily from cobalt sorbed to suspended sediments; however, the presence of cobalt concentrations above the IMAC in MW-1 filtered indicate that cobalt was also dissolved in groundwater. Cobalt was not detected in other groundwater samples.

Manganese

Manganese was detected in groundwater samples collected from site monitoring wells in concentrations ranging from 14 µg/L (MW-3A) to 8,600 µg/L (MW-1 unfiltered). The concentration of manganese in background well MW-5 was 580 µg/L which exceeds the 2L Groundwater Standard of 50 µg/L. Manganese was detected above the background level and the 2L Groundwater Standard in MW-1 (filtered and unfiltered) and MW-6 (2,500 µg/L). The similarity of manganese concentrations between MW-1 filtered (8,000 µg/L) and MW-1 unfiltered (8,600 µg/L) indicates that the majority of manganese detected was dissolved in groundwater rather than sorbed to suspended sediments. Concentrations of manganese in MW-3A, MW-4A, and MW-7 were below background levels.

Selenium

Selenium was detected in concentrations ranging from 20 µg/L (MW-6) to 52 µg/L (MW-3A duplicate). Selenium was detected in background well MW-5 at a concentration of 23 µg/L. Only MW-3A indicated a concentration above the 2L Groundwater Standard of 20 µg/L and the background level. Other detected concentrations were at or below background levels.

Thallium

Thallium was detected in MW-3A and its duplicate sample at estimated concentrations of 5.3J µg/L and 5.4J µg/L, respectively. The concentration of thallium detected in MW-3A is greater than the IMAC of 0.2 µg/L. Background well MW-5 did not indicate a concentration of thallium above the method detection limit.

Vanadium

Vanadium was detected at concentrations ranging from 0.94 µg/L (MW-3A) to 92 (MW-1 unfiltered), which are above the IMAC of 0.3 µg/L. The MW-1 filtered sample had an estimated vanadium concentration of 1.2J µg/L, indicating that the presence of vanadium in MW-1 unfiltered is primarily associated with suspended sediment. Background well MW-5 indicated an estimated vanadium concentration of 0.39J µg/L. Vanadium was detected slightly above the background concentration in wells MW-1 filtered, MW-3A, MW-6, and MW-7 at concentrations up to 1.2J µg/L, although all of the detected concentrations were estimated (i.e., J flagged). Because of the similarity of concentrations of vanadium in the site wells (ranging from 0.95J µg/L to 1.2J µg/L) and similarity of the detected concentrations to the background concentration, it is possible the vanadium concentrations are naturally occurring. Further, because wells MW-5, MW-6, and MW-7 have only been sampled once, additional samples should be collected to verify detected concentrations.

Strontium

There is no 2L Groundwater Standard or IMAC for strontium; however strontium was detected above the background concentration of 190 µg/L in MW-1 (2,100 µg/L), MW-3A (2,400 µg/L), and MW-6 (690 µg/L). Please note that the EPA tapwater Regional Screening Level for strontium ranges from 1,200 µg/L (based upon non-carcinogenic hazard index of 0.1) to 12,000 µg/L (based upon non-carcinogenic hazard index of 1).

Natural Geochemical Parameters

As part of the Phase II RI, site wells were field tested for the following geochemical parameters: dissolved oxygen (DO), ORP, specific conductance, pH, and temperature. Results of the field tests are summarized below:

- DO concentrations ranged from 0.27 mg/L (MW-5) to 6.87 mg/L (MW-1). Oxidic conditions (DO > 1.0 mg/L) were present in monitoring wells MW-1, MW-3A, MW-4A, and MW-7 while anoxic conditions (DO < 1.0 mg/L) were present in monitoring wells MW-5 and MW-6. Anoxic conditions can result in greater solubility of metals from natural sources.

- ORP levels ranged from 12.2 mV (MW-6) to 300.5 mV (MW-4A). Generally, ORP levels were between 0 and 100 mV with the exception of MW-3A and MW-4A, which were greater than 100 mV. These results indicate that generally oxidizing conditions are present in groundwater across the site.
- Specific conductance ranged from 112 $\mu\text{S}/\text{cm}$ (MW-7) to 1231 $\mu\text{S}/\text{cm}$ (MW-3A). The specific conductance in background well MW-5 was 569 $\mu\text{S}/\text{cm}$.
- The pH ranged from 5.28 standard units (SU) to 6.96 SU. pH levels are consistent with typical levels for groundwater in the Piedmont region.

4.5 Surface Water and Sediment Investigation

Surface water and sediment investigation activities included the collection of surface water and sediment samples from five locations in Bolin Creek in accordance with the approved Phase II RIWP. The surface water and sediment sampling locations are depicted in Figure 10. The surface water and sediment samples were co-located. The surface water samples were given an “SW” sample designation, and the sediment samples were given an “SED” sample designation. Sample locations SW-1/SED-1 and SW-2/SED-2 were collected from upgradient locations, sample locations SW-3/SED-3 and SW-4/SED-4 were collected adjacent to the site, and sample locations SW-5/SED-5 were collected near the downgradient boundary.

Surface water and sediment samples were collected on October 27, 2016. Because of laboratory error, H&H was informed by the laboratory that hexavalent chromium surface water samples (which has a short hold time) were out of hold time prior to analysis. Therefore, to ensure comparability of the metals data, all of the surface water samples were re-collected on November 3, 2016. All surface water and sediment samples were collected from downstream locations moving to upstream locations during apparent base flow conditions. Surface water samples were collected by placing the sample bottles directly into the flowing stream and allowing the bottles to

fill with water. Sediment samples were collected with a decontaminated stainless steel scoop from areas of observed sediment accumulation.

Please note that the bottom of the Bolin Creek near the site is primarily comprised of large gravel and boulders with small pockets of sand-sized and finer sediment. The sediment samples were collected from these small pockets of accumulated smaller-sized sediment.

Samples were analyzed for the following:

- Surface water from each location were field analyzed for dissolved oxygen, pH, conductivity, temperature, and turbidity.
- The sediment and surface water samples from each locations were analyzed for site soil COPCs.

4.6 Surface Water Sampling Results

Metals

The surface water analytical results are summarized in Table 6, and the laboratory data sheets are provided in Appendix E. The results of analysis of the surface water samples were compared to site-specific background levels, the NCAC Title 15A 2B Surface Water Quality Standards (2B Standards), and, for compounds without a 2B Standard, the EPA Region 4 chronic surface water ecological screening values (ESVs).

Only concentrations of barium, manganese, and strontium were detected in surface water samples. Concentrations of barium, which ranged from 26 µg/L to 27 µg/L, and strontium, which ranged from 100 µg/L to 110 µg/L, were consistent throughout the section of Bolin Creek sampled and are therefore indicative of background conditions.

Concentrations of manganese in the downgradient samples were slightly elevated compared to background. Manganese concentrations ranged from 24 µg/L to 34 µg/L in the downgradient

samples and from <10 µg/L to 11 µg/L in the background samples. The concentrations detected in the downgradient samples are less than the EPA surface water ESV of 93 µg/L.

Geochemical Parameters

As part of the RI, surface water sampling locations were field tested for the following natural geochemical parameters: DO; turbidity; specific conductance; pH; and temperature. Results of the field tests are summarized in Table 7 and below:

- DO concentrations ranged from 6.54 mg/L (SW-1) to 7.63 mg/L (SW-2). Oxic conditions (DO > 1.0 mg/L) were present throughout the Bolin Creek reach.
- Turbidity within the Bolin Creek samples ranged from 0.39 NTUs (SW-5) to 1.04 NTUs (SW-2), indicating that little suspended sediments were present in surface water samples.
- The specific conductance within the Bolin Creek reach ranged from 168.4 µS/cm (SW-1) to 182.5 µS/cm (SW-2).
- The pH measured within the Bolin Creek reach ranged from 7.12 SU (SW-1) to 7.68 SU (SW-5).

4.7 Sediment Sampling Results

The sediment analytical results are summarized in Table 8, and the laboratory data sheets are provided in Appendix E. The results of analysis of the sediment samples were compared to site-specific background sediment levels, site-specific background soil concentrations, the IHSB PSRGs, and the EPA Region 4 sediment ESVs.

The results of analysis of the sediment samples indicate that no sediment concentrations in downgradient samples were detected above the site-specific background sediment and soil concentrations. Concentrations of barium, cobalt, and manganese in downgradient sample SED-5 were detected slightly above the site-specific background sediment samples, but were not

detected above site-specific background soil concentrations. The lack of elevated concentrations of these metals in SED-3 and SED-4, which are located closer to the CCP fill area than SED-5, provides further evidence that the detected concentrations of these metals in SED-5 are consistent with background levels.

4.8 Investigative Derived Waste

Investigative Derived Waste (IDW) generated during the RI activities, including soil cuttings, purge water, and decontamination water were containerized in appropriately labeled, 55-gallon, DOT-approved, steel drums. IDW was separated based on aqueous and solid media.

Following receipt of waste characterization data, the 55-gallon drums were transported offsite by A&D Environmental Services, Inc. to a permitted facility. A copy of the Non-Hazardous Materials Manifest is included in Appendix I.

4.9 QA/QC Program

Field QA/QC samples were analyzed to determine the variability introduced in sampling, handling, shipping, and analysis as well as potential sample heterogeneity. The frequency and types of QA/QC samples collected are discussed below:

Equipment Blanks

Equipment blanks (field rinseate blanks) were used to evaluate equipment decontamination procedures. At the sample location, laboratory-supplied analyte-free water was poured over or through the clean, non-dedicated sampling equipment, collected in a sample container, and preserved as appropriate. The equipment blank samples were then submitted for analysis for the same analytes as the samples the equipment was used to collect. No compounds were detected in the equipment blank samples.

Field Duplicate

Field duplicate samples for soil, CCP, groundwater, sediment, and surface water were collected to evaluate the precision of the field sampling procedures. The field duplicate samples were analyzed

for the same parameters as the original sample. The analytical results of the original sample and the duplicate sample were used to evaluate the cumulative precision of the analytical method, sample matrix, and sample collection techniques. The results of the soil, CCP, groundwater, surface water, and sediment duplicate samples are provided in Table 2, Table 3, Table 4, Table 6, and Table 7, respectively. The duplicate sample results indicate good analytical reproducibility of the samples.

5.0 Conceptual Site Model

The conceptual site model (CSM) describes the relationship of likely sources, potential release mechanisms, potential exposure routes, and potential receptors at the site and guides potential future actions at the site. Based upon the results of the RI, H&H has developed the following CSM:

- The site is comprised of two main areas: an elevated area and a lower area that are separated by a steep embankment. The elevated area is developed with the Chapel Hill Police Department and was previously used as a borrow pit and subsequently backfilled with fill material. The lower area contains the Bolin Creek Trail and grades gently down to Bolin Creek. The steep embankment is heavily vegetated, steep, and difficult to traverse.
- The surrounding area is primarily zoned as residential, with the southern adjacent properties zoned as commercial.
- The “undisturbed” site geology consists of a relatively thin layer of silty clay saprolite approximately 5 to 15 ft thick that overlies a thin layer of PWR that is approximately 5 ft thick. The PWR overlies competent fractured bedrock.
- In the disturbed areas of the site, fill was placed in a historical borrow area in the 1960s and 1970s. The lower fill layer consists of construction debris such as concrete, soil, and metals debris, and the upper fill layer consists of CCP. The CCP layer is less than 1 ft thick to greater than 20 ft thick with an average thickness of approximately 8 ft. In the elevated portions of the site, the CCP is capped with clayey silt that ranges in thickness from less than 1 ft to approximately 10 ft thick, with most areas having greater than 2 ft of soil cover.
- Based upon an estimated area where CCP was placed of approximately 4.5 acres and an average thickness of 8 ft, the amount of CCP placed at the site appears to be approximately 60,000 cubic yards.

- Depth to bedrock at the site generally ranges from approximately 10 to 15 ft bgs in the northern portion of the site near Bolinwood Rd. and in the southern portion of the site near Bolin Creek. Depth to bedrock in the central portion of the site where fill material has been placed is approximately 45 ft to 50 ft bgs.
- CCP is exposed at the surface along the eastern and central portions of the embankment that separates the elevated and lower portions of the site. CCP in the western portion of the embankment is covered but with soil that is less than 2 ft thick. Erosion of CCP along some portions of the embankment has resulted in deposition of a layer of CCP generally less than 1 to 1.5 ft thick at the ground surface in some of the lower portions of the site north of the Bolin Creek Trail, which appears to preclude migration of CCP south of the trail. CCP is not present south of Bolin Creek Trail.
- Initial groundwater was encountered in the unconsolidated materials except at MW-5 (northwest of the site) and MW-7 (in the eastern portion of the site) where initial groundwater was encountered in bedrock. Initial groundwater is present at depths of approximately 5 ft bgs along the Bolin Creek Greenway to approximately 35 ft bgs in the central portion of the site. Where present above bedrock, initial groundwater appears to be present primarily in the PWR and fill/debris material. It does not appear that CCP materials were placed below the water table.
- Shallow groundwater flow is generally to the south/southeast at the site, and groundwater flow velocities are in the range of approximately 20 ft per year. Metals detected in groundwater will flow at a rate less than the groundwater velocity due to adsorption to aquifer matrix and geochemical interactions.
- Results of analysis of samples of CCP indicate that the following compounds have been detected above background and PSRGs in CCP: arsenic, barium, hexavalent chromium, manganese, mercury, and selenium. The most prevalent compound detected above background and PSRGs in CCP is arsenic. Results of leach testing of the CCP indicates that antimony, arsenic, barium, cobalt, lead, selenium, and vanadium have the potential to leach into groundwater above background concentrations and the 2L Groundwater

Standards or IMACs. Strontium also has the potential to leach above background levels but does not have a 2L Groundwater Standard or IMAC.

- Results of analysis of shallow soil samples collected north of Bolin Creek Trail and the cover soil from the elevated portions of the site indicate that the primary compound detected above background and PSRGs is arsenic with less frequent detections of manganese and selenium. Compounds have not been detected above background and PSRGs south of Bolin Creek Trail. North of Bolin Creek Trail, the presence of compounds above PSRGs is associated with erosion of CCP from the embankment and resultant deposition north of the trail. In the elevated portions of the site, the presence of compounds above background and PSRGs appears to be associated with minor intermixed CCP which was likely entrained in cover soil during placement. Hexavalent chromium is not a compound of concern in shallow soil at the site.
- The primary route of exposure for shallow soil and CCP is through potential direct contact during public visits to Bolin Creek Trail, worker and public visits to the police department, and potential construction work. Previous risk evaluation performed by DEQ indicated that soil along the Bolin Creek Trail did not pose a significant risk to visitors or construction workers. Although a formal risk evaluation has not been performed for the elevated portions of the site, given the commercial use of the area, the fact that much of the area is paved, and that only lower levels of metals have been detected in cover soil, it is unlikely that shallow soil in the elevated portions of the site poses a significant risk. Direct contact to the exposed areas of CCP is possible but unlikely given the steep embankment and overgrown nature where the CCP is exposed. In addition, a fence has been placed between the Bolin Creek Trail and the areas of exposed CCP to further minimize the potential for direct contact.
- The results of the December 2016 groundwater analyses indicate that concentrations of cobalt, manganese, chromium, cobalt, selenium, thallium, and vanadium exceed background and 2L Groundwater Standards or IMACs. Vanadium concentrations were only slightly elevated and may be naturally occurring. The primary compound detected

above 2L Groundwater Standards is manganese with relatively lower concentrations of the other metals. Strontium has also been detected above background in groundwater but does not have a 2L Groundwater Standard or IMAC. The detected concentrations are within the range of EPA tapwater Regional Screening Levels. Geochemical conditions indicate generally normal groundwater pH range and oxic groundwater conditions which generally limit the mobility of metals in groundwater.

- There are no groundwater users (such as water supply wells) in the area of the site. The primary exposure route for impacted groundwater is through discharge to Bolin Creek. Results of surface water and sediment sampling indicate that there is no significant impact to Bolin Creek from either groundwater discharge or potential surface water discharge.

Based upon the results of the RI, H&H recommends that a Remedial Action Plan be prepared to address areas of exposed CCP, areas of erosional CCP, and areas of thinner cover soil along the embankment to minimize the potential for direct contact with CCP, infiltration of rainwater through the CCP, and erosion of CCP.

6.0 References

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- DEQ Division of Waste Management Superfund Section Inactive Hazardous Sites Branch. October 2015. Registered Environmental Consultant Program Implementation Guidance.
- Dragun, J. and K. Chekiri. 2005. Elements in North American Soils, Second Edition. Amhurst Scientific Publishers. 274pp.
- USEPA. August 2015. Region 4 Ecological Risk Assessment Supplemental Guidance Interim Draft. Scientific Support Section, Superfund Division.

Table 1 (page 1 of 1)
Monitoring Well Construction Details and Groundwater Elevation Data
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002

Well ID	Permanent or Temporary	Date Installed	Date Abandoned	Drilling Method	Well Description	Screen Slot Size (in)	Total Depth (ft bls)	Screened Interval	TOC Elevation (ft)	November 9, 2016	
										Depth to Water (ft bls)	Groundwater Elevation (ft)
MW-1	Permanent	4/29/2013		DPT	2" PVC	0.01	40	30-40	346.12	35.48	310.64
MW-2	Temporary	6/20/2013	6/20/2013	HA	Unknown	Unknown	8	Unknown	--	--	--
MW-3	Permanent	1/27/2014	1/7/2015	Auger	2" PVC	0.01	11	6-11	--	--	--
MW-4	Permanent	1/27/2014	1/6/2015	Auger	2" PVC	0.01	9.2	4.2-9.2	--	--	--
MW-3A	Permanent	5/12/2015		Air Rotary	2" PVC	0.01	16	1-16	298.10	5.91	292.19
MW-4A	Permanent	5/14/2015		Air Rotary	2" PVC	0.01	19	4-19	298.00	6.72	291.28
MW-5	Permanent	11/2/2016		Air Rotary	2" PVC	0.01	27.5	27.5 - 17.5	369.33	9.27	360.06
MW-6	Permanent	11/2/2016		HSA	2" PVC	0.01	17.5	17.5 - 7.5	315.39	9.92	305.47
MW-7	Permanent	11/2/2016		Air Rotary	2" PVC	0.01	69.5	69.5 - 59.5	339.54	46.97	292.57

Notes:

MW-1, MW-3A, MW-4A, MW-5, MW-6, and MW-7 were surveyed by CE Group on December 8, 2016

ft = feet

bls = below land surface

DPT = Direct Push Technology

HA = Hand Auger

HSA = Hollow Stem Auger

TOC = Top of Casing

Table 2 (page 1 of 1)
 Summary of Soil Analytical Data
 Chapel Hill Police Department
 Chapel Hill, North Carolina
 H&H Job No. TCH-002

Sample ID	Sample Date	Material Sampled (Soil or CCP)	Sample Depth	aluminum	antimony	arsenic	barium	beryllium	boron	cadmium	calcium	hexavalent chromium	trivalent chromium	total chromium	cobalt	copper	iron	lead	magnesium	manganese	mercury	molybdenum	nickel	potassium	selenium	silver	sodium	strontium	tantalum	vanadium	zinc
S-4	4/29/2013	CCP	1 ft	23,000	ND	14	24	ND	NA	1.5	9,900	NA	NA	22	30	65	59,000	9,000	1,500	0.011	NA	43	680	ND	ND	150	NA	ND	21	120	
S-5	1/31/2014	CCP	0-4 ft	NA	NA	37	2,800	NA	NA	ND	NA	1.3	19.7	21	NA	NA	NA	10	NA	NA	0.30	NA	NA	3.2	ND	NA	NA	NA	NA	NA	
S-6	1/31/2014	CCP	0-4 ft	NA	NA	43	3,200	NA	NA	ND	NA	2.7	19.3	22	NA	NA	NA	12	NA	NA	0.42	NA	NA	6.1	ND	NA	NA	NA	NA	NA	
S-7	1/31/2014	CCP	0-4 ft	NA	NA	44	2,500	NA	NA	ND	NA	1.4	27.6	29	NA	NA	NA	11	NA	NA	0.44	NA	NA	4.5	ND	NA	NA	NA	NA	NA	
GP-1	2/3/2014	CCP	8-12 ft	NA	NA	3.5	86	NA	NA	ND	NA	ND	8.8	8.8	NA	NA	NA	26	NA	NA	0.083	NA	NA	ND	ND	NA	NA	NA	NA	NA	
GP-2	2/3/2014	CCP	26-28 ft	NA	NA	41	1,100	NA	NA	ND	NA	ND	19	19	NA	NA	NA	11	NA	NA	0.24	NA	NA	4.0	ND	NA	NA	NA	NA	NA	
GP-3	2/3/2014	CCP	10-12 ft	NA	NA	48	1,200	NA	NA	ND	NA	0.53	22.47	23	NA	NA	NA	39	NA	NA	0.42	NA	NA	ND	ND	NA	NA	NA	NA	NA	
GP-4	2/4/2014	CCP	10-12 ft	NA	NA	59	2,900	NA	NA	ND	NA	ND	20	20	NA	NA	NA	11	NA	NA	0.51	NA	NA	5.8	ND	NA	NA	NA	NA	NA	
GP-5	2/4/2014	CCP	4-6 ft	NA	NA	72	2,800	NA	NA	ND	NA	ND	19	19	NA	NA	NA	9.5	NA	NA	0.33	NA	NA	2.6	ND	NA	NA	NA	NA	NA	
GP-6	2/4/2014	CCP	9-11 ft	NA	NA	65	850	NA	NA	ND	NA	ND	19	19	NA	NA	NA	27	NA	NA	11	NA	NA	4.1	ND	NA	NA	NA	NA	NA	
GP-7	2/4/2014	CCP	10-12 ft	NA	NA	55	1,700	NA	NA	ND	NA	ND	19	19	NA	NA	NA	11	NA	NA	0.26	NA	NA	4.3	ND	NA	NA	NA	NA	NA	
GP-8	2/4/2014	CCP	11-15 ft	NA	NA	54	4,100	NA	NA	ND	NA	ND	20	20	NA	NA	NA	9.2	NA	NA	0.29	NA	NA	4.5	ND	NA	NA	NA	NA	NA	
GP-11	2/4/2014	CCP	4-6 ft	NA	NA	16	450	NA	NA	ND	NA	ND	16	16	NA	NA	NA	23	NA	NA	0.35	NA	NA	ND	ND	NA	NA	NA	NA	NA	
GP-12	2/4/2014	CCP	2-4 ft	NA	NA	52	2,000	NA	NA	ND	NA	ND	19	19	NA	NA	NA	14	NA	NA	0.28	NA	NA	2.1	ND	NA	NA	NA	NA	NA	
SS1	2/18/2016	Soil/CCP	2-12 in	NA	ND	6.7	210	1.2	ND	ND	NA	NA	NA	28	25	47	NA	22	NA	2,400	0.052	ND	15	NA	ND	NA	120	1.3	88	100	
SS1-Dup 1	2/18/2016	Soil/CCP	2-12 in	NA	ND	8.5	260	1.4	ND	ND	NA	NA	NA	31	28	56	NA	29	NA	3,300	0.059	ND	18	NA	ND	NA	150	1.7	95	110	
SS2	2/18/2016	Soil/CCP	2-12 in	NA	ND	24	830	3.5	ND	ND	NA	NA	NA	27	20	57	NA	39	NA	1,700	0.21	1.7	19	NA	2.4	ND	NA	190	1.2	81	110
SS3	2/18/2016	Soil	2-12 in	NA	ND	4.5	100	0.80	ND	ND	NA	NA	NA	13	6.8	22	NA	14	NA	240	0.048	ND	5.3	NA	ND	NA	36	ND	41	28	
SS4	2/18/2016	Soil	2-12 in	NA	ND	8.5	380	1.2	ND	ND	NA	NA	NA	22	12	29	NA	25	NA	910	0.061	ND	12	NA	ND	NA	51	ND	54	51	
SS5	2/18/2016	Soil	2-12 in	NA	ND	4.8	130	0.89	ND	ND	NA	NA	NA	17	9.4	25	NA	27	NA	460	0.091	ND	7.9	NA	ND	NA	43	ND	47	48	
SS6	2/18/2016	Soil	2-12 in	NA	ND	3.1	82	0.70	ND	ND	NA	NA	NA	35	7.6	23	NA	17	NA	410	0.038	ND	6.5	NA	ND	NA	25	ND	45	43	
SS7	2/18/2016	Soil	2-12 in	NA	ND	3.1	84	0.60	ND	ND	NA	NA	NA	14	6.9	15	NA	13	NA	500	0.038	ND	5.9	NA	ND	NA	31	ND	37	37	
HH-1	11/3/2016	Soil	0-1 ft	NA	<0.29	5.9	120	1.00	NA	<0.29	NA	0.45	20.55	21	7.9	25	NA	27	NA	350	0.052	NA	8.8	NA	0.69	NA	NA	31	<0.58	48	50
HH-2	11/3/2016	Soil	0-1 ft	NA	<0.35	3.4	110	0.79	NA	<0.35	NA	0.54	19.46	20	8.4	17	NA	18	NA	360 BH	0.067	NA	12	NA	<0.71	NA	NA	30	<0.71	41	35
HH-3	11/3/2016	Soil	0-1 ft	NA	<0.29	4.9	140	0.93	NA	<0.29	NA	0.43	13.57	14	12	21	NA	30	NA	260	0.085	NA	5.9	NA	1.0	NA	25	<0.58	48	43	
HH-4	11/3/2016	Soil	0-1 ft	NA	<0.33	9.9	200	1.30	NA	<0.33	NA	0.46 J	17.54	18	7.8	31	NA	24	NA	350	0.076	NA	8.9	NA	2.4	NA	36	<0.65	53	100	
HH-5	11/3/2016	Soil	0-1 ft	NA	<0.28	2.4	72	1.00	NA	<0.28	NA	0.50	44.5	45	16	37	NA	2.3	NA	630	<0.023	NA	33	NA	<0.56	NA	NA	42	0.60	73	70
HH-6	10/27/2016	Soil	0-1 ft	NA	<0.30	2.4	73	0.75	NA	<0.30	NA	<0.14	23	23	8.4	19	NA	9.3	NA	410	<0.025	NA	14	NA	1.2	NA	23	<0.60	39	51	
HH-7	10/27/2016	Soil	0-1 ft	NA	NA	NA	NA	NA	NA	NA	NA	<0.33	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
HH-8	10/27/2016	Soil	0-1 ft	NA	<0.30	3.6	100	1.00	NA	<0.30	NA	<0.35	19	19	12	29	NA	18	NA	570	0.036	NA	9.0	NA	<0.60	NA	28	<0.60	52	54	
MW-6	11/2/2016	Soil	0-1 ft	NA	<0.26	2.9	38	0.61	NA	<0.26	NA	0.21 J	9.79	10	9.5	23	NA	12	NA	570	0.082	NA	8.2	NA	1.0	NA	22	0.81	31	77	
MW-7	11/2/2016	Soil	0-1 ft	NA	<0.30	2.6	67	0.87	NA	<0.30	NA	0.89	9.11	10	3.9	180	NA	7.6	NA	100	0.030	NA	2.9	NA	<0.59	NA	6.7	<0.59	61	46	
MW-5 (background)	11/2/2016	Soil	0-1 ft	NA	<0.30	2.1	76	0.99	NA	<0.30	NA	0.43 J	17.57	18	27	49	NA	4.0	NA	710	<0.023	NA	5.0	NA	<0.59	NA	25	<0.59	190	47	
	11/3/2016	Soil	6-7 ft	NA	<0.27	1.4	61	0.60	NA	<0.27	NA	0.81	38.19	39	19	18	NA	0.55	NA	940	<0.020	NA	20	NA	<0.53	NA	29	2.3	67	75	
BG-1 (background)	11/3/2016	Soil	0-1 ft	NA	<0.28	1.9	36	0.39	NA	<0.28	NA	0.87	17.13	18	6.3	16	NA	25	NA	310	0.033	NA	5.4	NA	1.6	NA	15	<0.57	34	43	
	11/3/2016	Soil	2-3 ft	NA	<0.29	2.3	45	0.48	NA	<0.29	NA	<0.12	19	19	7.3	18	NA	43	NA	440	0.280	NA	6.2	NA	1.6	NA	15	<0.57	35	49	
BG-2 (background)	11/3/2016	Soil	0-1 ft	NA	<0.28	1.9	45	0.50	NA	<0.28	NA	0.84	16.16	17	7.4	18	NA	32	NA	410	0.045	NA	4.9	NA	1.1	NA	14	<0.56	35	44	
	11/3/2016	Soil	2-3 ft	NA	<0.27	1.9	52	0.53	NA	<0.27	NA	0.70	23.3	24	7.5	20	NA	26	NA	450	0.038	NA	7.9	NA	1.7	NA	19	<0.55	37	45	
BG-3 (background)	11/3/2016	Soil	0-1 ft	NA	<0.30	1.7	44	0.43	NA	<0.30	NA	0.21 J	23.3	16	7.5	15	NA	25	NA	410	0.024	NA	5.1	NA	1.4	NA	46	<0.60	37	40	
	11/3/2016	Soil	2-3 ft	NA	<0.27	2.2	56	0.54	NA	<0.27	NA	0.88	21.12	22	7.5	18	NA	29	NA	410	0.040	NA	5.2	NA	1.2	NA	19	<0.53	40	46	
BG-4 (background)	11/3/2016	Soil	0-1 ft	NA	<0.29	1.7	50	0.50	NA	<0.29	NA	<0.13	19	19	9.5	16	NA	22	NA	450 BH	0.026	NA	6.0	NA	<0.59	NA	16 A	<0.59	53	50	
	11/3/2016	Soil	2-3 ft	NA	<0.33	2.0	53	0.52	NA	0.38	NA	0.50 J	22.5	23	11	23	NA	21	NA	460 BH	0.054	NA	8.5	NA	<0.65	NA	19	<0.65	51	230	
Site Specific Background Range					<0.27-<0.33	1.4-2.3	36-76	0.39-0.99		<0.27-0.38		<0.12-0.88	16.16-38.19	16-39	6.3-27	15-49		21-43		310-940	<0.020-0.28		4.9-20		<0.59-1.7		14-46	<0.53-2.3	34-190	40-230	
95% UCL of Site Specific Background Range					--	2.1	58	0.64		--		0.73		25	15	27		30		606	0.168		10		1.4		29	--	84	147	
North Carolina Background Range				7000 - >100,000	<1.0-8.8	1-18	50-1,000	ND-1.0																							

Table 3 (page 1 of 1)
Summary of SPLP Analytical Data
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002

Sample ID	Sample Date	Material Sampled (Soil or CCP)	Sample Depth (ft)	antimony ²	arsenic ²	barium	beryllium ²	cadmium ²	total chromium ²	cobalt ²	copper	lead ²	manganese	mercury	nickel	selenium	strontium	thallium ²	vanadium ²	zinc
HH-1	11/3/2016	CCP	7-8	<2.5	<12	550	<0.5	<0.65	<3.8	<0.55	<50	<8.0	43 J	<0.2	<50	130	2,500	<12	<0.75	310
HH-2	11/3/2016	CCP	2-3	3.9 J	<12	830	<0.5	<0.65	<3.8	<0.55	<50	<8.0	14 J	<0.2	<50	35 J	230	<12	16 J	400
	11/3/2016 ¹	CCP	2-3	<2.5	<12	1,300	<0.5	<0.65	<3.8	<0.55	<50	<8.0	69	<0.2	<50	35 J	170	<12	2.6 J	370
HH-3	11/3/2016	CCP	2-3	<2.5	18 J	740	<0.5	<0.65	<3.8	4.6 J	11 J	45	290	<0.2	<50	28 J	100	<12	23 J	65 J
HH-4	11/3/2016	CCP	4-5	5.1 J	<12	640	<0.5	<0.65	<3.8	<0.55	<50	11 J	13 J	<0.2	<50	31 J	450	<12	5.1 J	<150
HH-5	11/3/2016	CCP	3-4	3.3 J	<12	1,900	<0.5	<0.65	<3.8	<0.55	<50	<8.0	21 J	<0.2	<50	40 J	220	<12	9.0 J	<150
Site-Specific Background Groundwater Concentration				<0.5	<10	51	<2.0	<1.0	<5.0	0.27J	<10	<5.0	580	<0.2	<10	23.0	190	<2.5	0.39J	<30
NC 2L Standard or IMAC				1.0*	10	700	4.0*	2.0	10	1.0*	1,000	15	50	1.0	100	20	NS	0.2*	0.3*	1,000

Notes:

Yellow highlighting indicates samples collected as part of Phase II RI

All results in µg/L

¹ denotes duplicate sample taken

² denotes metals with non-detection values reported to the method detection limit instead of laboratory reporting limit

Bold denotes above 2L Standard or IMAC and background concentration

NC 2L standards from Title 15A NCAC 2L .0202

IMAC = Interim Maximum Allowable Concentration

NS = Not Specified

J = Detected below above method detection limit but below laboratory reporting limit; therefore, result is an estimated concentration

**Table 4 (page 1 of 1)
Summary of Groundwater Analytical Data
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002**

Monitoring Well ID	Sample Date	turbidity	aluminum	antimony*	arsenic	barium	beryllium	boron	cadmium	calcium	hexavalent chromium	trivalent chromium	Total chromium	cobalt*	copper	iron	lead	magnesium	manganese	mercury	molybdenum	nickel	potassium	selenium	silver	sodium	strontium	thallium*	vanadium*	zinc
2L Standard or IMAC		NS	NS	1	10	700	4	700	2	NS	NS	NS	10	1	1,000	300	15	NS	50	1	NS	100	NS	20	20	NS	NS	0.2	0.3	1,000
MW-5 (Background)	11/9/2016	3.8	NA	<0.5	<10	51	<2.0	NA	<1.0	NA	NA	NA	<5.0	0.27 J	<10	NA	<5.0	NA	580	<0.2	NA	<10	NA	23	NA	NA	190	<2.5	0.39 J	<30
MW-1	5/3/2013	NA	5,600	5.4	85	1,100	1.6	NA	0.17	110,000	NA	NA	15	15	25	6,500	5.8	25,000	7,600	ND	NA	12	7,600	2.5	ND	34,000	NA	1.0	38	52
	2/18/2016	NS	NA	ND	67	1,300	11.0	ND	ND	NA	NA	NA	100	78	170	NA	36	NA	9,600	0.26	ND	58	NA	ND	NA	2,900	ND	260	330	
	2/18/2016 ⁴	NS	NA	ND	52	1,100	8.8	ND	ND	NA	NA	NA	86	61	130	NA	29	NA	9,000	0.21	ND	46	NA	ND	NA	2,700	ND	200	260	
	11/10/2016	475.0	NA	<0.5	19	470	4.1	NA	0.15 J	NA	NA	NA	31	32	57	NA	10	NA	8,600	<0.2	NA	21	NA	23	NA	NA	2,200	<2.5	92	99
	11/10/2016 ⁴	NA	NA	<0.5	<10	160	0.53 J	NA	<1.0	NA	NA	NA	<5.0	6.0	<10	NA	<5.0	NA	8,000	<0.2	NA	2.3 J	NA	<20	NA	NA	2,100	<2.5	1.2 J	<30
MW-2	6/20/2013 ¹	NA	16,000	0.6	8.3	1,100	5.5	NA	0.93	260,000	NA	NA	8.4	23	1,200	13,000	27	47,000	1,200	0.18	NA	70	42,000	18	0.27	52,000	NA	0.48	71	2,200
MW-3	2/5/2014	NA	NA	NA	ND	160	NA	NA	ND	NA	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
	2/5/2014 ²	NA	NA	NA	ND	250	NA	NA	ND	NA	ND	NA	24	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
	8/15/2014 ³	1,500	NA	NA	51	830	NA	NA	ND	NA	30	NA	78	NA	NA	NA	30	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
	8/20/2014 ⁴	13.0	NA	NA	ND	220	NA	NA	ND	NA	23	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
MW-3A	7/21/2015	5.7	NA	NA	ND	67	NA	520	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
	2/17/2016	1.3	NA	ND	ND	89	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	ND	NA	ND	ND	ND	NA	23	ND	NA	2,400	ND	ND	ND	
	2/17/2016 ²	1.3	NA	ND	ND	80	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	ND	NA	23	ND	ND	NA	26	ND	NA	2,100	ND	ND	ND	
	11/9/2016	1.2	NA	<0.5	<10	53	<2.0	NA	<1.0	NA	NA	NA	<5.0	<0.11	<10	NA	<5.0	NA	14	<0.2	NA	<10	NA	50	NA	NA	2,400	5.4 J	0.94 J	12 J
	11/9/2016 ²	1.2	NA	<0.5	<10	53	<2.0	NA	<1.0	NA	NA	NA	<5.0	<0.11	<10	NA	<5.0	NA	15	<0.2	NA	<10	NA	52	NA	NA	2,400	5.3 J	0.95 J	<30
MW-4	2/5/2014	NA	NA	NA	140	6,500	NA	NA	1.7	NA	ND	NA	930	NA	NA	NA	250	NA	NA	1.4	NA	NA	NA	99	ND	NA	NA	NA	NA	NA
	8/20/2014 ^{4,5}	<10	NA	NA	ND	75	NA	NA	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
MW-4A	7/21/2015	24.7	NA	NA	ND	64	NA	ND	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
	7/21/2015 ⁴	24.7	NA	NA	ND	61	NA	ND	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
	2/18/2016	189.0	NA	ND	ND	26	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	7.8	NA	49	ND	ND	ND	NA	ND	ND	NA	110	ND	ND	34
	2/18/2016 ⁴	189.0	NA	ND	ND	33	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	8.4	NA	41	ND	ND	ND	NA	ND	ND	NA	78	ND	ND	48
	11/9/2016	4.8	NA	<0.5	<10	36	<2.0	NA	<1.0	NA	NA	NA	1.2 J	<0.11	<10	NA	<5.0	NA	140	<0.2	NA	<10	NA	7.2 J	NA	NA	170	<2.5	<0.15	17 J
MW-6	11/9/2016	2.5	NA	<0.5	<10	340	<2.0	NA	<1.0	NA	NA	NA	29	<0.11	1.9 J	NA	<5.0	NA	2,500	<0.2	NA	22	NA	20	NA	NA	690	<2.5	1.2 J	<30
MW-7	11/14/2016	8.9	NA	<0.5	<10	10	<2.0	NA	<1.0	NA	NA	NA	1.3 J	0.17 J	1.6 J	NA	<5.0	NA	140	<0.2	NA	1.6 J	NA	<20	NA	NA	42	<2.5	1.1 J	26 J

Notes:
Yellow highlighting indicates samples collected as part of Phase II RI
All results in ug/l, except turbidity which is NTUs
2L standards from Title 15A NCAC 2L .0202
IMAC = Interim Maximum Allowable Concentration
Bold denotes above the 2L standard or IMAC and background levels
ND - Not Detected; NA - Not Analyzed; NS - Not Specified
J - Detected above method detection limit but below laboratory reporting limit; therefore, result is an estimated concentration
*reported to the method detection limit instead of laboratory reporting limit
¹ Denotes sample labeled as "Well #1" in the lab report associated with the Limited Phase II ESA prepared by Falcon
² Denotes duplicate sample taken.
³ Denotes sample labeled as "Well 1" in the lab report associated with the October 3, 2014 letter prepared by Falcon
⁴ Denotes filtered samples
⁵ An unfiltered sample was also collected from MW-4 on August 20, 2014 and the results were reported in mg/kg-wet, presumably because of the high sediment load. These data are not included in this table.
Analytical Methods:
Metals by EPA Method 6010C & 6020A
Hexavalent Chromium by EPA Method 7196A / SM3500
Mercury by 7470A/245.1

Table 5 (page 1 of 1)
Summary of Groundwater Geochemical Parameters
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002

Monitoring Well ID	Sample Date	DO (mg/L)	Temperature (°C)	Conductivity (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
MW-5 (background)	11/9/2016	0.27	20.30	569	6.96	39.2	3.76
MW-1	5/3/2013	NS	NS	NS	NS	NS	NA
	2/18/2016	NS	NS	NS	NS	NS	NS
	11/10/2016	6.87	17.13	767	6.89	79.0	475
MW-2	6/20/2013	NS	NS	NS	NS	NS	NA
MW-3	2/5/2014	NS	NS	NS	NS	NS	NA
	8/15/2014	NS	NS	NS	NS	NS	1,500
	8/20/2014	NS	NS	NS	NS	NS	13
MW-3A	7/21/2015	NA	15.80	2321	6.50	NA	5.7
	2/17/2016	NS	NS	NS	NS	NS	1.3
	11/9/2016	2.51	18.14	1231	6.63	288.7	1.24
MW-4	2/5/2014	NS	NS	NS	NS	NS	NA
	8/20/2014	NS	NS	NS	NS	NS	<10
MW-4A	7/21/2015	NA	15.64	831	6.25	NA	24.7
	2/18/2016	NS	NS	NS	NS	NS	189
	11/9/2016	1.41	16.91	241	5.43	300.5	4.83
MW-6	11/9/2016	0.61	20.51	607	6.19	12.2	2.54
MW-7	11/14/2016	1.79	15.66	112	5.28	61.2	8.92

Notes

Yellow highlighting indicates samples collected as part of Phase II RI

NA - Not Analyzed; NS - Not Specified

**Table 6 (page 1 of 1)
Summary of Surface Water Analytical Data
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002**

Surface Water Sampling Point ID	Sample Date	aluminum	antimony	arsenic	barium	beryllium	cadmium	calcium ²	hexavalent chromium	trivalent chromium	total chromium	cobalt	copper	iron	lead	magnesium	manganese	mercury	nickel	potassium	selenium	strontium	silver	sodium	thallium	vanadium	zinc	
2B Standard¹		NS	NS	10	1,000	6.5	0.15	100,000	11	24	NS	NS	2.7	NS	0.54	NS	NS	0.012	16	NS	5	14,000	0.06	NS	NS	NS	36	
EPA Region 4 Surface Water Screening Value (Chronic)³		87	190	150	220	11	0.25	116,000	11	74	NS	19	9	1,000	2.5	82,000	93	0.77	52	53,000	5	5,300	0.06	680,000	6	27	120	
BC-1 (Upstream)	2/5/2014	NA	NA	ND	24	NA	ND	NA	ND	ND	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
SW-1 (Upstream)	11/3/2016	NA	<5.0	<10	27	<2.0	<1.0	NA	<0.74U	NA	<5.0	<5.0	<10	<0.2	<5.0	NA	<10	<0.2	<10	NA	<20	100	NA	NA	<10	<5.0	<30	
SW-2 (Upstream)	11/3/2016	NA	<5.0	<10	27	<2.0	<1.0	NA	<0.74U	NA	<5.0	<5.0	<10	<0.2	<5.0	NA	11	<0.2	<10	NA	<20	100	NA	NA	<10	<5.0	<30	
BC-2 (Bolin Creek at Site)	6/20/2013	290	ND	0.9	27	ND	ND	16,000	NA	ND	ND	0.37	2.6	860	0.50	5,300	100	ND	1.2	2,300	ND	NA	ND	7,800	ND	ND	45	
	2/5/2014	NA	NA	ND	24	NA	ND	NA	ND	ND	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA	
SW-3 (Adjacent)	11/3/2016	NA	<5.0	<10	27	<2.0	<1.0	NA	<0.74U	NA	<5.0	<5.0	<10	<0.2	<5.0	NA	34	<0.2	<10	NA	<20	100	NA	NA	<10	<5.0	<30	
	11/3/2016 ⁴	NA	<5.0	<10	27	<2.0	<1.0	NA	<0.74U	NA	<5.0	<5.0	<10	<0.2	<5.0	NA	33	<0.2	<10	NA	<20	110	NA	NA	<10	<5.0	<30	
SW-4 (Adjacent)	11/3/2016	NA	<5.0	<10	27	<2.0	<1.0	NA	<0.74U	NA	<5.0	<5.0	<10	<0.2	<5.0	NA	25	<0.2	<10	NA	<20	110	NA	NA	<10	<5.0	<30	
SW-5 (Downstream)	11/3/2016	NA	<5.0	<10	26	<2.0	<1.0	NA	<0.74U	NA	<5.0	<5.0	<10	<0.2	<5.0	NA	24	<0.2	<10	NA	<20	100	NA	NA	<10	<5.0	<30	

Notes:

Yellow highlighting indicates samples collected as part of Phase II RI

All results in ug/l

¹ NC 2B Standard - North Carolina Surface Water Quality Standard adopted per 15A NCAC 2B Section .0100. Values are the lowest of the Freshwater, Water Supply, and Human Health values because Bolin Creek is a WS V classification surface water

² the 2B value for calcium is based on total hardness, with a limit of 100,000 ug/L as calcium carbonate

³ EPA Region 4 Surface Water Screening Values from EPA (2015)

⁴ denotes duplicate sample taken

Bold denotes above the 2B standard and upstream concentrations

ND - Not Detected; NA - Not Analyzed; NS - Not Specified

Analytical Methods:

Metals by 6010C, 6020A

Mercury by 7470A

Table 7 (page 1 of 1)
Summary of Surface Water Geochemical Parameters
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002

Sample ID	Sample Date	DO (mg/L)	Temperature (°C)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)
SW-1 (Upstream)	11/3/2016	6.54	17.7	168.4	7.12	0.76
SW-2 (Upstream)	11/3/2016	7.63	17.3	182.5	7.58	1.04
SW-3 (Adjacent)	11/3/2016	7.19	17.9	178.7	7.50	0.48
SW-4 (Adjacent)	11/3/2016	6.89	17.4	178.0	7.64	0.54
SW-5 (Downstream)	11/3/2016	6.56	17.7	182.4	7.68	0.39

Notes

Yellow highlighting indicates samples collected as part of Phase II RI

**Table 8 (page 1 of 1)
Summary of Stream Sediment Analytical Data
Chapel Hill Police Department
Chapel Hill, North Carolina
H&H Job No. TCH-002**

Surface Water Sampling Point ID	Sample Date	antimony	arsenic	barium	beryllium	cadmium	hexavalent chromium	trivalent chromium	total chromium	cobalt	copper	lead	manganese	mercury	nickel	selenium	strontium	thallium	vanadium	zinc
SED-1 (Upstream)	10/27/2016	<0.32	1.2	12	<0.32	<0.32	0.24 J	22.76	23	3.9	4.2	4.0	180	<0.026	3.8	<0.64	6.9	<0.64	19	19
SED-2 (Upstream)	10/27/2016	<0.33	2.1	20	0.48	<0.33	<0.40	36	36	7.8	8.0	7.1	330	<0.025	7.2	<0.65	11	<0.65	37	34
	10/27/2016 ¹	<0.32	2.5	17	0.45	<0.32	<0.40	49	49	6.5	9.1	6.7	290	<0.026	6.0	<0.63	12	<0.63	35	31
SED-3 (Adjacent)	10/27/2016	<0.32	1.6	21	0.37	<0.32	<0.39	30	30	6.2	7.4	6.9	220	<0.026	6.8	<0.64	12	<0.64	29	35
SED-4 (Adjacent)	10/27/2016	<0.33	1.2	8.4	<0.33	<0.33	<0.38	34	34	3.5	5.2	3.5	130	<0.027	5.0	<0.65	6.4	<0.65	16	20
SED-5 (Downstream)	10/27/2016	<0.31	1.4	44	0.41	<0.31	<0.37	51	51	9.5	8.6	22	860	<0.025	5.3	<0.62	13	<0.62	35	32
Site Specific Sediment Background Range		<0.32-<0.33	1.2-2.5	12-20	<0.32-0.48	<0.32-<0.33	0.24J-<0.40	22.76-49	23-49	3.9-7.8	4.2-9.1	4-7.1	180-330	<0.25-<0.26	3.8-7.2	<0.63-<0.65	6.9-12	<0.63-<0.65	19-37	19-34
Site Specific Soil Background Range		<0.27-<0.33	1.4-2.3	36-76	0.39-0.99	<0.27-0.38	<0.12-0.88	16.16-38.19	16-39	6.3-27	15-49	21-43	310-940	<0.020-0.28	4.9-20	<0.59-1.7	14-46	<0.53-2.3	34-190	40-230
95% UCL of Site Specific Soil Background Range		--	2.1	58	0.64	--	0.73		25	15	27	30	606	0.168	10	1.4	29	--	84	147
PSRG - Protection of Groundwater		0.90	5.8	580	63	3.0	3.8	360,000	NS	0.90	700	270	65	1.0	130	2.1	NS	0.28	6.0	1,200
PSRG - Residential		6.2	0.68	3,000	32	14.2	0.30	24,000	NS	4.6	620	400	360	2.2	300	78	9,400	0.156	78	4,600
PSRG - Industrial		94	3.0	44,000	460	196	6.3	100,000	NS	70	9,400	800	5,200	3.13	4,400	1,160	100,000	2.4	1,160	70,000
EPA Region 4 Sediment Screening Value²		3.0*	42	20	NS	1	NS	NS	43.4	50	31.6	36	460	0.18	22.7	11	NS	NS	NS	121

Notes

Yellow highlighting indicates samples collected as part of Phase II RI

All results in mg/kg

¹ denotes duplicate sample taken

² EPA Region 4 Ecological Screening Value from EPA (2015)

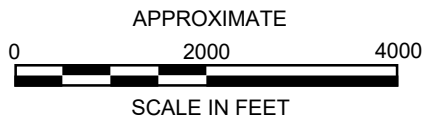
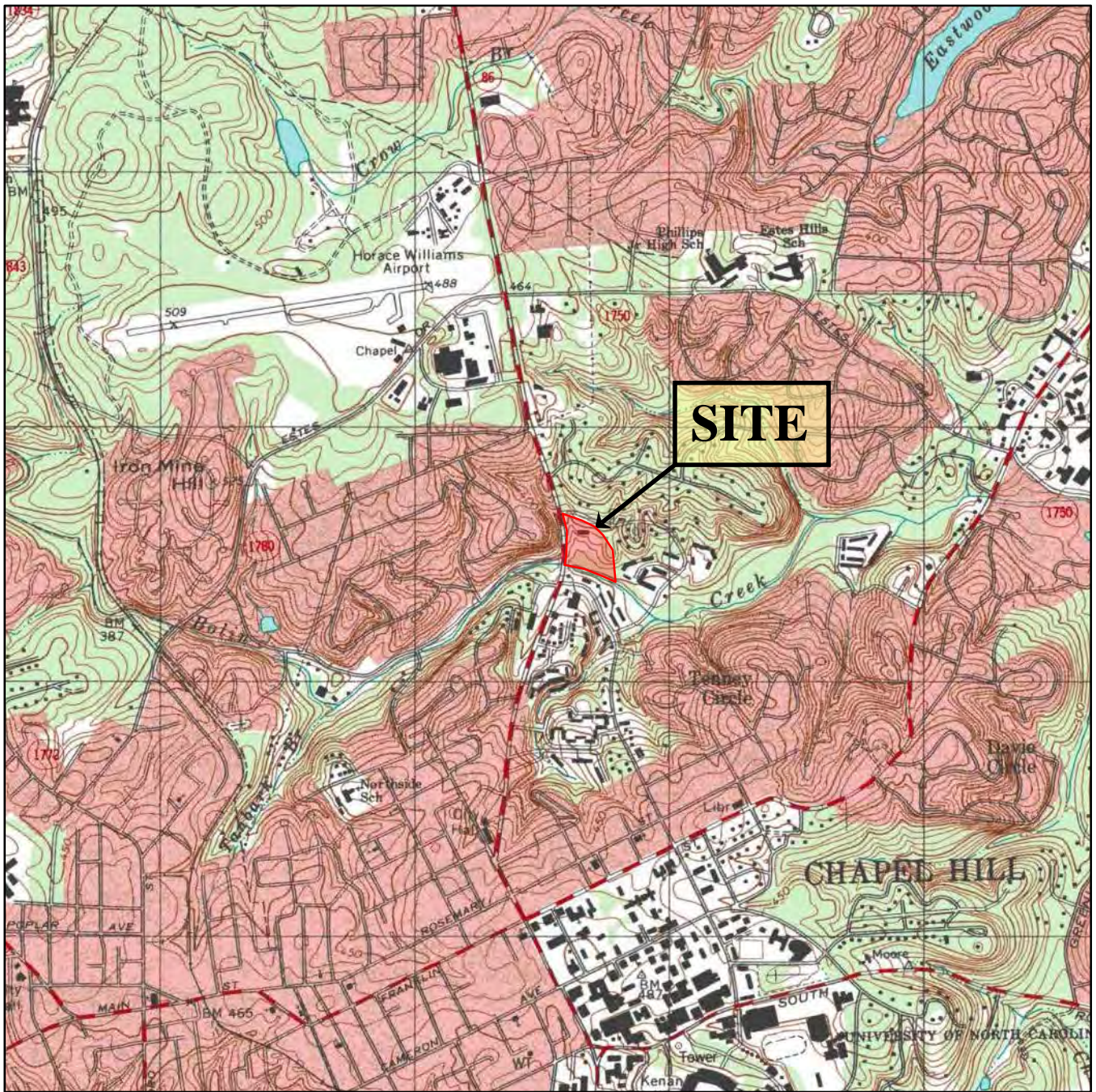
PSRG = North Carolina Inactive Hazardous Site Branch Preliminary Soil Remediation Goals

ND - Not Detected; NA - Not Analyzed; NS - Not Specified

Analytical Methods:


Metals by EPA Method 6010C, 6020A

Mercury by EPA Method 7470A



U.S.G.S. QUADRANGLE MAP
CHAPEL HILL, NORTH CAROLINA, 2002

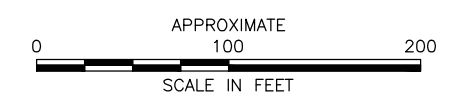
QUADRANGLE
 7.5 MINUTE SERIES (TOPOGRAPHIC)


TITLE	SITE LOCATION MAP	
PROJECT	TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f)		
SMARTER ENVIRONMENTAL SOLUTIONS		
DATE:	12-19-16	REVISION NO: 0
JOB NO:	TCH-002	FIGURE: 1



LEGEND

- SITE PROPERTY BOUNDARY
- - - BOLIN CREEK
- 101— TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)



TITLE	SITE PLAN	
PROJECT	TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
	 SMARTER ENVIRONMENTAL SOLUTIONS	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 1-12-17	REVISION NO. 0	
JOB NO. TCH-002	FIGURE NO. 2	

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-002 - Police Station\Ph II RI Work\Figures\Figures.dwg, FIG 2, 1/12/2017 3:23:58 PM, abarlow

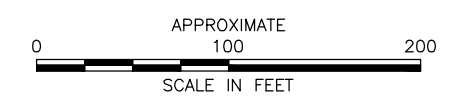


LEGEND

- SITE PROPERTY BOUNDARY
- - - BOLIN CREEK
- 101— TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- ◆ MONITORING WELL LOCATION (FALCON ENGINEERING)
- ◆ TEMPORARY MONITORING WELL LOCATION (FALCON ENGINEERING)
- SOIL BORING LOCATION (FALCON ENGINEERING)
- ▲ SURFACE WATER SAMPLE LOCATION (FALCON ENGINEERING)
- ◆ ABANDONED MONITORING WELL LOCATION
- ◆ MONITORING WELL LOCATION (H&H)
- SOIL BORING LOCATION (H&H)
- BACKGROUND SOIL BORING LOCATION (H&H)
- ▲ SURFACE WATER SAMPLE LOCATION (H&H)
- COVER EVALUATION BORING LOCATION

NOTE:

EXISTING MONITORING WELLS & OCTOBER/ NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.



TITLE		SAMPLE LOCATION MAP	
PROJECT		TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
		2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 1-12-17	REVISION NO. 0		
JOB NO. TCH-002	FIGURE NO. 3		

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-002 - Police Station\Ph II RI Work\Figures\Figures.dwg, FIG 3, 1/12/2017 3:24:16 PM, abarlow

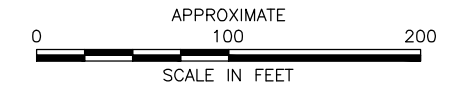


LEGEND

- SITE PROPERTY BOUNDARY
- - - BOLIN CREEK
- 101 — TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- ◆ MONITORING WELL LOCATION (FALCON ENGINEERING)
- ◆ TEMPORARY MONITORING WELL LOCATION (FALCON ENGINEERING)
- SOIL BORING LOCATION (FALCON ENGINEERING)
- ▲ SURFACE WATER SAMPLE LOCATION (FALCON ENGINEERING)
- ◆ ABANDONED MONITORING WELL LOCATION
- ◆ MONITORING WELL LOCATION (H&H)
- SOIL BORING LOCATION (H&H)
- BACKGROUND SOIL BORING LOCATION (H&H)
- ▲ SURFACE WATER SAMPLE LOCATION (H&H)
- A — CROSS-SECTION TRANSECT LINE

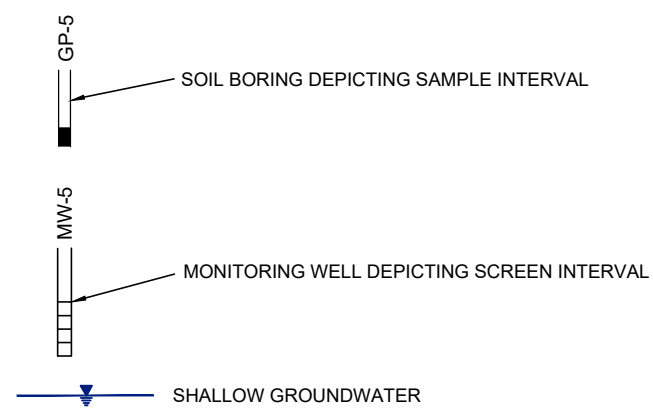
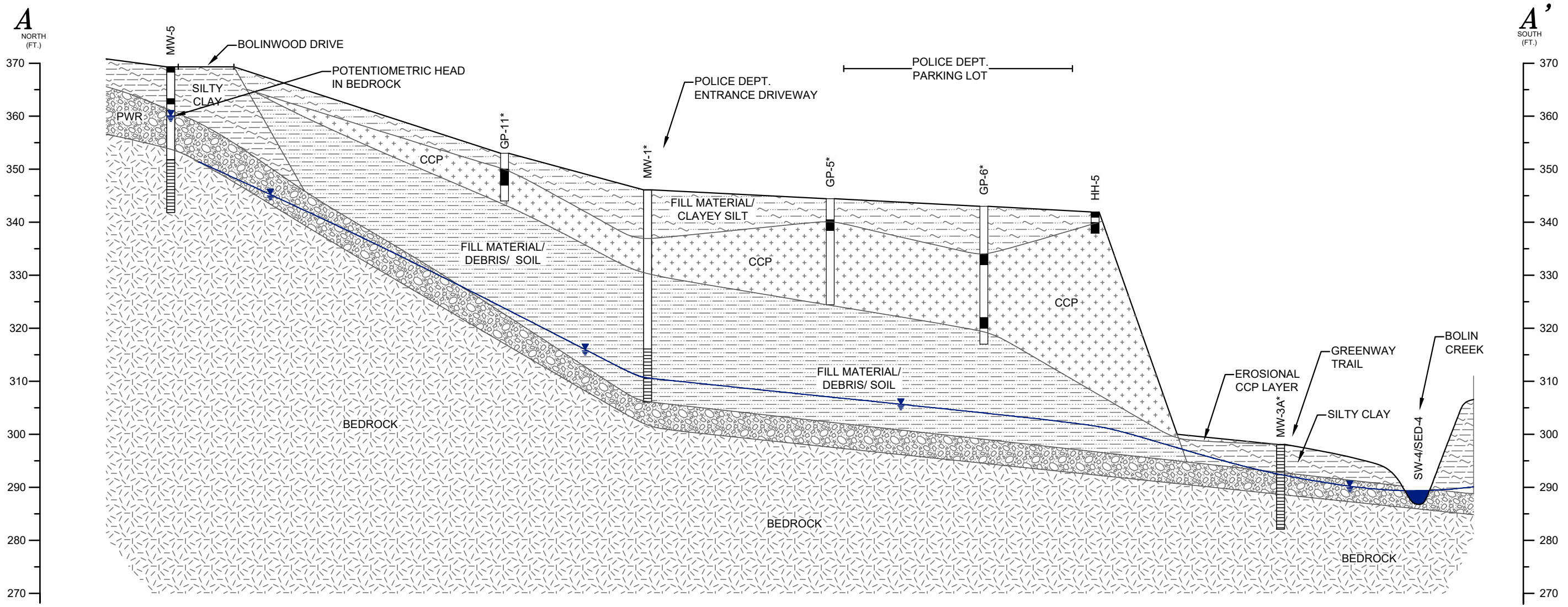
NOTE:

EXISTING MONITORING WELLS & OCTOBER/ NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.



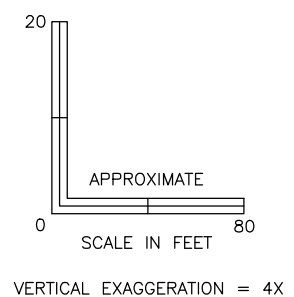
CROSS-SECTION TRANSECT LOCATION MAP	
TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
SMARTER ENVIRONMENTAL SOLUTIONS	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 1-12-17	REVISION NO. 0
JOB NO. TCH-002	FIGURE NO. 4

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LEGEND

	SILTY CLAY
	FILL MATERIAL/ CLAYEY SILT
	COAL COMBUSTION PRODUCTS (CCPs)
	FILL MATERIAL/ DEBRIS/ SOIL
	PARTIALLY WEATHERED ROCK (PWR)
	BEDROCK



- NOTES:**
1. REFER TO FIGURE 4 OF THIS REPORT FOR CROSS-SECTION TRANSECT.
 2. MW-5 BRACKETS BEDROCK FRACTURE.
 3. * INDICATES BORING/ MONITORING WELL INSTALLED BY FALCON ENGINEERING, INC.

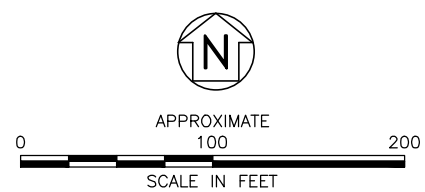
TITLE	CROSS-SECTION A-A'	
PROJECT	TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
		2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 1-12-17	REVISION NO. 0	
JOB NO. TCH-002	FIGURE NO. 5	


S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-002 - Police Station\Ph II RI Work\Figures\Cross-Section.dwg, FIG. 5, 1/12/2017 3:23:21 PM, zbarlow



- LEGEND**
- SITE PROPERTY BOUNDARY
 - - - BOLIN CREEK
 - 101— TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
 - ◆ MONITORING WELL LOCATION (FALCON ENGINEERING)
 - ◆ TEMPORARY MONITORING WELL LOCATION (FALCON ENGINEERING)
 - ◆ MONITORING WELL LOCATION (H&H)
 - ◆ ABANDONED MONITORING WELL LOCATION
 - - - 295— GROUNDWATER ELEVATION CONTOUR (FT MSL) (DASHED WHERE INFERRED)
 - APPROXIMATE GROUNDWATER FLOW DIRECTION
 - (305.47) GROUNDWATER ELEVATION (FT MSL)

- NOTES:**
1. EXISTING MONITORING WELLS & OCTOBER/NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.
 2. MW-5 & MW-7 SCREENED IN BEDROCK.



TITLE	SHALLOW GROUNDWATER POTENTIOMETRIC MAP	
PROJECT	TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
		2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE:	1-12-17	REVISION NO. 0
JOB NO.	TCH-002	FIGURE NO. 6

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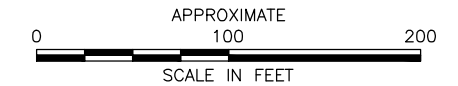


LEGEND

- SITE PROPERTY BOUNDARY
- - - BOLIN CREEK
- 101 — TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- ⬢ MONITORING WELL LOCATION (FALCON ENGINEERING)
- ⬢ TEMPORARY MONITORING WELL LOCATION (FALCON ENGINEERING)
- SOIL BORING LOCATION (FALCON ENGINEERING)
- ⬢ ABANDONED MONITORING WELL LOCATION
- ⬢ MONITORING WELL LOCATION (H&H)
- SOIL BORING LOCATION (H&H)
- COVER EVALUATION BORING LOCATION
- CCP UNDER > 2 FT COVER
- CCP UNDER < 2 FT COVER
- CCP EXPOSED AT GROUND SURFACE
- CCP DEPOSITIONAL LAYER

NOTE:

EXISTING MONITORING WELLS & OCTOBER/ NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.



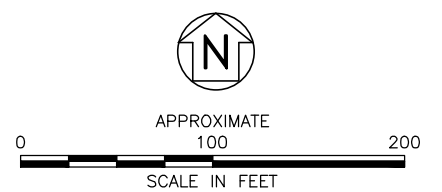
TITLE	
CCP LOCATION & COVER EVALUATION MAP	
PROJECT	
TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
CLIENT	
2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 1-13-17	REVISION NO. 0
JOB NO. TCH-002	FIGURE NO. 7

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- LEGEND**
- SITE PROPERTY BOUNDARY
 - - - BOLIN CREEK
 - 101 — TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
 - SOIL BORING LOCATION (FALCON ENGINEERING)
 - SOIL BORING LOCATION (H&H)
 - BACKGROUND SOIL BORING LOCATION (H&H)
 - ⊕ MONITORING WELL/ SOIL BORING LOCATION (H&H)

NOTE:
 EXISTING MONITORING WELLS & OCTOBER/ NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.



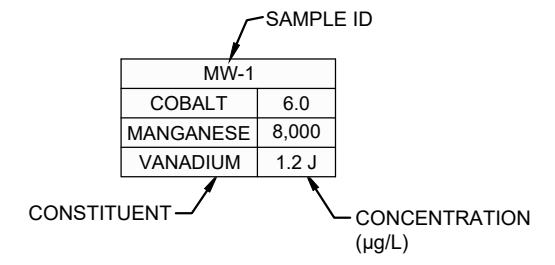
TITLE		SOIL BORING LOCATION MAP	
PROJECT		TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
DATE: 1-12-17		REVISION NO. 0	
JOB NO. TCH-002		FIGURE NO. 8	
		2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-002 - Police Station\Ph II RI Work\Figures\Figures.dwg, FIG 8, 1/12/2017 3:25:17 PM, abarlow



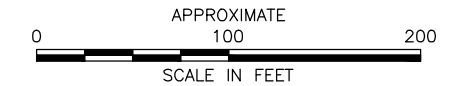
LEGEND

- SITE PROPERTY BOUNDARY
- - - BOLIN CREEK
- 101— TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- ◆ MONITORING WELL LOCATION (FALCON ENGINEERING)
- ◆ TEMPORARY MONITORING WELL LOCATION (FALCON ENGINEERING)
- ◆ ABANDONED MONITORING WELL LOCATION
- ◆ MONITORING WELL LOCATION (H&H)



NOTES:

1. EXISTING MONITORING WELLS & OCTOBER/NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.
2. ONLY COMPOUNDS ABOVE BACKGROUND & 2L STANDARD DEPICTED IN DATA BOXES.



TITLE	GROUNDWATER MONITORING WELL LOCATION MAP	
PROJECT	TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
		2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 1-12-17	REVISION NO. 0	
JOB NO. TCH-002	FIGURE NO. 9	

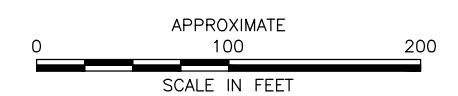
S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-002 - Police Station\Ph II RI Work\Figures\Figures.dwg, FIG 9, 1/12/2017 3:26:13 PM, abarlow




LEGEND

- SITE PROPERTY BOUNDARY
- - - BOLIN CREEK
- 101— TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- ▲ SURFACE WATER SAMPLE LOCATION (FALCON ENGINEERING)
- ▲ SURFACE WATER SAMPLE LOCATION (H&H)

NOTE:
 EXISTING MONITORING WELLS & OCTOBER/ NOVEMBER 2016 SAMPLING LOCATIONS SURVEYED BY CE GROUP ON DECEMBER 8, 9, & 20, 2016.



TITLE SURFACE WATER & SEDIMENT SAMPLE LOCATION MAP	
PROJECT TOWN OF CHAPEL HILL POLICE DEPARTMENT PROPERTY CHAPEL HILL, NORTH CAROLINA	
 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 1-12-17	REVISION NO. 0
JOB NO. TCH-002	FIGURE NO. 10

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-002 - Police Station\Ph II RI Work\Figures\Figures.dwg, FIG 10, 1/12/2017 3:26:29 PM, zbarlow

Appendix A
Report of Survey



CE GROUP

301 GLENWOOD AVENUE, SUITE 220

RALEIGH, NC 27603

Phone: (919) 367-8790

E-Mail: shane@cegroupinc.com

Report of Survey: Chapel Hill Police Department Environmental Samples

I certify that this survey was done under my responsible charge in compliance with the Standard of Practice for Land Surveying (21-56.1600) for Hart & Hickman for the purpose of locating the environmental samples location on property know as Chapel Hill Police Department recorded on deed book 350 page 325 in Orange County North Carolina Register of Deeds.

That before I performed the survey I examined the following documents for project thoroughness and location:

- Deed Book 350 Page 325
- Proposed CCP Cover Investigation Boring Map
- Proposed Additional Sample Location Map

That after examining the documents, I examined the property and found:

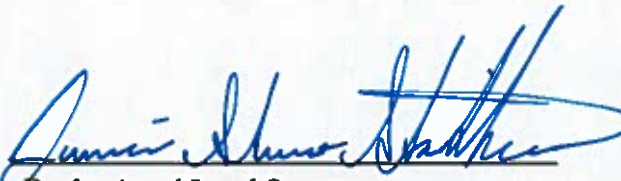
- Monitoring wells
- Soil boring locations
- Surface water sample locations

Upon completion of the survey, I processed and combined NSRS/VRS data with conventional survey data to establish the horizontal and vertical location of environmental samples as set out by Hart & Hickman on the Chapel Hill Police Department project site. No additional locations where performed.

All positions are referenced to the North Carolina State Plane Coordinate System NAD83(NSRS2011), using the national GEOID model 12B.

This 16th day of DECEMBER, 2016.



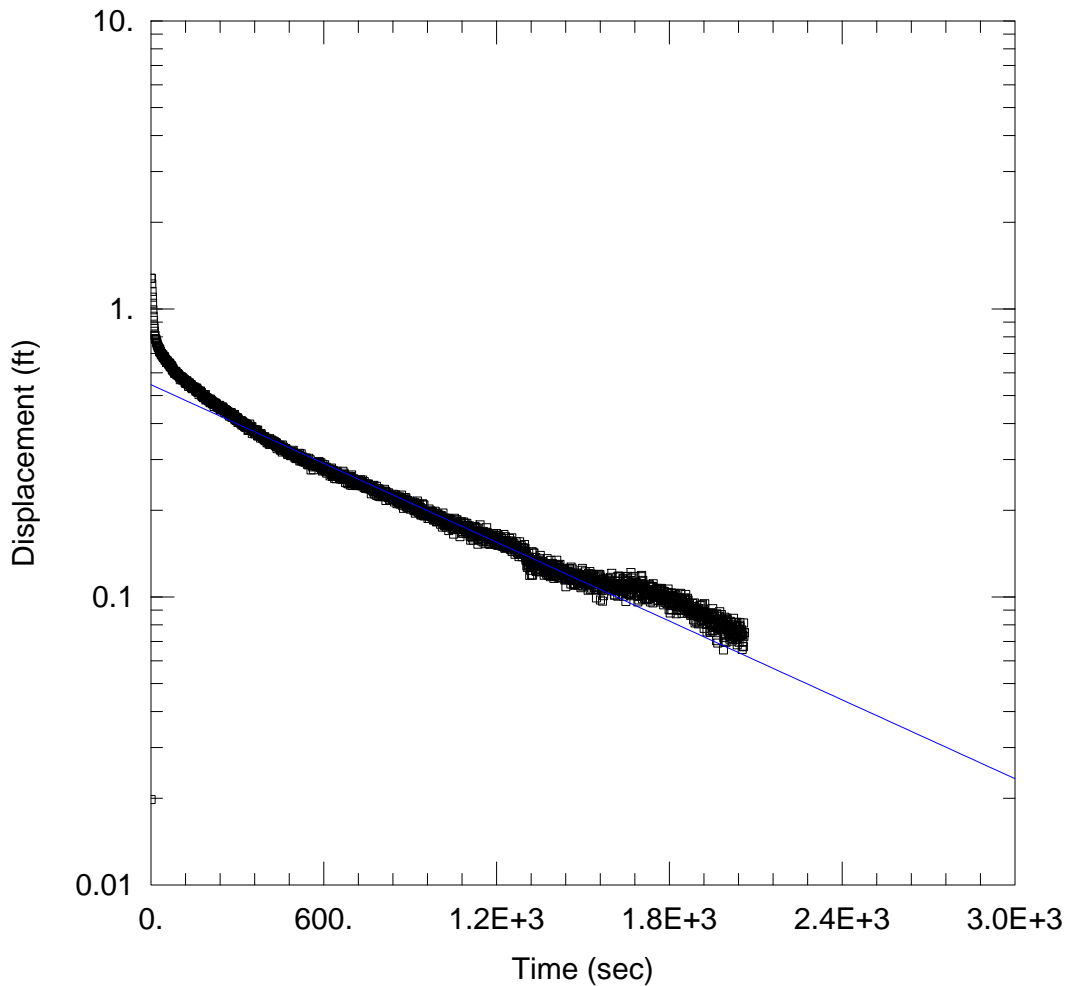

Professional Land Surveyor

POINT #	Northing	Easting	Elevation	Description
100	791949.33	1984460	341.96	HH-5
101	792206.54	1984238	346.57	MW-1
102	792206.55	1984238	346.12	MW-1_PVC
103	792533.59	1984076	369.33	MW-5_PVC
104	792533.61	1984076	369.72	MW-5
105	791920.71	1984651	339.54	MW-7_PVC
106	791920.65	1984651	340.11	MW-7
107	791796.65	1984561	298	MW-4A_PVC
108	791808.86	1984442	298.1	MW-3A_PVC
109	791808.93	1984442	298.61	MW-3A
110	791920.08	1984200	315.39	MW-6_PVC
111	791920.15	1984200	315.58	MW-6
112	792197.49	1984426	346.54	HH-2
113	792192.04	1984240	345.82	HH-1
114	792460.34	1984073	362.98	I2-A
115	792461.58	1984101	362.81	I2
116	792461.66	1984137	362.08	I2-B
117	792404.05	1984380	377.33	I6
118	792083.25	1984573	339.48	HH-3
202	791828.15	1983855	304.72	BG3
203	791822.12	1983897	305.52	BG2
204	791829.55	1983932	302.83	BG1
205	791849.68	1983933	297.23	SWA-SED
206	791845.51	1983719	300.02	SWA-SED
207	791828.32	1983771	303.11	IPF-0.625-0.1AG
208	791818.4	1983818	306.48	BG4
209	792341.83	1984126	352.33	H1-C
210	792241.99	1984142	343.25	H1
211	792247.8	1984109	346.05	H1-A
212	792114.63	1984119	335.8	G1
213	792050.91	1984116	328.48	F1
214	792026.41	1984123	326.87	E1-C
215	792008.81	1984130	326.27	E1-B
216	791996.52	1984127	323.82	E1-A
217	791996.74	1984135	326.22	E1
218	791937	1984141	318.25	D1
220	791983.42	1984187	328.63	E2
221	791933.94	1984193	316.6	D2
222	791916.59	1984219	314.02	D3-C
223	791914.59	1984237	312	D3-B
224	791922.98	1984241	312.61	D3-A
225	791934.67	1984242	315.15	D3
226	791781.71	1984229	296.24	SWA-SED3
228	791973.49	1984240	321.4	E3
229	791798.54	1984351	299.5	HH-6
230	791712.6	1984406	289.24	SWA-SED4
231	791779.68	1984433	296.68	B8-B
232	791806.07	1984445	297.99	B8-A
233	791816.2	1984440	298.54	HH-7
234	791864.53	1984379	299.8	B7
235	791899.86	1984347	301.64	C6
236	791932.29	1984294	304	D4
237	792006.12	1984281	316.89	F5-A
238	791893.61	1984409	306.51	C7
239	791835.38	1984454	298.85	B8
240	791881.97	1984456	306.29	C8
241	791873.52	1984506	308.27	C9
242	791910.38	1984502	329.22	D9
243	791930.39	1984543	332.61	D10
244	791880.21	1984552	324.96	C10
245	791813.23	1984524	297.26	B9-A
246	791822.6	1984506	297.87	B9
247	791756.23	1984499	296.54	A9-A

Note: All coordinate values are GRID
Datum: NC_State Plane 3200 / Geoid 12B

248	791778.92	1984500	296.75	A9
250	791940.65	1984360	309.04	D6
251	791962.81	1984340	305.54	D5
252	791979.75	1984310	306.72	E5
253	792018.64	1984333	315	F5-B
254	792027.73	1984304	317.7	F5
256	791796.33	1984561	298.31	MW-4A
257	791700.24	1984612	294.22	HH-8
258	791566.27	1984708	285.85	SWA-SED5
259	791881.14	1984615	331.87	C11
262	792010.21	1984394	343.99	HH-4
265	792159.45	1984656	341.78	H12
266	792091.16	1984677	331.322	G12
268	791926.11	1984436	333.179	D7

Appendix B
Slug Test Data



WELL TEST ANALYSIS

Data Set:

Date: 01/26/17

Time: 18:56:38

PROJECT INFORMATION

Company: Hart & Hickman, PC

Client: Town of Chapel Hill

Project: TCH-002

Location: Chapel Hill, NC

Test Well: MW-1

Test Date: 12/16/2016

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-1)

Initial Displacement: 1.277 ft

Static Water Column Height: 3.71 ft

Total Well Penetration Depth: 3.71 ft

Screen Length: 3.71 ft

Casing Radius: 0.083 ft

Well Radius: 0.083 ft

Gravel Pack Porosity: 0.3

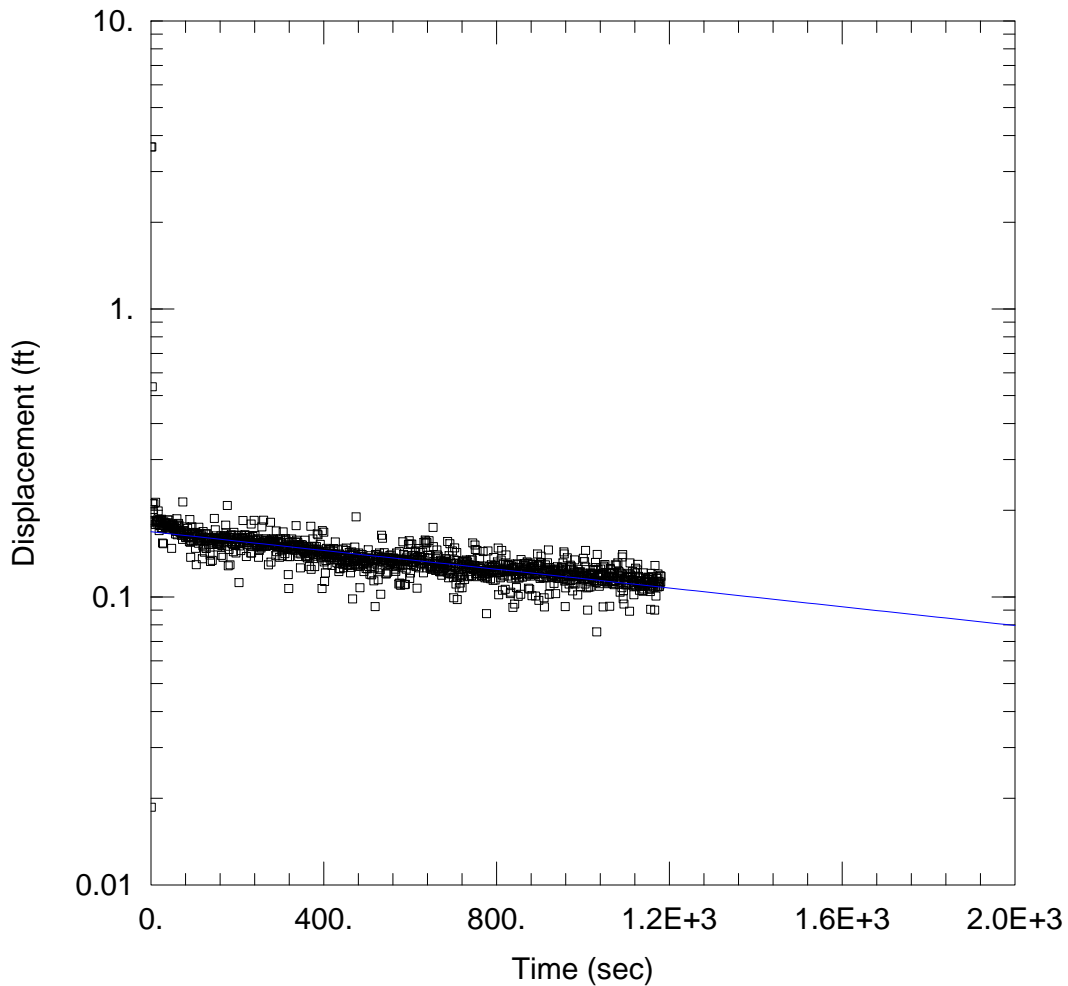
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bowyer-Rice

K = 0.2017 ft/day

y0 = 0.5457 ft



WELL TEST ANALYSIS

Data Set:

Date: 01/26/17

Time: 19:09:15

PROJECT INFORMATION

Company: Hart & Hickman, PC

Client: Town of Chapel Hill

Project: TCH-002

Location: Chapel Hill, NC

Test Well: MW-3A

Test Date: 12/16/2016

AQUIFER DATA

Saturated Thickness: 50 ft

Anisotropy Ratio (Kz/Kr): 1

WELL DATA (MW-3A)

Initial Displacement: 3.65 ft

Static Water Column Height: 9.39 ft

Total Well Penetration Depth: 9.39 ft

Screen Length: 9.39 ft

Casing Radius: 0.083 ft

Well Radius: 0.083 ft

Gravel Pack Porosity: 0.3

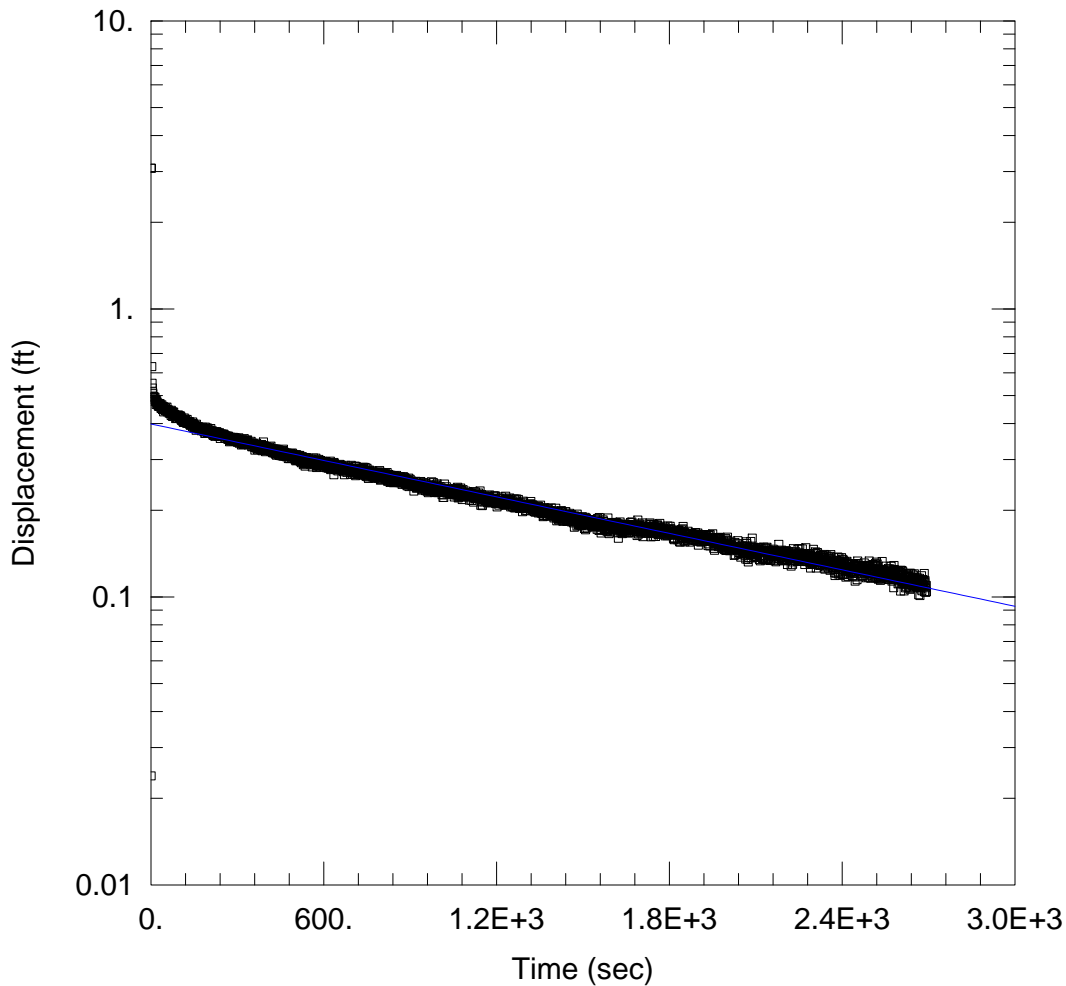
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 0.03766 ft/day

y0 = 0.1684 ft



WELL TEST ANALYSIS

Data Set:

Date: 01/26/17

Time: 19:13:48

PROJECT INFORMATION

Company: Hart & Hickman, PC

Client: Town of Chapel Hill

Project: TCH-002

Location: Chapel Hill, NC

Test Well: MW-4A

Test Date: 12/16/2016

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-4A)

Initial Displacement: 3.079 ft

Static Water Column Height: 11.83 ft

Total Well Penetration Depth: 11.83 ft

Screen Length: 11.83 ft

Casing Radius: 0.083 ft

Well Radius: 0.083 ft

Gravel Pack Porosity: 0.3

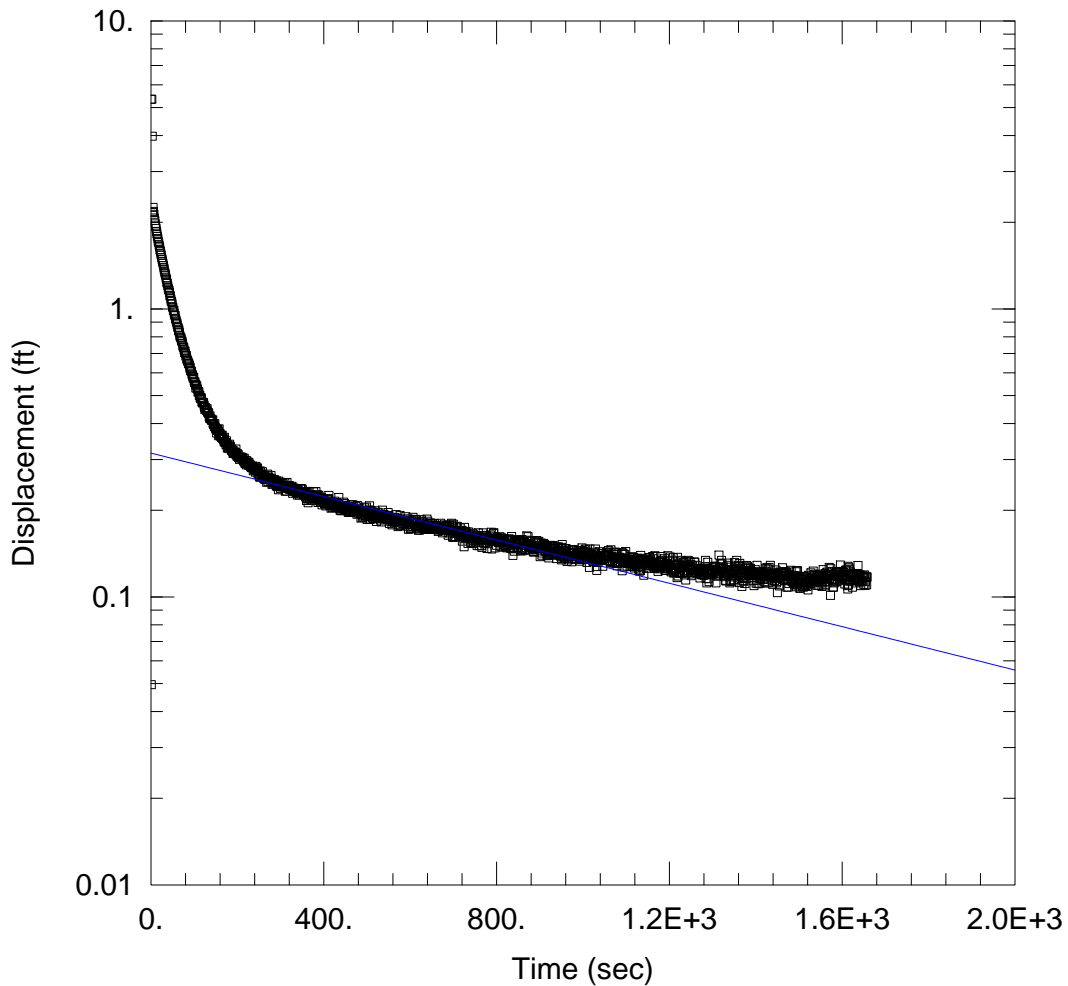
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 0.04115 ft/day

y0 = 0.3985 ft



WELL TEST ANALYSIS

Data Set:

Date: 01/26/17

Time: 19:19:49

PROJECT INFORMATION

Company: Hart & Hickman, PC

Client: Town of Chapel Hill

Project: TCH-002

Location: Chapel Hill, NC

Test Well: MW-5

Test Date: 12/16/2016

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5)

Initial Displacement: 5.348 ft

Static Water Column Height: 18.15 ft

Total Well Penetration Depth: 27.5 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.083 ft

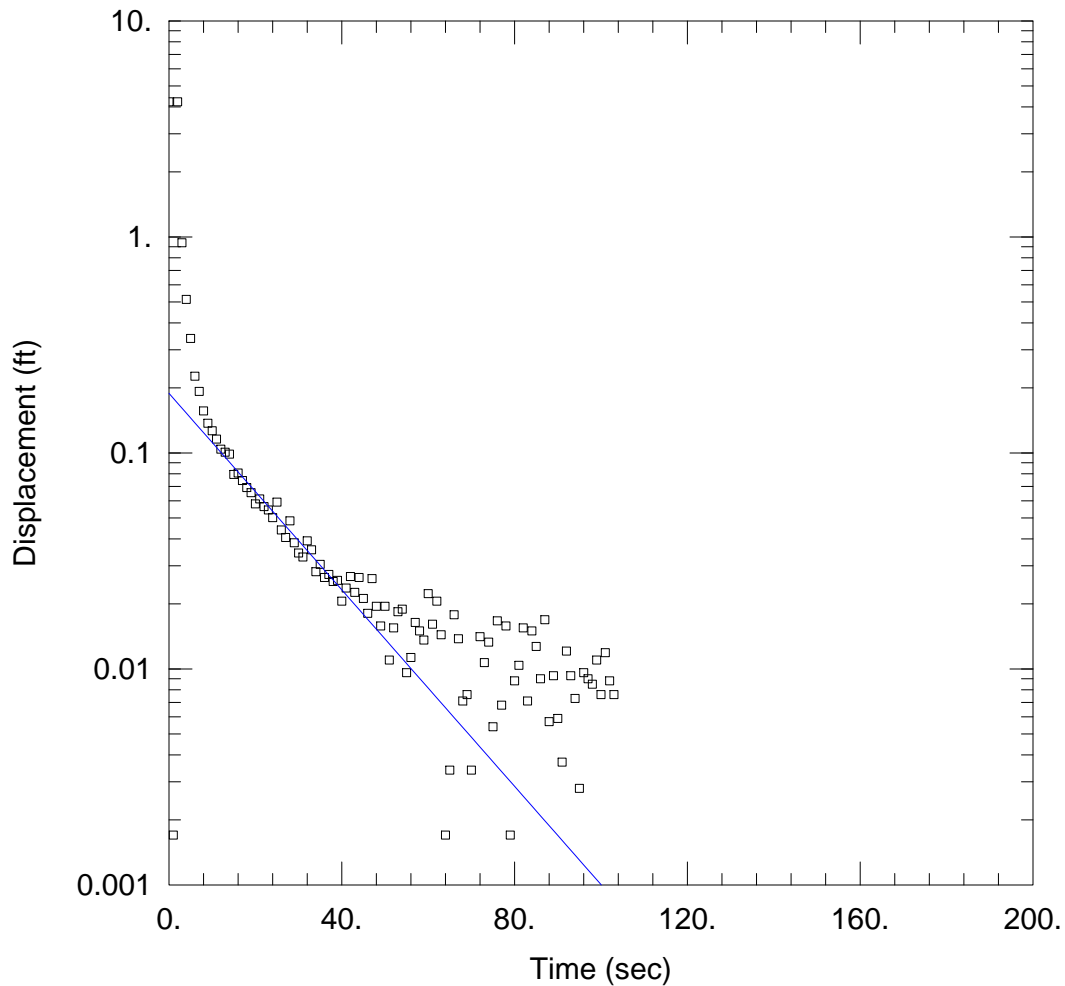
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.09646 ft/day

y0 = 0.3158 ft



WELL TEST ANALYSIS

Data Set:
Date: 01/26/17

Time: 19:25:01

PROJECT INFORMATION

Company: Hart & Hickman, PC
 Client: Town of Chapel Hill
 Project: TCH-002
 Location: Chapel Hill, NC
 Test Well: MW-6
 Test Date: 12/16/2016

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6)

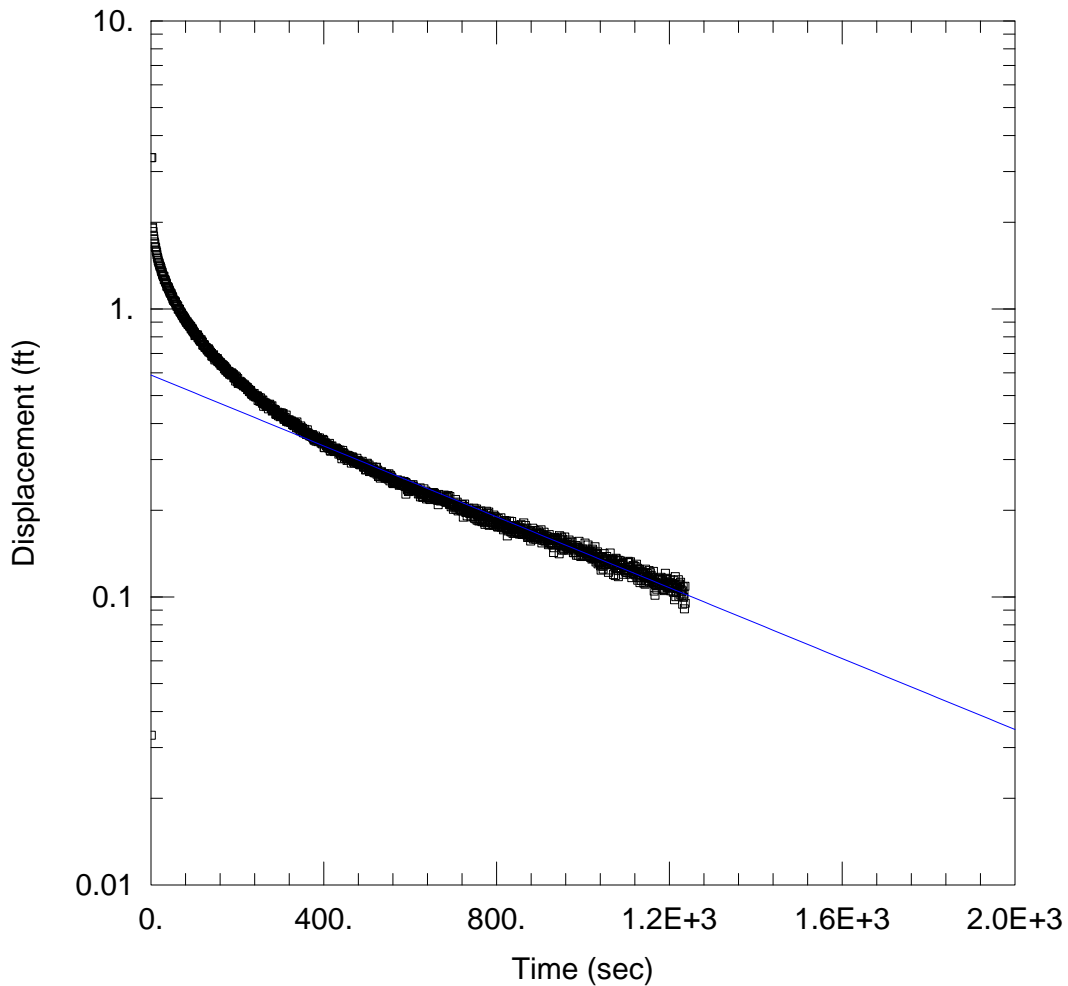
Initial Displacement: 4.221 ft
 Total Well Penetration Depth: 7.9 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 7.9 ft
 Screen Length: 7.9 ft
 Well Radius: 0.083 ft
 Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
 K = 5.966 ft/day

Solution Method: Bower-Rice
 y0 = 0.1886 ft



WELL TEST ANALYSIS

Data Set:

Date: 01/26/17

Time: 19:30:31

PROJECT INFORMATION

Company: Hart & Hickman, PC

Client: Town of Chapel Hill

Project: TCH-002

Location: Chapel Hill, NC

Test Well: MW-7

Test Date: 12/16/2016

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-7)

Initial Displacement: 3.351 ft

Static Water Column Height: 21.81 ft

Total Well Penetration Depth: 69.5 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bowser-Rice

K = 0.2062 ft/day

y0 = 0.5895 ft

Appendix C
Site Photographs



Photograph 1: Example of CCP in stainless steel hand auger from CCP Evaluation Boring D3.



Photograph 2: CCP compared to cover soil from CCP Evaluation Boring D3.



Photograph 3: CCP exposed at the surface along the central portion of the embankment .



Photograph 4: CCP in the northwest corner of the Site from CCP Evaluation Boring I2.



Photograph 5: Example of brick and concrete debris observed on the embankment.



Photograph 6: Installation of MW-5. View is to the north.



Photograph 7: Installation of MW-6. View is to the northeast.



Photograph 8: Installation of MW-7. View is to the east.



Photograph 9: View of the decontamination pit.



Photograph 10: View of the IDW staging area.

Appendix D

Soil Boring Logs/Well Construction Diagrams

BORING NUMBER MW-5

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(CL-ML) Slightly moist, medium firm, orangish red silty CLAY with gravel		0
5								5
10						Grey, dry PARTIALLY WEATHERED BEDROCK		10
15						Saturated, water-bearing fracture, PARTIALLY WEATHERED BEDROCK		15
20						Competant BEDROCK		20
25						Saturated, water-bearing fracture, PARTIALLY WEATHERED BEDROCK		25
30						Competant BEDROCK		30
						Refusal at 8.0 feet. Bottom of borehole at 28.0 feet.		30

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:08 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB_MASTER_GINT_PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Geoprobe 3230DT / HSA/Air Rotary
SAMPLING METHOD: HA/HSA Cuttings/AR Cutting
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/2/16
BORING COMPLETED: 11/2/16
TOTAL DEPTH: 28 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Sample collected from 0-1 ft bgs and 6-7 ft bgs for analysis of metals by 6010 and Chromium (VI) by 7199.

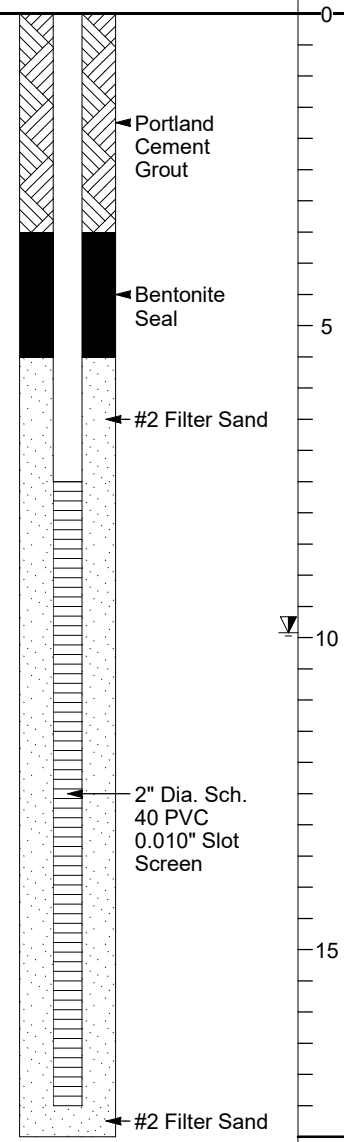
BORING NUMBER MW-6

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:08 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB_MASTER GINT PROJECTS\TCH-002.GPJ

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, dark brown, clayey SILT with trace amounts of CCP		0
						Moist, loose, reddish brown, silty CLAY		
5								5
10								10
15								15
18.0						Refusal at 18.0 feet. Bottom of borehole at 18.0 feet.		18.0
20								20

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Geoprobe 3230DT / HSA
SAMPLING METHOD: HA/ HSA cuttings
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/2/16
BORING COMPLETED: 11/2/16
TOTAL DEPTH: 18 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium (VI) by 7199.

BORING NUMBER MW-7

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(CL-ML) Dry, loose, orange, silty CLAY		0
10						Competant BEDROCK		10
20						Dry, non-water bearing fracture, PARTIALLY WEATHERED BEDROCK		20
30						Competant BEDROCK	← Portland Cement Grout	30
40						Dry, non-water bearing fracture, PARTIALLY WEATHERED BEDROCK		40
50						Competant BEDROCK		50
60						Moist, water bearing fracture, PARTIALLY WEATHERED BEDROCK		60
70						Competant BEDROCK	← Bentonite Seal ← #2 Filter Sand	60
						Saturated, water bearing fracture, PARTIALLY WEATHERED BEDROCK	← 2" Dia. Sch. 40 PVC ← 0.010" Slot Screen	70
						Competant BEDROCK	← #2 Filter Sand	70
						Refusal at 14.0 feet. Bottom of borehole at 70.0 feet.		

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:08 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB MASTER GINT PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration

DRILL RIG/ METHOD: Geoprobe 3230DT / HSA/Air Rotary

SAMPLING METHOD: HA/ HSA Cuttings/AR Cuttings

LOGGED BY: PHS

DRAWN BY: PHS

BORING STARTED: 11/1/16

BORING COMPLETED: 11/2/16

TOTAL DEPTH: 70 ft.

TOP OF CASING ELEV:

DEPTH TO WATER:

Remarks:

Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium (VI) by 7199.

BORING NUMBER HH-1


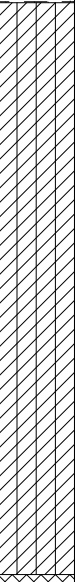
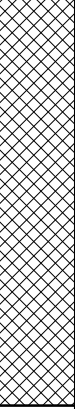
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

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

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0.0						Slightly moist, loose, brown, TOPSOIL		0.0
						Slightly moist, loose, reddish brown, clayey SILT with gravel		
2.5								2.5
						Slightly moist, loose, whitish tan, clayey SILT		
5.0								5.0
						Predominately CCP, with trace whitish tan, clayey SILT		
7.5								7.5
						Slightly moist, loose, whitish tan, clayey SILT, intermixed with CCP		
10.0						Bottom of borehole at 10.0 feet.		10.0

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:06 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB_MASTER_GINT_PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Geoprobe 3230DT / HA/DPT
SAMPLING METHOD: HA/ DPT Sleeves
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/3/16
BORING COMPLETED: 11/3/16
TOTAL DEPTH: 10 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
 Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium VI by 7199 and from 2-3 ft bgs for analysis of metals by SPLP.

BORING NUMBER HH-2

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0.0						Slightly moist, loose, reddish brown, clayey SILT		0.0
						Slightly moist, firm, grey and red, silty CLAY with trace amounts of CCP		
2.5						CCP		2.5
5.0						Bottom of borehole at 5.0 feet.		5.0

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:06 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB MASTER GINT PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Hand Auger / HA
SAMPLING METHOD: Hand Auger
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/3/16
BORING COMPLETED: 11/3/16
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium VI by 7199 and from 2-3 ft bgs for analysis of metals by SPLP.

BORING NUMBER HH-3

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0								0
0-1	Hand icon				Diagonal lines (top to bottom)	Moist, loose, dark brown, silty CLAY intermixed with CCP		
1-2	Hand icon				Grid pattern	CCP		
2-15					Diagonal lines (bottom to top)	Moist, medium firm, orange and red, CLAY		
15						Bottom of borehole at 15.0 feet.		15

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:06 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB MASTER GINT PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Geoprobe 3230DT / HA/DPT
SAMPLING METHOD: HA/ DPT Sleeves
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/3/16
BORING COMPLETED: 11/3/16
TOTAL DEPTH: 15 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium VI by 7199 and from 2-3 ft bgs for analysis of metals by SPLP.

BORING NUMBER HH-4

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0.0						Slightly moist, medium firm, orange, silty CLAY intermixed with brick and concrete debris		0.0
2.5						Dry, loose, brown, clayey SILT intermixed with CCP		2.5
5.0						CCP		5.0
						Bottom of borehole at 5.0 feet.		

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:06 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB MASTER GINT PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Hand Auger / HA
SAMPLING METHOD: Hand Auger
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/3/16
BORING COMPLETED: 11/3/16
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium VI by 7199 and from 4-5 ft bgs for analysis of metals by SPLP.

BORING NUMBER HH-5

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0.0						Slightly moist, loose, dark brown, clayey SILT		0.0
						Slightly moist, loose, light tan, clayey SAND		
2.5						Slightly moist, medium firm, brown, sandy SILT intermixed with CCP		2.5
						CCP		
5.0						Bottom of borehole at 5.0 feet.		5.0

BORING LOG - HART HICKMAN.GDT - 12/15/16 11:06 - \\HFES01.HARTHICKMAN.LOCAL\MASTERFILES\BBB MASTER GINT PROJECTS\TCH-002.GPJ

DRILLING CONTRACTOR: Geologic Exploration
DRILL RIG/ METHOD: Hand Auger / HA
SAMPLING METHOD: Hand Auger
LOGGED BY: PHS
DRAWN BY: PHS

BORING STARTED: 11/3/16
BORING COMPLETED: 11/3/16
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Sample collected from 0-1 ft bgs for analysis of metals by 6010 and Chromium VI by 7199 and from 3-4 ft bgs for analysis of metals by SPLP.

BORING NUMBER A9

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						Slightly moist, loose, black and brown, predominately CCP mixed with topsoil		0
1						(CL-ML) Slightly moist, loose, brown, silty CLAY with CCP intermixed		1
2						(CL-ML) Slightly moist, loose, brown, silty CLAY with trace amounts of CCP		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER A9-A

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, dark brown, clayey SILT		0
1						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER B7

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, organic clayey SILT		0
1						(CL-ML) Slightly moist, loose, orange silty CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER B8

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1						(ML) Slightly moist, loose, dark brown, clayey SILT		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER B8-A

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, dark brown, clayey SILT intermixed with CCP		0
						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY intermixed with CCP		
						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY intermixed with CCP		
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER B8-B

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, orangish brown clayey silt		0
1						Bottom of borehole at 1.0 feet.		1
2								2

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 1 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER B9

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1						(ML) Slightly moist, loose, dark brown, clayey SILT intermixed with CCP		1
2						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER B9-A

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, dark brown, clayey SILT		0
						(CL-ML) Slightly moist, loose, brown, silty CLAY		
1						Bottom of borehole at 1.0 feet.		1
2								2

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 1 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER C10

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1								1
2						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY		2
						Bottom of borehole at 2.0 feet.		

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER C11

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL) Slightly moist, loose, orange, sandy CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER C6

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, black, organic clayey SILT		0
1						(CL-ML) Slightly moist, medium firm, orange silty CLAY		1
2						(CL-ML) Moist, medium firm, brown, silty CLAY		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER C7

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER C8

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:



BORING NUMBER C9

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(SM) Slightly moist, loose, orangish brown, silty SAND		0
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
 No CCP observed.

BORING NUMBER D1

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(ML) Slightly moist, loose, brown, clayey SILT intermixed with CCP		
						(ML) Slightly moist, loose, brown, clayey SILT		
1								1
						Bottom of borehole at 1.5 feet.		
2								2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 1.5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D10

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL-ML) Slightly moist, loose, orange, silty CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER D2

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(ML) Slightly moist, loose, brown, clayey SILT with trace amounts of CCP		
						(ML) Slightly moist, loose, orangish brown, clayey SILT		
1								1
						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY with trace amounts of CCP		
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D3

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(CL-ML) Slightly moist, medium firm, orangish brown, silty CLAY with CCP intermixed		0
1						CCP only		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D3-A

2923 South Tryon Street-Suite 100
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3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP intermixed with brown organic soil		0
						CCP only		
1						(CL) Slightly moist, medium firm, orange sandy CLAY with concrete and brick debris		1
						(CL) Slightly moist, medium firm, orange sandy CLAY with concrete and brick debris intermixed with CCP		
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D3-B

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						Predominately CCP intermixed with orange sandy clay		0
1								1
2						(CL) Slightly moist, medium firm, orange, sandy CLAY with trace amounts of CCP		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D3-C

2923 South Tryon Street-Suite 100
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3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, orangish brown, clayey SILT		0
						(ML) Slightly moist, loose, orangish brown, clayey SILT intermixed with CCP		
						(CL-ML) Slightly moist, loose, brown, silty CLAY with gravel		
1						Refusal at 1.0 feet. Bottom of borehole at 1.0 feet.		1
2								2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 1 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D4

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, black, organic clayey SILT		0
1								1
2						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER D5

2923 South Tryon Street-Suite 100
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704-586-0007(p) 704-586-0373(f)

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

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(CL-ML) Slightly moist, medium firm, orangish brown, silty CLAY intermixed with CCP		
1								1
						(CL-ML) Slightly moist, medium firm, orange, silty CLAY intermixed with CCP		
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D6

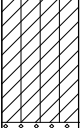
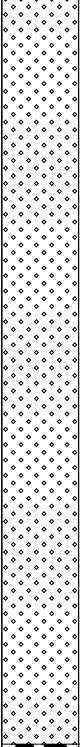

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3334 Hillsborough Street
Raleigh, North Carolina 27607
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PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(SW) Slightly moist, loose, red and grey, gritty SAND with trace amounts of CCP		
						(GW) Slightly moist, loose, red and grey, GRAVEL intermixed with CCP		
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D7

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1						Refusal at 1.0 feet. Bottom of borehole at 1.0 feet.		1
2								2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 1 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER D9

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER E1

2923 South Tryon Street-Suite 100
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3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL-ML) Slightly moist, soft, black and brown, silty CLAY with brick debris and CCP		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER E1-A

2923 South Tryon Street-Suite 100
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3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL-ML) Slightly moist, medium firm, orange, silty CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER E1-B

2923 South Tryon Street-Suite 100
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704-586-0007(p) 704-586-0373(f)

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

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY with trace amounts of CCP		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER E1-C

2923 South Tryon Street-Suite 100
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3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(CL-ML) Slightly moist, loose, orangish brown, silty CLAY		
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER E2

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT with concrete and brick debris		0
1						Predominately CCP with orange sandy clay and concrete and brick debris		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:47 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER E3

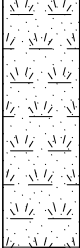

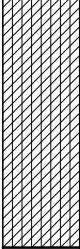
2923 South Tryon Street-Suite 100
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704-586-0007(p) 704-586-0373(f)

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

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						Slightly moist, loose, black, organic topsoil		0
						Predominately CCP		
						(CL-ML) Slightly moist, loose, brown, silty CLAY intermixed with CCP		
1						Refusal at 1.3 feet. Bottom of borehole at 1.3 feet.		1
2								2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 1.25 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER E5

2923 South Tryon Street-Suite 100
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3334 Hillsborough Street
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PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(CL-ML) Moist, loose, brown, silt CLAY		0
						CCP only		
						(ML) Moist, loose, orange clayey SILT intermixed with CCP		
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER F1

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

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL-ML) Slightly moist, loose, orange, silty CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER F5

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(CL-ML) Slightly moist, loose, orange silty CLAY intermixed with CCP		0
1								1
2						Predominately CCP with orange silty clay		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER F5-A

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(CL-ML) Slightly moist, loose, orange silty CLAY intermixed with CCP		0
1								1
2						CCP only		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER F5-B

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						CCP only		0
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/26/16
BORING COMPLETED: 10/26/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER G1

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
1						(CL-ML) Slightly moist, loose, orange, silty CLAY		1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/25/16
BORING COMPLETED: 10/25/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER G12

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, sandy SILT		0
1								1
2						Bottom of borehole at 1.5 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 1.5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

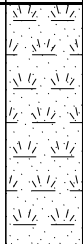
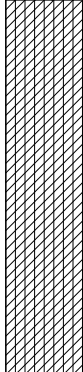

Remarks:
No CCP observed.

BORING NUMBER H1

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						Slightly moist, loose, brown, TOPSOIL		0
1						(CL-ML) Slightly moist, loose, red, silty CLAY with trace amounts of CCP		1
2						Predominately CCP intermixed with orangish brown silty clay		2
						Bottom of borehole at 2.0 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 12/8/16
BORING COMPLETED: 12/8/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER H12

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, sandy SILT		0
1						Bottom of borehole at 1.0 feet.		1
2								2

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 1 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
No CCP observed.

BORING NUMBER H1-A

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						Slightly moist, loose, brown, TOPSOIL		0
1						(CL-ML) Slightly moist, loose, red, silty CLAY intermixed with CCP and gravel		1
2						Bottom of borehole at 1.5 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 12/8/16
BORING COMPLETED: 12/8/16
TOTAL DEPTH: 1.5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

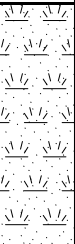
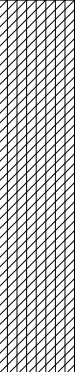

Remarks:

BORING NUMBER H1-B

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						Slightly moist, loose, brown, TOPSOIL		0
1						(CL-ML) Slightly moist, loose, red, silty CLAY with trace amounts of CCP and gravel		1
2						Predominately CCP intermixed with orangish brown silty clay, gravel, and brick		2
						Bottom of borehole at 1.8 feet.		

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 12/8/16
BORING COMPLETED: 12/8/16
TOTAL DEPTH: 1.75 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER I2

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(ML) Slightly moist, loose, brown, clayey SILT intermixed with CCP		
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 11/2/16
BORING COMPLETED: 11/2/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER I2-A

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)

PROJECT: Chapel Hill Police Department

JOB NUMBER: TCH-002

LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
						(ML) Slightly moist, loose, brown, clayey SILT intermixed with CCP		
1								1
2						Bottom of borehole at 2.0 feet.		2

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

BORING STARTED: 11/2/16
BORING COMPLETED: 11/2/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

BORING NUMBER I2-B

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, clayey SILT		0
					CCP only			
1								1
2						Bottom of borehole at 2.0 feet.		2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 11/2/16
BORING COMPLETED: 11/2/16
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:



BORING NUMBER I6

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)

PROJECT: Chapel Hill Police Department
JOB NUMBER: TCH-002
LOCATION: 828 Martin Luther King Jr. Boulevard, Chapel Hill, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm)		LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
			BKG.	SAMP.				
0						(ML) Slightly moist, loose, brown, SILT mixed with gravel		0
1						Refusal at 0.8 feet. Bottom of borehole at 0.8 feet.		1
2								2

BORING LOG - HART HICKMAN.GDT - 1/13/17 09:48 - S:\IBBB MASTER GINT PROJECTS\TCH-002 - 2.GPJ

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

BORING STARTED: 10/27/16
BORING COMPLETED: 10/27/16
TOTAL DEPTH: 0.75 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
 No CCP observed.

Appendix E

Laboratory Analytical Data

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

Project: TCH-002
Project No.: TCH-002
Lab Submittal Date: 10/28/2016
Prism Work Order: 6100562

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 Terri W. Cole For Robbi A. Jones
Project Manager

Data Qualifiers Key Reference:

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.

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
HH-8	6100562-01	Solid	10/27/16	10/28/16
HH-7	6100562-02	Solid	10/27/16	10/28/16
HH-6	6100562-03	Solid	10/27/16	10/28/16
SW-5	6100562-04	Water	10/27/16	10/28/16
SED-5	6100562-05	Solid	10/27/16	10/28/16
SW-4	6100562-06	Water	10/27/16	10/28/16
SED-4	6100562-07	Solid	10/27/16	10/28/16
SW-3	6100562-08	Water	10/27/16	10/28/16
SED-3	6100562-09	Solid	10/27/16	10/28/16
SW-2	6100562-10	Water	10/27/16	10/28/16
SED-2	6100562-11	Solid	10/27/16	10/28/16
SW-1	6100562-12	Water	10/27/16	10/28/16
SED-1	6100562-13	Solid	10/27/16	10/28/16
Dup-SW	6100562-14	Water	10/27/16	10/28/16
Dup-SED	6100562-15	Solid	10/27/16	10/28/16
RB-SED	6100562-16	Water	10/27/16	10/28/16

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



Summary of Detections

11/10/2016

Prism Work Order: 6100562

Prism ID	Client ID	Parameter	Method	Result	Units
6100562-01	HH-8	Mercury	*7471B	0.036	mg/kg dry
6100562-01	HH-8	Arsenic	*6010D	3.6	mg/kg dry
6100562-01	HH-8	Barium	*6010D	100	mg/kg dry
6100562-01	HH-8	Beryllium	*6010D	1.0	mg/kg dry
6100562-01	HH-8	Chromium	*6010D	19	mg/kg dry
6100562-01	HH-8	Cobalt	*6010D	12	mg/kg dry
6100562-01	HH-8	Copper	*6010D	29	mg/kg dry
6100562-01	HH-8	Lead	*6010D	18	mg/kg dry
6100562-01	HH-8	Manganese	*6010D	570	mg/kg dry
6100562-01	HH-8	Nickel	*6010D	9.0	mg/kg dry
6100562-01	HH-8	Strontium	*6010D	28	mg/kg dry
6100562-01	HH-8	Vanadium	*6010D	52	mg/kg dry
6100562-01	HH-8	Zinc	*6010D	54	mg/kg dry
6100562-02	HH-7	Chromium	*6010D	22	mg/kg dry
6100562-03	HH-6	Chromium	*6010D	20	mg/kg dry
6100562-04	SW-5	Barium	*6010D	0.025	mg/L
6100562-04	SW-5	Manganese	*6010D	0.025	mg/L
6100562-04	SW-5	Strontium	*6010D	0.11	mg/L
6100562-05	SED-5	Arsenic	*6010D	1.4	mg/kg dry
6100562-05	SED-5	Barium	*6010D	44	mg/kg dry
6100562-05	SED-5	Beryllium	*6010D	0.41	mg/kg dry
6100562-05	SED-5	Chromium	*6010D	51	mg/kg dry
6100562-05	SED-5	Cobalt	*6010D	9.5	mg/kg dry
6100562-05	SED-5	Copper	*6010D	8.6	mg/kg dry
6100562-05	SED-5	Lead	*6010D	22	mg/kg dry
6100562-05	SED-5	Manganese	*6010D	860	mg/kg dry
6100562-05	SED-5	Nickel	*6010D	5.3	mg/kg dry
6100562-05	SED-5	Strontium	*6010D	13	mg/kg dry
6100562-05	SED-5	Vanadium	*6010D	35	mg/kg dry
6100562-05	SED-5	Zinc	*6010D	32	mg/kg dry
6100562-06	SW-4	Barium	*6010D	0.025	mg/L
6100562-06	SW-4	Manganese	*6010D	0.028	mg/L
6100562-06	SW-4	Strontium	*6010D	0.11	mg/L
6100562-07	SED-4	Arsenic	*6010D	1.2	mg/kg dry
6100562-07	SED-4	Barium	*6010D	8.4	mg/kg dry
6100562-07	SED-4	Chromium	*6010D	34	mg/kg dry
6100562-07	SED-4	Cobalt	*6010D	3.5	mg/kg dry
6100562-07	SED-4	Copper	*6010D	5.2	mg/kg dry
6100562-07	SED-4	Lead	*6010D	3.5	mg/kg dry
6100562-07	SED-4	Manganese	*6010D	130	mg/kg dry
6100562-07	SED-4	Nickel	*6010D	5.0	mg/kg dry
6100562-07	SED-4	Strontium	*6010D	6.4	mg/kg dry
6100562-07	SED-4	Vanadium	*6010D	16	mg/kg dry
6100562-07	SED-4	Zinc	*6010D	20	mg/kg dry

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Prism ID	Client ID	Parameter	Method	Result	Units
6100562-08	SW-3	Barium	*6010D	0.025	mg/L
6100562-08	SW-3	Manganese	*6010D	0.033	mg/L
6100562-08	SW-3	Strontium	*6010D	0.11	mg/L
6100562-09	SED-3	Arsenic	*6010D	1.6	mg/kg dry
6100562-09	SED-3	Barium	*6010D	21	mg/kg dry
6100562-09	SED-3	Beryllium	*6010D	0.37	mg/kg dry
6100562-09	SED-3	Chromium	*6010D	30	mg/kg dry
6100562-09	SED-3	Cobalt	*6010D	6.2	mg/kg dry
6100562-09	SED-3	Copper	*6010D	7.4	mg/kg dry
6100562-09	SED-3	Lead	*6010D	6.9	mg/kg dry
6100562-09	SED-3	Manganese	*6010D	220	mg/kg dry
6100562-09	SED-3	Nickel	*6010D	6.8	mg/kg dry
6100562-09	SED-3	Strontium	*6010D	12	mg/kg dry
6100562-09	SED-3	Vanadium	*6010D	29	mg/kg dry
6100562-09	SED-3	Zinc	*6010D	35	mg/kg dry
6100562-10	SW-2	Barium	*6010D	0.025	mg/L
6100562-10	SW-2	Manganese	*6010D	0.013	mg/L
6100562-10	SW-2	Strontium	*6010D	0.10	mg/L
6100562-11	SED-2	Arsenic	*6010D	2.1	mg/kg dry
6100562-11	SED-2	Barium	*6010D	20	mg/kg dry
6100562-11	SED-2	Beryllium	*6010D	0.48	mg/kg dry
6100562-11	SED-2	Chromium	*6010D	36	mg/kg dry
6100562-11	SED-2	Cobalt	*6010D	7.8	mg/kg dry
6100562-11	SED-2	Copper	*6010D	8.0	mg/kg dry
6100562-11	SED-2	Lead	*6010D	7.1	mg/kg dry
6100562-11	SED-2	Manganese	*6010D	330	mg/kg dry
6100562-11	SED-2	Nickel	*6010D	7.2	mg/kg dry
6100562-11	SED-2	Strontium	*6010D	11	mg/kg dry
6100562-11	SED-2	Vanadium	*6010D	37	mg/kg dry
6100562-11	SED-2	Zinc	*6010D	34	mg/kg dry
6100562-12	SW-1	Barium	*6010D	0.026	mg/L
6100562-12	SW-1	Manganese	*6010D	0.016	mg/L
6100562-12	SW-1	Strontium	*6010D	0.10	mg/L
6100562-13	SED-1	Arsenic	*6010D	1.2	mg/kg dry
6100562-13	SED-1	Barium	*6010D	12	mg/kg dry
6100562-13	SED-1	Chromium	*6010D	23	mg/kg dry
6100562-13	SED-1	Cobalt	*6010D	3.9	mg/kg dry
6100562-13	SED-1	Copper	*6010D	4.2	mg/kg dry
6100562-13	SED-1	Lead	*6010D	4.0	mg/kg dry
6100562-13	SED-1	Manganese	*6010D	180	mg/kg dry
6100562-13	SED-1	Nickel	*6010D	3.8	mg/kg dry
6100562-13	SED-1	Strontium	*6010D	6.9	mg/kg dry
6100562-13	SED-1	Vanadium	*6010D	19	mg/kg dry
6100562-13	SED-1	Zinc	*6010D	19	mg/kg dry
6100562-14	Dup-SW	Barium	*6010D	0.025	mg/L

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Prism ID	Client ID	Parameter	Method	Result	Units
6100562-14	Dup-SW	Manganese	*6010D	0.031	mg/L
6100562-14	Dup-SW	Strontium	*6010D	0.11	mg/L
6100562-15	Dup-SED	Arsenic	*6010D	2.5	mg/kg dry
6100562-15	Dup-SED	Barium	*6010D	17	mg/kg dry
6100562-15	Dup-SED	Beryllium	*6010D	0.45	mg/kg dry
6100562-15	Dup-SED	Chromium	*6010D	49	mg/kg dry
6100562-15	Dup-SED	Cobalt	*6010D	6.5	mg/kg dry
6100562-15	Dup-SED	Copper	*6010D	9.1	mg/kg dry
6100562-15	Dup-SED	Lead	*6010D	6.7	mg/kg dry
6100562-15	Dup-SED	Manganese	*6010D	290	mg/kg dry
6100562-15	Dup-SED	Nickel	*6010D	6.0	mg/kg dry
6100562-15	Dup-SED	Strontium	*6010D	12	mg/kg dry
6100562-15	Dup-SED	Vanadium	*6010D	35	mg/kg dry
6100562-15	Dup-SED	Zinc	*6010D	31	mg/kg dry

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: HH-8
 Prism Sample ID: 6100562-01
 Prism Work Order: 6100562
 Time Collected: 10/27/16 11:45
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	84.9	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	0.036	mg/kg dry	0.025	0.0014	1	*7471B	11/4/16 11:45	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.30	0.030	1	*6010D	11/8/16 2:01	bgm	P6K0017
Arsenic	3.6	mg/kg dry	0.30	0.037	1	*6010D	11/8/16 2:01	bgm	P6K0017
Barium	100	mg/kg dry	0.60	0.088	1	*6010D	11/8/16 2:01	bgm	P6K0017
Beryllium	1.0	mg/kg dry	0.30	0.0066	1	*6010D	11/8/16 2:01	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.30	0.0080	1	*6010D	11/8/16 2:01	bgm	P6K0017
Chromium	19	mg/kg dry	0.30	0.050	1	*6010D	11/9/16 3:45	bgm	P6K0017
Cobalt	12	mg/kg dry	0.30	0.0059	1	*6010D	11/8/16 2:01	bgm	P6K0017
Copper	29	mg/kg dry	0.60	0.054	1	*6010D	11/8/16 2:01	bgm	P6K0017
Lead	18	mg/kg dry	0.30	0.056	1	*6010D	11/8/16 2:01	bgm	P6K0017
Manganese	570	mg/kg dry	3.0	0.60	10	*6010D	11/9/16 21:55	bgm	P6K0017
Nickel	9.0	mg/kg dry	0.60	0.022	1	*6010D	11/8/16 2:01	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.60	0.14	1	*6010D	11/8/16 2:01	bgm	P6K0017
Strontium	28	mg/kg dry	0.30	0.0064	1	*6010D	11/8/16 2:01	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.60	0.079	1	*6010D	11/8/16 2:01	bgm	P6K0017
Vanadium	52	mg/kg dry	0.30	0.0071	1	*6010D	11/8/16 2:01	bgm	P6K0017
Zinc	54	mg/kg dry	3.0	0.11	1	*6010D	11/8/16 2:01	bgm	P6K0017

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Project: TCH-002
Project No.: TCH-002
Sample Matrix: Solid

Client Sample ID: HH-7
Prism Sample ID: 6100562-02
Prism Work Order: 6100562
Time Collected: 10/27/16 11:55
Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	73.5	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Chromium	22	mg/kg dry	0.34	0.057	1	*6010D	11/9/16 3:54	bgm	P6K0017

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Project: TCH-002
Project No.: TCH-002
Sample Matrix: Solid

Client Sample ID: HH-6
Prism Sample ID: 6100562-03
Prism Work Order: 6100562
Time Collected: 10/27/16 12:10
Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	90.8	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Chromium	20	mg/kg dry	0.28	0.047	1	*6010D	11/9/16 4:05	bgm	P6K0017

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-5
 Prism Sample ID: 6100562-04
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:00
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 16:46	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 16:46	bgm	P6K0014
Barium	0.025	mg/L	0.010	0.0013	1	*6010D	11/1/16 16:46	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 16:46	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 16:46	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 16:46	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 16:46	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 16:46	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 16:46	bgm	P6K0014
Manganese	0.025	mg/L	0.010	0.0017	1	*6010D	11/1/16 16:46	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 16:46	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 16:46	bgm	P6K0014
Strontium	0.11	mg/L	0.010	0.00057	1	*6010D	11/1/16 16:46	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 16:46	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 16:46	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 16:46	bgm	P6K0014

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: SED-5
 Prism Sample ID: 6100562-05
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:05
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	80.1	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	BRL	mg/kg dry	0.025	0.0014	1	*7471B	11/4/16 11:59	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.31	0.031	1	*6010D	11/8/16 2:29	bgm	P6K0017
Arsenic	1.4	mg/kg dry	0.31	0.038	1	*6010D	11/8/16 2:29	bgm	P6K0017
Barium	44	mg/kg dry	0.62	0.090	1	*6010D	11/8/16 2:29	bgm	P6K0017
Beryllium	0.41	mg/kg dry	0.31	0.0068	1	*6010D	11/8/16 2:29	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.31	0.0083	1	*6010D	11/8/16 2:29	bgm	P6K0017
Chromium	51	mg/kg dry	0.31	0.052	1	*6010D	11/9/16 4:14	bgm	P6K0017
Cobalt	9.5	mg/kg dry	0.31	0.0061	1	*6010D	11/8/16 2:29	bgm	P6K0017
Copper	8.6	mg/kg dry	0.62	0.056	1	*6010D	11/8/16 2:29	bgm	P6K0017
Lead	22	mg/kg dry	0.31	0.058	1	*6010D	11/8/16 2:29	bgm	P6K0017
Manganese	860	mg/kg dry	3.1	0.62	10	*6010D	11/9/16 22:03	bgm	P6K0017
Nickel	5.3	mg/kg dry	0.62	0.022	1	*6010D	11/8/16 2:29	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.62	0.15	1	*6010D	11/8/16 2:29	bgm	P6K0017
Strontium	13	mg/kg dry	0.31	0.0066	1	*6010D	11/8/16 2:29	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.62	0.081	1	*6010D	11/8/16 2:29	bgm	P6K0017
Vanadium	35	mg/kg dry	0.31	0.0073	1	*6010D	11/8/16 2:29	bgm	P6K0017
Zinc	32	mg/kg dry	3.1	0.11	1	*6010D	11/8/16 2:29	bgm	P6K0017

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-4
 Prism Sample ID: 6100562-06
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:15
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 17:10	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 17:10	bgm	P6K0014
Barium	0.025	mg/L	0.010	0.0013	1	*6010D	11/1/16 17:10	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 17:10	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 17:10	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 17:10	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 17:10	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 17:10	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 17:10	bgm	P6K0014
Manganese	0.028	mg/L	0.010	0.0017	1	*6010D	11/1/16 17:10	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 17:10	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 17:10	bgm	P6K0014
Strontium	0.11	mg/L	0.010	0.00057	1	*6010D	11/1/16 17:10	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 17:10	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 17:10	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 17:10	bgm	P6K0014

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: SED-4
 Prism Sample ID: 6100562-07
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:20
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	78.5	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	BRL	mg/kg dry	0.027	0.0015	1	*7471B	11/4/16 12:03	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.33	0.033	1	*6010D	11/8/16 2:39	bgm	P6K0017
Arsenic	1.2	mg/kg dry	0.33	0.040	1	*6010D	11/8/16 2:39	bgm	P6K0017
Barium	8.4	mg/kg dry	0.65	0.095	1	*6010D	11/8/16 2:39	bgm	P6K0017
Beryllium	BRL	mg/kg dry	0.33	0.0072	1	*6010D	11/8/16 2:39	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.33	0.0088	1	*6010D	11/8/16 2:39	bgm	P6K0017
Chromium	34	mg/kg dry	0.33	0.055	1	*6010D	11/9/16 4:24	bgm	P6K0017
Cobalt	3.5	mg/kg dry	0.33	0.0064	1	*6010D	11/8/16 2:39	bgm	P6K0017
Copper	5.2	mg/kg dry	0.65	0.059	1	*6010D	11/8/16 2:39	bgm	P6K0017
Lead	3.5	mg/kg dry	0.33	0.061	1	*6010D	11/8/16 2:39	bgm	P6K0017
Manganese	130	mg/kg dry	0.33	0.065	1	*6010D	11/8/16 2:39	bgm	P6K0017
Nickel	5.0	mg/kg dry	0.65	0.024	1	*6010D	11/8/16 2:39	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.65	0.16	1	*6010D	11/8/16 2:39	bgm	P6K0017
Strontium	6.4	mg/kg dry	0.33	0.0069	1	*6010D	11/8/16 2:39	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.65	0.086	1	*6010D	11/8/16 2:39	bgm	P6K0017
Vanadium	16	mg/kg dry	0.33	0.0077	1	*6010D	11/8/16 2:39	bgm	P6K0017
Zinc	20	mg/kg dry	3.3	0.12	1	*6010D	11/8/16 2:39	bgm	P6K0017

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-3
 Prism Sample ID: 6100562-08
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:30
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 17:18	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 17:18	bgm	P6K0014
Barium	0.025	mg/L	0.010	0.0013	1	*6010D	11/1/16 17:18	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 17:18	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 17:18	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 17:18	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 17:18	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 17:18	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 17:18	bgm	P6K0014
Manganese	0.033	mg/L	0.010	0.0017	1	*6010D	11/1/16 17:18	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 17:18	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 17:18	bgm	P6K0014
Strontium	0.11	mg/L	0.010	0.00057	1	*6010D	11/1/16 17:18	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 17:18	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 17:18	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 17:18	bgm	P6K0014

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: SED-3
 Prism Sample ID: 6100562-09
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:35
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	80.2	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	BRL	mg/kg dry	0.026	0.0014	1	*7471B	11/4/16 12:08	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.32	0.032	1	*6010D	11/8/16 2:58	bgm	P6K0017
Arsenic	1.6	mg/kg dry	0.32	0.039	1	*6010D	11/8/16 2:58	bgm	P6K0017
Barium	21	mg/kg dry	0.64	0.093	1	*6010D	11/8/16 2:58	bgm	P6K0017
Beryllium	0.37	mg/kg dry	0.32	0.0070	1	*6010D	11/8/16 2:58	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.32	0.0085	1	*6010D	11/8/16 2:58	bgm	P6K0017
Chromium	30	mg/kg dry	0.32	0.053	1	*6010D	11/9/16 4:32	bgm	P6K0017
Cobalt	6.2	mg/kg dry	0.32	0.0062	1	*6010D	11/8/16 2:58	bgm	P6K0017
Copper	7.4	mg/kg dry	0.64	0.058	1	*6010D	11/8/16 2:58	bgm	P6K0017
Lead	6.9	mg/kg dry	0.32	0.059	1	*6010D	11/8/16 2:58	bgm	P6K0017
Manganese	220	mg/kg dry	3.2	0.64	10	*6010D	11/9/16 22:11	bgm	P6K0017
Nickel	6.8	mg/kg dry	0.64	0.023	1	*6010D	11/8/16 2:58	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.64	0.15	1	*6010D	11/8/16 2:58	bgm	P6K0017
Strontium	12	mg/kg dry	0.32	0.0067	1	*6010D	11/8/16 2:58	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.64	0.083	1	*6010D	11/8/16 2:58	bgm	P6K0017
Vanadium	29	mg/kg dry	0.32	0.0075	1	*6010D	11/8/16 2:58	bgm	P6K0017
Zinc	35	mg/kg dry	3.2	0.11	1	*6010D	11/8/16 2:58	bgm	P6K0017

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-2
 Prism Sample ID: 6100562-10
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:50
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 17:25	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 17:25	bgm	P6K0014
Barium	0.025	mg/L	0.010	0.0013	1	*6010D	11/1/16 17:25	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 17:25	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 17:25	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 17:25	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 17:25	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 17:25	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 17:25	bgm	P6K0014
Manganese	0.013	mg/L	0.010	0.0017	1	*6010D	11/1/16 17:25	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 17:25	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 17:25	bgm	P6K0014
Strontium	0.10	mg/L	0.010	0.00057	1	*6010D	11/1/16 17:25	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 17:25	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 17:25	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 17:25	bgm	P6K0014

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: SED-2
 Prism Sample ID: 6100562-11
 Prism Work Order: 6100562
 Time Collected: 10/27/16 14:55
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	78.3	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	BRL	mg/kg dry	0.025	0.0014	1	*7471B	11/4/16 12:12	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.33	0.033	1	*6010D	11/8/16 3:08	bgm	P6K0017
Arsenic	2.1	mg/kg dry	0.33	0.040	1	*6010D	11/8/16 3:08	bgm	P6K0017
Barium	20	mg/kg dry	0.65	0.095	1	*6010D	11/8/16 3:08	bgm	P6K0017
Beryllium	0.48	mg/kg dry	0.33	0.0072	1	*6010D	11/8/16 3:08	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.33	0.0087	1	*6010D	11/8/16 3:08	bgm	P6K0017
Chromium	36	mg/kg dry	0.33	0.054	1	*6010D	11/9/16 4:41	bgm	P6K0017
Cobalt	7.8	mg/kg dry	0.33	0.0064	1	*6010D	11/8/16 3:08	bgm	P6K0017
Copper	8.0	mg/kg dry	0.65	0.059	1	*6010D	11/8/16 3:08	bgm	P6K0017
Lead	7.1	mg/kg dry	0.33	0.061	1	*6010D	11/8/16 3:08	bgm	P6K0017
Manganese	330	mg/kg dry	3.3	0.65	10	*6010D	11/9/16 22:19	bgm	P6K0017
Nickel	7.2	mg/kg dry	0.65	0.023	1	*6010D	11/8/16 3:08	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.65	0.15	1	*6010D	11/8/16 3:08	bgm	P6K0017
Strontium	11	mg/kg dry	0.33	0.0069	1	*6010D	11/8/16 3:08	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.65	0.085	1	*6010D	11/8/16 3:08	bgm	P6K0017
Vanadium	37	mg/kg dry	0.33	0.0077	1	*6010D	11/8/16 3:08	bgm	P6K0017
Zinc	34	mg/kg dry	3.3	0.12	1	*6010D	11/8/16 3:08	bgm	P6K0017

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-1
 Prism Sample ID: 6100562-12
 Prism Work Order: 6100562
 Time Collected: 10/27/16 15:10
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 17:33	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 17:33	bgm	P6K0014
Barium	0.026	mg/L	0.010	0.0013	1	*6010D	11/1/16 17:33	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 17:33	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 17:33	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 17:33	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 17:33	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 17:33	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 17:33	bgm	P6K0014
Manganese	0.016	mg/L	0.010	0.0017	1	*6010D	11/1/16 17:33	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 17:33	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 17:33	bgm	P6K0014
Strontium	0.10	mg/L	0.010	0.00057	1	*6010D	11/1/16 17:33	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 17:33	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 17:33	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 17:33	bgm	P6K0014

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: SED-1
 Prism Sample ID: 6100562-13
 Prism Work Order: 6100562
 Time Collected: 10/27/16 15:15
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	77.3	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	BRL	mg/kg dry	0.026	0.0014	1	*7471B	11/4/16 12:17	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.32	0.032	1	*6010D	11/8/16 3:17	bgm	P6K0017
Arsenic	1.2	mg/kg dry	0.32	0.039	1	*6010D	11/8/16 3:17	bgm	P6K0017
Barium	12	mg/kg dry	0.64	0.093	1	*6010D	11/8/16 3:17	bgm	P6K0017
Beryllium	BRL	mg/kg dry	0.32	0.0070	1	*6010D	11/8/16 3:17	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.32	0.0086	1	*6010D	11/8/16 3:17	bgm	P6K0017
Chromium	23	mg/kg dry	0.32	0.054	1	*6010D	11/9/16 4:51	bgm	P6K0017
Cobalt	3.9	mg/kg dry	0.32	0.0063	1	*6010D	11/8/16 3:17	bgm	P6K0017
Copper	4.2	mg/kg dry	0.64	0.058	1	*6010D	11/8/16 3:17	bgm	P6K0017
Lead	4.0	mg/kg dry	0.32	0.060	1	*6010D	11/8/16 3:17	bgm	P6K0017
Manganese	180	mg/kg dry	3.2	0.64	10	*6010D	11/9/16 22:27	bgm	P6K0017
Nickel	3.8	mg/kg dry	0.64	0.023	1	*6010D	11/8/16 3:17	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.64	0.15	1	*6010D	11/8/16 3:17	bgm	P6K0017
Strontium	6.9	mg/kg dry	0.32	0.0068	1	*6010D	11/8/16 3:17	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.64	0.084	1	*6010D	11/8/16 3:17	bgm	P6K0017
Vanadium	19	mg/kg dry	0.32	0.0076	1	*6010D	11/8/16 3:17	bgm	P6K0017
Zinc	19	mg/kg dry	3.2	0.11	1	*6010D	11/8/16 3:17	bgm	P6K0017

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: Dup-SW
 Prism Sample ID: 6100562-14
 Prism Work Order: 6100562
 Time Collected: 10/27/16 00:00
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 17:41	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 17:41	bgm	P6K0014
Barium	0.025	mg/L	0.010	0.0013	1	*6010D	11/1/16 17:41	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 17:41	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 17:41	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 17:41	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 17:41	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 17:41	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 17:41	bgm	P6K0014
Manganese	0.031	mg/L	0.010	0.0017	1	*6010D	11/1/16 17:41	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 17:41	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 17:41	bgm	P6K0014
Strontium	0.11	mg/L	0.010	0.00057	1	*6010D	11/1/16 17:41	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 17:41	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 17:41	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 17:41	bgm	P6K0014

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Solid

Client Sample ID: Dup-SED
 Prism Sample ID: 6100562-15
 Prism Work Order: 6100562
 Time Collected: 10/27/16 00:00
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	81.0	% by Weight	0.100	0.100	1	*SM2540 G	11/2/16 14:40	JLB	P6K0083
Total Metals									
Mercury	BRL	mg/kg dry	0.026	0.0014	1	*7471B	11/4/16 12:21	JAB	P6K0100
Antimony	BRL	mg/kg dry	0.32	0.032	1	*6010D	11/8/16 3:26	bgm	P6K0017
Arsenic	2.5	mg/kg dry	0.32	0.039	1	*6010D	11/8/16 3:26	bgm	P6K0017
Barium	17	mg/kg dry	0.63	0.092	1	*6010D	11/8/16 3:26	bgm	P6K0017
Beryllium	0.45	mg/kg dry	0.32	0.0070	1	*6010D	11/8/16 3:26	bgm	P6K0017
Cadmium	BRL	mg/kg dry	0.32	0.0085	1	*6010D	11/8/16 3:26	bgm	P6K0017
Chromium	49	mg/kg dry	0.32	0.053	1	*6010D	11/9/16 4:59	bgm	P6K0017
Cobalt	6.5	mg/kg dry	0.32	0.0062	1	*6010D	11/8/16 3:26	bgm	P6K0017
Copper	9.1	mg/kg dry	0.63	0.057	1	*6010D	11/8/16 3:26	bgm	P6K0017
Lead	6.7	mg/kg dry	0.32	0.059	1	*6010D	11/8/16 3:26	bgm	P6K0017
Manganese	290	mg/kg dry	3.2	0.63	10	*6010D	11/9/16 22:35	bgm	P6K0017
Nickel	6.0	mg/kg dry	0.63	0.023	1	*6010D	11/8/16 3:26	bgm	P6K0017
Selenium	BRL	mg/kg dry	0.63	0.15	1	*6010D	11/8/16 3:26	bgm	P6K0017
Strontium	12	mg/kg dry	0.32	0.0067	1	*6010D	11/8/16 3:26	bgm	P6K0017
Thallium	BRL	mg/kg dry	0.63	0.083	1	*6010D	11/8/16 3:26	bgm	P6K0017
Vanadium	35	mg/kg dry	0.32	0.0075	1	*6010D	11/8/16 3:26	bgm	P6K0017
Zinc	31	mg/kg dry	3.2	0.11	1	*6010D	11/8/16 3:26	bgm	P6K0017

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: RB-SED
 Prism Sample ID: 6100562-16
 Prism Work Order: 6100562
 Time Collected: 10/27/16 17:45
 Time Submitted: 10/28/16 17:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/1/16 17:49	bgm	P6K0014
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/1/16 17:49	bgm	P6K0014
Barium	BRL	mg/L	0.010	0.0013	1	*6010D	11/1/16 17:49	bgm	P6K0014
Beryllium	BRL	mg/L	0.0020	0.00010	1	*6010D	11/1/16 17:49	bgm	P6K0014
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/1/16 17:49	bgm	P6K0014
Chromium	BRL	mg/L	0.0050	0.00076	1	*6010D	11/1/16 17:49	bgm	P6K0014
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/1/16 17:49	bgm	P6K0014
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/1/16 17:49	bgm	P6K0014
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/1/16 17:49	bgm	P6K0014
Manganese	BRL	mg/L	0.010	0.0017	1	*6010D	11/1/16 17:49	bgm	P6K0014
Nickel	BRL	mg/L	0.010	0.0010	1	*6010D	11/1/16 17:49	bgm	P6K0014
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/1/16 17:49	bgm	P6K0014
Strontium	BRL	mg/L	0.010	0.00057	1	*6010D	11/1/16 17:49	bgm	P6K0014
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/1/16 17:49	bgm	P6K0014
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/1/16 17:49	bgm	P6K0014
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/1/16 17:49	bgm	P6K0014

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Project No: TCH-002

Prism Work Order: 6100562

Time Submitted: 10/28/2016 5:35:00PM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0014 - 3010A

Blank (P6K0014-BLK1)

Prepared & Analyzed: 11/01/16

Antimony	BRL	0.0050	mg/L							
Arsenic	BRL	0.010	mg/L							
Barium	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	BRL	0.0050	mg/L							
Cobalt	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Manganese	BRL	0.010	mg/L							
Nickel	BRL	0.010	mg/L							
Selenium	BRL	0.020	mg/L							
Strontium	BRL	0.010	mg/L							
Thallium	BRL	0.010	mg/L							
Vanadium	BRL	0.0050	mg/L							
Zinc	BRL	0.030	mg/L							

LCS (P6K0014-BS1)

Prepared & Analyzed: 11/01/16

Antimony	0.245	0.0050	mg/L	0.2500		98	80-120			
Arsenic	0.246	0.010	mg/L	0.2500		99	80-120			
Barium	0.250	0.010	mg/L	0.2500		100	80-120			
Beryllium	0.248	0.0020	mg/L	0.2500		99	80-120			
Cadmium	0.250	0.0010	mg/L	0.2500		100	80-120			
Chromium	0.254	0.0050	mg/L	0.2500		102	80-120			
Cobalt	0.256	0.0050	mg/L	0.2500		102	80-120			
Copper	0.245	0.010	mg/L	0.2500		98	80-120			
Lead	0.251	0.0050	mg/L	0.2500		100	80-120			
Manganese	0.251	0.010	mg/L	0.2500		101	80-120			
Nickel	0.250	0.010	mg/L	0.2500		100	80-120			
Selenium	0.245	0.020	mg/L	0.2500		98	80-120			
Strontium	0.246	0.010	mg/L	0.2500		98	80-120			
Thallium	0.249	0.010	mg/L	0.2500		100	80-120			
Vanadium	0.251	0.0050	mg/L	0.2500		100	80-120			
Zinc	0.242	0.030	mg/L	0.2500		97	80-120			



Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6100562

Time Submitted: 10/28/2016 5:35:00PM

Project No: TCH-002

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0014 - 3010A

Matrix Spike (P6K0014-MS1)	Source: 6100562-04			Prepared & Analyzed: 11/01/16						
Antimony	0.252	0.0050	mg/L	0.2500	BRL	101	75-125			
Arsenic	0.252	0.010	mg/L	0.2500	BRL	101	75-125			
Barium	0.279	0.010	mg/L	0.2500	0.0251	102	75-125			
Beryllium	0.253	0.0020	mg/L	0.2500	BRL	101	75-125			
Cadmium	0.254	0.0010	mg/L	0.2500	BRL	102	75-125			
Chromium	0.256	0.0050	mg/L	0.2500	BRL	102	75-125			
Cobalt	0.254	0.0050	mg/L	0.2500	BRL	102	75-125			
Copper	0.248	0.010	mg/L	0.2500	BRL	99	75-125			
Lead	0.253	0.0050	mg/L	0.2500	BRL	101	75-125			
Manganese	0.280	0.010	mg/L	0.2500	0.0252	102	75-125			
Nickel	0.249	0.010	mg/L	0.2500	BRL	100	75-125			
Selenium	0.262	0.020	mg/L	0.2500	0.00922	101	75-125			
Strontium	0.367	0.010	mg/L	0.2500	0.111	102	75-125			
Thallium	0.252	0.010	mg/L	0.2500	BRL	101	75-125			
Vanadium	0.256	0.0050	mg/L	0.2500	0.000744	102	75-125			
Zinc	0.250	0.030	mg/L	0.2500	BRL	100	75-125			

Matrix Spike Dup (P6K0014-MSD1)	Source: 6100562-04			Prepared & Analyzed: 11/01/16						
Antimony	0.252	0.0050	mg/L	0.2500	BRL	101	75-125	0.3	20	
Arsenic	0.253	0.010	mg/L	0.2500	BRL	101	75-125	0.2	20	
Barium	0.281	0.010	mg/L	0.2500	0.0251	102	75-125	0.6	20	
Beryllium	0.255	0.0020	mg/L	0.2500	BRL	102	75-125	0.6	20	
Cadmium	0.256	0.0010	mg/L	0.2500	BRL	102	75-125	0.5	20	
Chromium	0.258	0.0050	mg/L	0.2500	BRL	103	75-125	0.8	20	
Cobalt	0.255	0.0050	mg/L	0.2500	BRL	102	75-125	0.4	20	
Copper	0.250	0.010	mg/L	0.2500	BRL	100	75-125	0.7	20	
Lead	0.254	0.0050	mg/L	0.2500	BRL	102	75-125	0.6	20	
Manganese	0.278	0.010	mg/L	0.2500	0.0252	101	75-125	0.7	20	
Nickel	0.250	0.010	mg/L	0.2500	BRL	100	75-125	0.6	20	
Selenium	0.254	0.020	mg/L	0.2500	0.00922	98	75-125	3	20	
Strontium	0.365	0.010	mg/L	0.2500	0.111	102	75-125	0.5	20	
Thallium	0.251	0.010	mg/L	0.2500	BRL	101	75-125	0.3	20	
Vanadium	0.259	0.0050	mg/L	0.2500	0.000744	103	75-125	1	20	
Zinc	0.247	0.030	mg/L	0.2500	BRL	99	75-125	0.8	20	

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Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6100562
Time Submitted: 10/28/2016 5:35:00PM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0017 - 3050B

Blank (P6K0017-BLK1)

Prepared: 11/01/16 Analyzed: 11/08/16

Antimony	BRL	0.25	mg/kg wet							
Arsenic	BRL	0.25	mg/kg wet							
Barium	BRL	0.50	mg/kg wet							
Beryllium	BRL	0.25	mg/kg wet							
Cadmium	BRL	0.25	mg/kg wet							
Chromium	BRL	0.25	mg/kg wet							
Cobalt	BRL	0.25	mg/kg wet							
Copper	BRL	0.50	mg/kg wet							
Lead	BRL	0.25	mg/kg wet							
Manganese	BRL	0.25	mg/kg wet							
Nickel	BRL	0.50	mg/kg wet							
Selenium	BRL	0.50	mg/kg wet							
Strontium	BRL	0.25	mg/kg wet							
Thallium	BRL	0.50	mg/kg wet							
Vanadium	BRL	0.25	mg/kg wet							
Zinc	BRL	2.5	mg/kg wet							

LCS (P6K0017-BS1)

Prepared: 11/01/16 Analyzed: 11/08/16

Antimony	25.8	0.25	mg/kg wet	25.00		103	80-120			
Arsenic	25.8	0.25	mg/kg wet	25.00		103	80-120			
Barium	25.2	0.50	mg/kg wet	25.00		101	80-120			
Beryllium	24.9	0.25	mg/kg wet	25.00		100	80-120			
Cadmium	25.8	0.25	mg/kg wet	25.00		103	80-120			
Chromium	25.7	0.25	mg/kg wet	25.00		103	80-120			
Cobalt	25.3	0.25	mg/kg wet	25.00		101	80-120			
Copper	25.7	0.50	mg/kg wet	25.00		103	80-120			
Lead	25.0	0.25	mg/kg wet	25.00		100	80-120			
Manganese	24.6	0.25	mg/kg wet	25.00		98	80-120			
Nickel	24.4	0.50	mg/kg wet	25.00		97	80-120			
Selenium	24.9	0.50	mg/kg wet	25.00		99	80-120			
Strontium	24.9	0.25	mg/kg wet	25.00		100	80-120			
Thallium	26.3	0.50	mg/kg wet	25.00		105	80-120			
Vanadium	25.1	0.25	mg/kg wet	25.00		101	80-120			
Zinc	25.7	2.5	mg/kg wet	25.00		103	80-120			



Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6100562
Time Submitted: 10/28/2016 5:35:00PM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0100 - 7471B										
Blank (P6K0100-BLK1)				Prepared & Analyzed: 11/04/16						
Mercury	BRL	0.020	mg/kg wet							
LCS (P6K0100-BS1)				Prepared & Analyzed: 11/04/16						
Mercury	0.420	0.020	mg/kg wet	0.4167		101	80-120			
Matrix Spike (P6K0100-MS1)				Source: 6100562-01 Prepared & Analyzed: 11/04/16						
Mercury	0.579	0.025	mg/kg dry	0.5164	0.0359	105	80-120			
Matrix Spike Dup (P6K0100-MSD1)				Source: 6100562-01 Prepared & Analyzed: 11/04/16						
Mercury	0.526	0.024	mg/kg dry	0.4905	0.0359	100	80-120	10	20	

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6100562
Time Submitted: 10/28/2016 5:35:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0083 - Solids, Dry Weight										
Duplicate (P6K0083-DUP1)		Source: 6100562-02			Prepared & Analyzed: 11/02/16					
% Solids	90.2	0.100	% by Weight		73.5			20	20	

Sample Extraction Data

Prep Method: Solids, Dry Weight

Lab Number	Batch	Initial	Final	Date/Time
6100562-01	P6K0083	30 g	30 g	11/02/16 14:40
6100562-02	P6K0083	30 g	30 g	11/02/16 14:40
6100562-03	P6K0083	30 g	30 g	11/02/16 14:40
6100562-05	P6K0083	30 g	30 g	11/02/16 14:40
6100562-07	P6K0083	30 g	30 g	11/02/16 14:40
6100562-09	P6K0083	30 g	30 g	11/02/16 14:40
6100562-11	P6K0083	30 g	30 g	11/02/16 14:40
6100562-13	P6K0083	30 g	30 g	11/02/16 14:40
6100562-15	P6K0083	30 g	30 g	11/02/16 14:40

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6100562-04	P6K0014	50 mL	50 mL	11/01/16 8:25
6100562-06	P6K0014	50 mL	50 mL	11/01/16 8:25
6100562-08	P6K0014	50 mL	50 mL	11/01/16 8:25
6100562-10	P6K0014	50 mL	50 mL	11/01/16 8:25
6100562-12	P6K0014	50 mL	50 mL	11/01/16 8:25
6100562-14	P6K0014	50 mL	50 mL	11/01/16 8:25
6100562-16	P6K0014	50 mL	50 mL	11/01/16 8:25

Prep Method: 3050B

Lab Number	Batch	Initial	Final	Date/Time
6100562-01	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-01	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-01	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-02	P6K0017	1.98 g	50 mL	11/01/16 9:00
6100562-03	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-05	P6K0017	2.02 g	50 mL	11/01/16 9:00
6100562-05	P6K0017	2.02 g	50 mL	11/01/16 9:00
6100562-05	P6K0017	2.02 g	50 mL	11/01/16 9:00
6100562-07	P6K0017	1.95 g	50 mL	11/01/16 9:00
6100562-07	P6K0017	1.95 g	50 mL	11/01/16 9:00
6100562-09	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-09	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-09	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-11	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-11	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-11	P6K0017	1.96 g	50 mL	11/01/16 9:00
6100562-13	P6K0017	2.02 g	50 mL	11/01/16 9:00
6100562-13	P6K0017	2.02 g	50 mL	11/01/16 9:00
6100562-13	P6K0017	2.02 g	50 mL	11/01/16 9:00
6100562-15	P6K0017	1.95 g	50 mL	11/01/16 9:00
6100562-15	P6K0017	1.95 g	50 mL	11/01/16 9:00
6100562-15	P6K0017	1.95 g	50 mL	11/01/16 9:00

Prep Method: 7471B

Lab Number	Batch	Initial	Final	Date/Time
6100562-01	P6K0100	0.57 g	50 mL	11/04/16 9:10
6100562-05	P6K0100	0.59 g	50 mL	11/04/16 9:10
6100562-07	P6K0100	0.57 g	50 mL	11/04/16 9:10
6100562-09	P6K0100	0.57 g	50 mL	11/04/16 9:10
6100562-11	P6K0100	0.61 g	50 mL	11/04/16 9:10
6100562-13	P6K0100	0.59 g	50 mL	11/04/16 9:10
6100562-15	P6K0100	0.58 g	50 mL	11/04/16 9:10

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

Client Company Name: Hart & Hickman

Report To/Contact Name: Patrick Stecker, Steve Hart

Reporting Address: 3334 Hillsborough St Raleigh NC 27602

Phone: 704 586 0000 Fax (Yes) (No):

Email Address: shart@hart-hickman.com, pstecker@hart-hickman.com

EDD Type: PDF Excel Other

Site Location Name: Chapel Hill Police Department Property

Site Location Physical Address: Chapel Hill, NC

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: TCH-002

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)

*Please ATTACH any project specific reporting (QC LEVEL I III IV)

Provisions and/or QC Requirements

Invoice To: accounts payable@hart-hickman.com

Address: 2423 South Taylor St Suite 100 Charlotte NC 28203

Purchase Order No./Billing Reference: TCH-002

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

Sampled, IN CONTACT upon arrival? YES NO N/A

Revised IDN MET ICD? YES NO N/A

PROPER PRESERVATIVES indicated? YES NO N/A

Revised WITHIN HOLDING TIME? YES NO N/A

CUSTOMER SEALS INTACT? YES NO N/A

VIOLATES REQUIRED W/OUT HEADSPACE? YES NO N/A

PROPER CONTAINERS used? YES NO N/A

TEMP. Therm ID: 10111 Operator: 3.4 Vol/Cont: 3.0

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: MELAC SC DOD FL NC X

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			PRESERVATIVES	ANALYSIS REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE	NO.	SIZE				
HH-8	10/27/16	1445	Soil	G	1	4oz	NA			01
HH-7		1155	Soil	G	1	4oz	NA			02
HH-C		1210	Soil	G	1	4oz	NA			03
SW-5		1400	Water	P	1	250mL	HN03			04
SED-5		1405	Soil	G	1	4oz	NA			05
SW-4		1415	Water	P	1	250mL	HN03			06
SED-4		1420	Soil	G	1	4oz	NA			07
SW-3		1430	Water	P	1	250mL	HN03			08
SED-3		1435	Soil	G	1	4oz	NA			09
SW-2		1450	Water	P	1	250mL	HN03			10

Sampler's Signature: Lisa Nickels

Sampled By (Print Name): Lisa Nickels

Affiliation: Hart & Hickman

PRESS DOWN FIRMLY - 3 COPIES

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.

Relinquished By: (Signature) Lisa Nickels

Received By: (Signature) Patrick Stecker

Date: 10/28/16 Military/Hours: 1045

Relinquished By: (Signature) Steve Hart

Received By: (Signature) Patrick Stecker

Date: 10/28/16 Military/Hours: 1330

Relinquished By: (Signature) Steve Hart

Received By: (Signature) Patrick Stecker

Date: 10/28/16 Military/Hours: 1735

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.

COC Group No. 6100561

Additional Comments:

PRISM USE ONLY

Site Arrival Time: _____

Site Departure Time: _____

Field Tech Name: _____

Signature: _____

Fed Ex UPS Hand-delivered Prism Field Service Other
 NPDES: NC SC NC SC NC SC NC SC
 UST: NC SC NC SC
 GROUNDWATER: NC SC NC SC
 DRINKING WATER: NC SC NC SC
 SOLID WASTE: NC SC NC SC
 RCRA: NC SC NC SC
 CERCLA: NC SC NC SC
 LANDFILL: NC SC NC SC
 OTHER: NC SC
 *CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = PTFE
 - Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS
ORIGINAL

CHAIN OF CUSTODY RECORD

PAGE 2 OF 2 QUOTE # TO ENSURE PROPER BILLING: _____

Client Company Name: Hart & Hickman
 Report To/Contact Name: Steve Hart, Patrick Strakas
 Reporting Address: 5334 Hillsborough St
Raleigh NC 27607

Project Name: TCR-002
 Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
 *Please ATTACH any project specific reporting (QC LEVEL I II III IV)
 Invoiced To: accounts payable@charthickman.com
 Address: 2923 South Tabor St Suite 100
Charlotte NC 28203

Phone: 704-536-0007 Fax (Yes)(No): _____
 Email Address: Steve.Hart@charthickman.com, pstrakas@charthickman.com
 EDD Type: PDF Excel Other hickman.com
 Site Location Name: Chapel Hill Police Department Property
 Site Location Physical Address: Chapel Hill NC

Purchase Order No./Billing Reference: TCR-002
 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

Sampled/Analyzed Upon Arrival? YES NO NA

Received ON METAL? YES NO NA

PROPER PRESERVATIVES INCLUDED? YES NO NA

RECEIVED WITHIN HOLDING TIMES? YES NO NA

CUSTODY SEALS INTACT? YES NO NA

VOLATILES AND WOOD HEADSPACE? YES NO NA

PROPER CONTAINERS USED? YES NO NA

TEMP: Therm ID: 10711 (Optional) 34.90/30.30

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			PRESERVATIVES	ANALYSIS REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE	NO.	SIZE				
SED-Z	10/27/16	1455	Soil	G	1	4oz	NA	X		11
SW-1		1516	Water	P	1	250mL	HNO3	X		12
SED-1		1515	Soil	G	1	4oz	NA	X		13
DUP-SW			Water	P	1	250mL	HNO3	X		14
DUP-SED			Soil	G	1	4oz	NA	X		15
RB-SED	10/27/16	1745	Water	P	1	250mL	NA	X		16

Sampler's Signature: LE ENL Sampled By (Print Name) Lisa Nickels Affiliation Hart & Hickman
 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.

Relinquished By: (Signature) LE ENL Received By: (Signature) Lisa Nickels Date 10/28/16 Military/Hours 1045
 Relinquished By: (Signature) LE ENL Received By: (Signature) Lisa Nickels Date 10/28/16 Military/Hours 1330
 Relinquished By: (Signature) LE ENL Received By: (Signature) Lisa Nickels Date 10/28/16 Military/Hours 1735

Method of Shipment: Prism Field Service 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.
 Method of Shipment: Prism Field Service 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.
 Method of Shipment: Prism Field Service 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.

PRISM USE ONLY

Site Arrival Time: _____

Site Departure Time: _____

Field Tech Name: _____

Site ID: _____

SEE REVERSE FOR TERMS & CONDITIONS
 ORIGINAL

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

Project: TCH-002
Project No.: TCH-002
Lab Submittal Date: 11/07/2016
Prism Work Order: 6110118

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.

Narrative Notes:

This is a Revised Report and supercedes the original laboratory report dated 11/15/16. Mercury was added at the request of the client.

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:

- A Low-level Initial Calibration Verification Standard (0.001 mg/L) recovery (74%) is less than the lower control limit (80%). Results might have a slight (0.5 ug/L) low bias.
- B Analyte is found in the associated blank at a concentration >1/2 RL.
- BL MB greater than one half of the RL, but the sample concentrations are less than the RL.
- 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.

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
SW-5	6110118-01	Water	11/03/16	11/07/16
SW-4	6110118-02	Water	11/03/16	11/07/16
SW-3	6110118-03	Water	11/03/16	11/07/16
SW-2	6110118-04	Water	11/03/16	11/07/16
SW-1	6110118-05	Water	11/03/16	11/07/16
RB-DPT	6110118-06	Water	11/03/16	11/07/16
RB-HA	6110118-07	Water	11/03/16	11/07/16
Dup-SW	6110118-08	Water	11/03/16	11/07/16

Samples were received in good condition at 2.6 degrees C unless otherwise noted.

Prism ID	Client ID	Parameter	Method	Result	Units
6110118-01	SW-5	Barium	*6010D	0.026	mg/L
6110118-01	SW-5	Manganese	*6010D	0.024	mg/L
6110118-01	SW-5	Strontium	*6010D	0.10	mg/L
6110118-02	SW-4	Barium	*6010D	0.027	mg/L
6110118-02	SW-4	Manganese	*6010D	0.025	mg/L
6110118-02	SW-4	Strontium	*6010D	0.11	mg/L
6110118-03	SW-3	Barium	*6010D	0.027	mg/L
6110118-03	SW-3	Manganese	*6010D	0.034	mg/L
6110118-03	SW-3	Strontium	*6010D	0.10	mg/L
6110118-04	SW-2	Barium	*6010D	0.027	mg/L
6110118-04	SW-2	Manganese	*6010D	0.011	mg/L
6110118-04	SW-2	Strontium	*6010D	0.10	mg/L
6110118-05	SW-1	Barium	*6010D	0.027	mg/L
6110118-05	SW-1	Strontium	*6010D	0.10	mg/L
6110118-08	Dup-SW	Barium	*6010D	0.027	mg/L
6110118-08	Dup-SW	Manganese	*6010D	0.033	mg/L
6110118-08	Dup-SW	Strontium	*6010D	0.11	mg/L

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-5
 Prism Sample ID: 6110118-01
 Prism Work Order: 6110118
 Time Collected: 11/03/16 15:00
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:15	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/9/16 23:05	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/9/16 23:05	bgm	P6K0163
Barium	0.026	mg/L	0.010	0.0013	1	*6010D	11/9/16 23:05	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 21:06	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/9/16 23:05	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/9/16 23:05	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/9/16 23:05	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/9/16 23:05	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/9/16 23:05	bgm	P6K0163
Manganese	0.024	mg/L	0.010	0.0017	1	*6010D	11/14/16 18:59	bgm	P6K0305
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/9/16 23:05	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 21:06	bgm	P6K0163
Strontium	0.10	mg/L	0.010	0.00057	1	*6010D	11/9/16 23:05	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/9/16 23:05	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/9/16 23:05	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/9/16 23:05	bgm	P6K0163

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

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-4
 Prism Sample ID: 6110118-02
 Prism Work Order: 6110118
 Time Collected: 11/03/16 15:05
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:19	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/9/16 23:29	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/9/16 23:29	bgm	P6K0163
Barium	0.027	mg/L	0.010	0.0013	1	*6010D	11/9/16 23:29	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 21:30	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/9/16 23:29	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/9/16 23:29	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/9/16 23:29	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/9/16 23:29	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/9/16 23:29	bgm	P6K0163
Manganese	0.025	mg/L	0.010	0.0017	1	*6010D	11/14/16 18:35	bgm	P6K0305
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/9/16 23:29	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 21:30	bgm	P6K0163
Strontium	0.11	mg/L	0.010	0.00057	1	*6010D	11/9/16 23:29	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/9/16 23:29	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/9/16 23:29	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/9/16 23:29	bgm	P6K0163

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 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-3
 Prism Sample ID: 6110118-03
 Prism Work Order: 6110118
 Time Collected: 11/03/16 15:10
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:23	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/9/16 23:36	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/9/16 23:36	bgm	P6K0163
Barium	0.027	mg/L	0.010	0.0013	1	*6010D	11/9/16 23:36	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 21:37	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/9/16 23:36	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/9/16 23:36	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/9/16 23:36	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/9/16 23:36	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/9/16 23:36	bgm	P6K0163
Manganese	0.034	mg/L	0.010	0.0017	1	*6010D	11/14/16 19:06	bgm	P6K0305
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/9/16 23:36	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 21:37	bgm	P6K0163
Strontium	0.10	mg/L	0.010	0.00057	1	*6010D	11/9/16 23:36	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/9/16 23:36	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/9/16 23:36	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/9/16 23:36	bgm	P6K0163

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-2
 Prism Sample ID: 6110118-04
 Prism Work Order: 6110118
 Time Collected: 11/03/16 15:20
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:26	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/9/16 23:44	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/9/16 23:44	bgm	P6K0163
Barium	0.027	mg/L	0.010	0.0013	1	*6010D	11/9/16 23:44	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 21:45	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/9/16 23:44	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/9/16 23:44	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/9/16 23:44	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/9/16 23:44	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/9/16 23:44	bgm	P6K0163
Manganese	0.011	mg/L	0.010	0.0017	1	*6010D	11/14/16 19:14	bgm	P6K0305
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/9/16 23:44	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 21:45	bgm	P6K0163
Strontium	0.10	mg/L	0.010	0.00057	1	*6010D	11/9/16 23:44	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/9/16 23:44	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/9/16 23:44	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/9/16 23:44	bgm	P6K0163

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: SW-1
 Prism Sample ID: 6110118-05
 Prism Work Order: 6110118
 Time Collected: 11/03/16 15:25
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:30	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/9/16 23:52	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/9/16 23:52	bgm	P6K0163
Barium	0.027	mg/L	0.010	0.0013	1	*6010D	11/9/16 23:52	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 21:53	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/9/16 23:52	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/9/16 23:52	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/9/16 23:52	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/9/16 23:52	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/9/16 23:52	bgm	P6K0163
Manganese	BRL	mg/L	0.010	0.0017	1	*6010D	11/14/16 19:22	bgm	P6K0305
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/9/16 23:52	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 21:53	bgm	P6K0163
Strontium	0.10	mg/L	0.010	0.00057	1	*6010D	11/9/16 23:52	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/9/16 23:52	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/9/16 23:52	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/9/16 23:52	bgm	P6K0163

Hart & Hickman (Raleigh)
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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: RB-DPT
 Prism Sample ID: 6110118-06
 Prism Work Order: 6110118
 Time Collected: 11/03/16 12:05
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:34	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/9/16 23:59	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/9/16 23:59	bgm	P6K0163
Barium	BRL	mg/L	0.010	0.0013	1	*6010D	11/9/16 23:59	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 22:01	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/9/16 23:59	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/9/16 23:59	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/9/16 23:59	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/9/16 23:59	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/9/16 23:59	bgm	P6K0163
Manganese	BRL BL	mg/L	0.010	0.0017	1	*6010D	11/9/16 23:59	bgm	P6K0163
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/9/16 23:59	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 22:01	bgm	P6K0163
Strontium	BRL	mg/L	0.010	0.00057	1	*6010D	11/9/16 23:59	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/9/16 23:59	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/9/16 23:59	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/9/16 23:59	bgm	P6K0163

Hart & Hickman (Raleigh)
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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: RB-HA
 Prism Sample ID: 6110118-07
 Prism Work Order: 6110118
 Time Collected: 11/03/16 12:30
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:38	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/10/16 0:05	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/10/16 0:05	bgm	P6K0163
Barium	BRL	mg/L	0.010	0.0013	1	*6010D	11/10/16 0:05	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 22:06	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/10/16 0:05	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/10/16 0:05	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/10/16 0:05	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/10/16 0:05	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/10/16 0:05	bgm	P6K0163
Manganese	BRL BL	mg/L	0.010	0.0017	1	*6010D	11/10/16 0:05	bgm	P6K0163
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/10/16 0:05	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 22:06	bgm	P6K0163
Strontium	BRL	mg/L	0.010	0.00057	1	*6010D	11/10/16 0:05	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/10/16 0:05	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/10/16 0:05	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/10/16 0:05	bgm	P6K0163

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: Dup-SW
 Prism Sample ID: 6110118-08
 Prism Work Order: 6110118
 Time Collected: 11/03/16 00:00
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	*7470A	11/18/16 13:42	JAB	P6K0438
Antimony	BRL	mg/L	0.0050	0.00050	1	*6010D	11/10/16 0:11	bgm	P6K0163
Arsenic	BRL	mg/L	0.010	0.0024	1	*6010D	11/10/16 0:11	bgm	P6K0163
Barium	0.027	mg/L	0.010	0.0013	1	*6010D	11/10/16 0:11	bgm	P6K0163
Beryllium	BRL A	mg/L	0.0020	0.00010	1	*6010D	11/10/16 22:12	bgm	P6K0163
Cadmium	BRL	mg/L	0.0010	0.00013	1	*6010D	11/10/16 0:11	bgm	P6K0163
Chromium	BRL BL	mg/L	0.0050	0.00076	1	*6010D	11/10/16 0:11	bgm	P6K0163
Cobalt	BRL	mg/L	0.0050	0.00011	1	*6010D	11/10/16 0:11	bgm	P6K0163
Copper	BRL	mg/L	0.010	0.0016	1	*6010D	11/10/16 0:11	bgm	P6K0163
Lead	BRL	mg/L	0.0050	0.0016	1	*6010D	11/10/16 0:11	bgm	P6K0163
Manganese	0.033	mg/L	0.010	0.0017	1	*6010D	11/14/16 19:29	bgm	P6K0305
Nickel	BRL BL	mg/L	0.010	0.0010	1	*6010D	11/10/16 0:11	bgm	P6K0163
Selenium	BRL	mg/L	0.020	0.0044	1	*6010D	11/10/16 22:12	bgm	P6K0163
Strontium	0.11	mg/L	0.010	0.00057	1	*6010D	11/10/16 0:11	bgm	P6K0163
Thallium	BRL	mg/L	0.010	0.0025	1	*6010D	11/10/16 0:11	bgm	P6K0163
Vanadium	BRL	mg/L	0.0050	0.00015	1	*6010D	11/10/16 0:11	bgm	P6K0163
Zinc	BRL	mg/L	0.030	0.011	1	*6010D	11/10/16 0:11	bgm	P6K0163

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Project No: TCH-002

Prism Work Order: 6110118

Time Submitted: 11/7/2016 8:00:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0163 - 3010A										
Blank (P6K0163-BLK1)										
Prepared: 11/08/16 Analyzed: 11/09/16										
Antimony	BRL	0.0050	mg/L							
Arsenic	BRL	0.010	mg/L							
Barium	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	0.0209	0.0050	mg/L							BL
Cobalt	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Manganese	0.0181	0.010	mg/L							BL
Nickel	0.0144	0.010	mg/L							BL
Selenium	BRL	0.020	mg/L							
Strontium	BRL	0.010	mg/L							
Thallium	BRL	0.010	mg/L							
Vanadium	BRL	0.0050	mg/L							
Zinc	BRL	0.030	mg/L							
LCS (P6K0163-BS1)										
Prepared: 11/08/16 Analyzed: 11/09/16										
Antimony	0.260	0.0050	mg/L	0.2500		104	80-120			
Arsenic	0.261	0.010	mg/L	0.2500		104	80-120			
Barium	0.264	0.010	mg/L	0.2500		105	80-120			
Beryllium	0.250	0.0020	mg/L	0.2500		100	80-120			
Cadmium	0.261	0.0010	mg/L	0.2500		104	80-120			
Chromium	0.261	0.0050	mg/L	0.2500		104	80-120			B
Cobalt	0.264	0.0050	mg/L	0.2500		105	80-120			
Copper	0.252	0.010	mg/L	0.2500		101	80-120			
Lead	0.258	0.0050	mg/L	0.2500		103	80-120			
Manganese	0.260	0.010	mg/L	0.2500		104	80-120			B
Nickel	0.263	0.010	mg/L	0.2500		105	80-120			B
Selenium	0.247	0.020	mg/L	0.2500		99	80-120			
Strontium	0.247	0.010	mg/L	0.2500		99	80-120			
Thallium	0.265	0.010	mg/L	0.2500		106	80-120			
Vanadium	0.263	0.0050	mg/L	0.2500		105	80-120			
Zinc	0.258	0.030	mg/L	0.2500		103	80-120			

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3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6110118
Time Submitted: 11/7/2016 8:00:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0163 - 3010A

Matrix Spike (P6K0163-MS1)	Source: 6110118-01			Prepared: 11/08/16		Analyzed: 11/09/16				
Antimony	0.262	0.0050	mg/L	0.2500	BRL	105	75-125			
Arsenic	0.263	0.010	mg/L	0.2500	BRL	105	75-125			
Barium	0.288	0.010	mg/L	0.2500	0.0257	105	75-125			
Beryllium	0.258	0.0020	mg/L	0.2500	BRL	103	75-125			
Cadmium	0.259	0.0010	mg/L	0.2500	BRL	104	75-125			
Chromium	0.260	0.0050	mg/L	0.2500	BRL	104	75-125			B
Cobalt	0.261	0.0050	mg/L	0.2500	BRL	104	75-125			
Copper	0.254	0.010	mg/L	0.2500	BRL	102	75-125			
Lead	0.256	0.0050	mg/L	0.2500	BRL	103	75-125			
Manganese	0.276	0.010	mg/L	0.2500	0.0236	101	75-125			B
Nickel	0.259	0.010	mg/L	0.2500	BRL	103	75-125			B
Selenium	0.262	0.020	mg/L	0.2500	0.00966	101	75-125			
Strontium	0.358	0.010	mg/L	0.2500	0.105	101	75-125			
Thallium	0.262	0.010	mg/L	0.2500	BRL	105	75-125			
Vanadium	0.265	0.0050	mg/L	0.2500	0.000669	106	75-125			
Zinc	0.274	0.030	mg/L	0.2500	BRL	110	75-125			

Matrix Spike Dup (P6K0163-MSD1)	Source: 6110118-01			Prepared: 11/08/16		Analyzed: 11/09/16				
Antimony	0.265	0.0050	mg/L	0.2500	BRL	106	75-125	1	20	
Arsenic	0.262	0.010	mg/L	0.2500	BRL	105	75-125	0.4	20	
Barium	0.290	0.010	mg/L	0.2500	0.0257	106	75-125	0.5	20	
Beryllium	0.247	0.0020	mg/L	0.2500	BRL	99	75-125	4	20	
Cadmium	0.262	0.0010	mg/L	0.2500	BRL	105	75-125	0.9	20	
Chromium	0.261	0.0050	mg/L	0.2500	BRL	104	75-125	0.5	20	B
Cobalt	0.262	0.0050	mg/L	0.2500	BRL	105	75-125	0.4	20	
Copper	0.257	0.010	mg/L	0.2500	BRL	103	75-125	1	20	
Lead	0.258	0.0050	mg/L	0.2500	BRL	103	75-125	0.6	20	
Manganese	0.278	0.010	mg/L	0.2500	0.0236	102	75-125	0.8	20	B
Nickel	0.260	0.010	mg/L	0.2500	BRL	104	75-125	0.4	20	B
Selenium	0.253	0.020	mg/L	0.2500	0.00966	97	75-125	4	20	
Strontium	0.362	0.010	mg/L	0.2500	0.105	103	75-125	1	20	
Thallium	0.265	0.010	mg/L	0.2500	BRL	106	75-125	1	20	
Vanadium	0.266	0.0050	mg/L	0.2500	0.000669	106	75-125	0.3	20	
Zinc	0.276	0.030	mg/L	0.2500	BRL	110	75-125	0.7	20	

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0305 - 3010A

Blank (P6K0305-BLK1)

Prepared & Analyzed: 11/14/16

Antimony	BRL	0.0050	mg/L							
Arsenic	BRL	0.010	mg/L							
Barium	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	BRL	0.0050	mg/L							
Cobalt	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Manganese	BRL	0.010	mg/L							
Nickel	BRL	0.010	mg/L							
Selenium	BRL	0.020	mg/L							
Strontium	BRL	0.010	mg/L							
Thallium	BRL	0.010	mg/L							
Vanadium	BRL	0.0050	mg/L							
Zinc	BRL	0.030	mg/L							

LCS (P6K0305-BS1)

Prepared & Analyzed: 11/14/16

Antimony	0.244	0.0050	mg/L	0.2500	98	80-120
Arsenic	0.243	0.010	mg/L	0.2500	97	80-120
Barium	0.251	0.010	mg/L	0.2500	100	80-120
Beryllium	0.250	0.0020	mg/L	0.2500	100	80-120
Cadmium	0.242	0.0010	mg/L	0.2500	97	80-120
Chromium	0.248	0.0050	mg/L	0.2500	99	80-120
Cobalt	0.250	0.0050	mg/L	0.2500	100	80-120
Copper	0.256	0.010	mg/L	0.2500	102	80-120
Lead	0.246	0.0050	mg/L	0.2500	98	80-120
Manganese	0.249	0.010	mg/L	0.2500	100	80-120
Nickel	0.248	0.010	mg/L	0.2500	99	80-120
Selenium	0.239	0.020	mg/L	0.2500	96	80-120
Strontium	0.213	0.010	mg/L	0.2500	85	80-120
Thallium	0.253	0.010	mg/L	0.2500	101	80-120
Vanadium	0.252	0.0050	mg/L	0.2500	101	80-120
Zinc	0.247	0.030	mg/L	0.2500	99	80-120

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No: TCH-002

Prism Work Order: 6110118
 Time Submitted: 11/7/2016 8:00:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0305 - 3010A

Matrix Spike (P6K0305-MS1)	Source: 6110118-02			Prepared & Analyzed: 11/14/16						
Antimony	0.249	0.0050	mg/L	0.2500	BRL	100	75-125			
Arsenic	0.248	0.010	mg/L	0.2500	BRL	99	75-125			
Barium	0.275	0.010	mg/L	0.2500	0.0253	100	75-125			
Beryllium	0.251	0.0020	mg/L	0.2500	BRL	100	75-125			
Cadmium	0.241	0.0010	mg/L	0.2500	BRL	96	75-125			
Chromium	0.248	0.0050	mg/L	0.2500	BRL	99	75-125			
Cobalt	0.247	0.0050	mg/L	0.2500	BRL	99	75-125			
Copper	0.262	0.010	mg/L	0.2500	BRL	105	75-125			
Lead	0.247	0.0050	mg/L	0.2500	BRL	99	75-125			
Manganese	0.274	0.010	mg/L	0.2500	0.0251	99	75-125			
Nickel	0.245	0.010	mg/L	0.2500	BRL	98	75-125			
Selenium	0.251	0.020	mg/L	0.2500	0.00905	97	75-125			
Strontium	0.310	0.010	mg/L	0.2500	0.0944	86	75-125			
Thallium	0.253	0.010	mg/L	0.2500	BRL	101	75-125			
Vanadium	0.253	0.0050	mg/L	0.2500	0.000697	101	75-125			
Zinc	0.263	0.030	mg/L	0.2500	0.0130	100	75-125			

Matrix Spike Dup (P6K0305-MSD1)	Source: 6110118-02			Prepared & Analyzed: 11/14/16						
Antimony	0.258	0.0050	mg/L	0.2500	BRL	103	75-125	4	20	
Arsenic	0.257	0.010	mg/L	0.2500	BRL	103	75-125	4	20	
Barium	0.286	0.010	mg/L	0.2500	0.0253	104	75-125	4	20	
Beryllium	0.262	0.0020	mg/L	0.2500	BRL	105	75-125	4	20	
Cadmium	0.250	0.0010	mg/L	0.2500	BRL	100	75-125	4	20	
Chromium	0.257	0.0050	mg/L	0.2500	BRL	103	75-125	4	20	
Cobalt	0.256	0.0050	mg/L	0.2500	BRL	102	75-125	4	20	
Copper	0.273	0.010	mg/L	0.2500	BRL	109	75-125	4	20	
Lead	0.255	0.0050	mg/L	0.2500	BRL	102	75-125	3	20	
Manganese	0.283	0.010	mg/L	0.2500	0.0251	103	75-125	4	20	
Nickel	0.254	0.010	mg/L	0.2500	BRL	102	75-125	3	20	
Selenium	0.259	0.020	mg/L	0.2500	0.00905	100	75-125	3	20	
Strontium	0.326	0.010	mg/L	0.2500	0.0944	93	75-125	5	20	
Thallium	0.260	0.010	mg/L	0.2500	BRL	104	75-125	3	20	
Vanadium	0.264	0.0050	mg/L	0.2500	0.000697	105	75-125	4	20	
Zinc	0.272	0.030	mg/L	0.2500	0.0130	104	75-125	4	20	



Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

Project No: TCH-002

Prism Work Order: 6110118

Time Submitted: 11/7/2016 8:00:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0438 - 7470A

Blank (P6K0438-BLK1) Prepared & Analyzed: 11/18/16

Mercury	BRL	0.00020	mg/L							
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LCS (P6K0438-BS1) Prepared & Analyzed: 11/18/16

Mercury	0.00944	0.00020	mg/L	0.009375		101	80-120			
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Sample Extraction Data

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6110118-01	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-01	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-01	P6K0305	50 mL	50 mL	11/14/16 8:15
6110118-02	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-02	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-02	P6K0305	50 mL	50 mL	11/14/16 8:15
6110118-03	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-03	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-03	P6K0305	50 mL	50 mL	11/14/16 8:15
6110118-04	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-04	P6K0305	50 mL	50 mL	11/14/16 8:15
6110118-04	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-05	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-05	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-05	P6K0305	50 mL	50 mL	11/14/16 8:15
6110118-06	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-06	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-07	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-07	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-08	P6K0305	50 mL	50 mL	11/14/16 8:15
6110118-08	P6K0163	50 mL	50 mL	11/08/16 7:50
6110118-08	P6K0163	50 mL	50 mL	11/08/16 7:50

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
6110118-01	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-02	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-03	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-04	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-05	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-06	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-07	P6K0438	20 mL	30 mL	11/18/16 8:50
6110118-08	P6K0438	20 mL	30 mL	11/18/16 8:50

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449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
 Phone: 704/529-6364 • Fax: 704/529-0409

Client Company Name: H&A Stevenson
 Report To/Contact Name: Patrick Stevens
 Reporting Address: 2923 S. Tryon Street Suite 100
Charlotte, NC 28203

Phone: 704-586-0077 Fax (Yes) (No):
 Email (Yes) (No) Email Address: Distronics@charhick.com
 EDD Type: PDF Excel Other
 Site Location Name: TCAT-002
 Site Location Physical Address: Amber Hill Rd

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: TCAT-002
 Project Name: TCAT-002
 Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)
 *Please ATTACH any project specific reporting (QC LEVEL I III IV) provisions and/or QC Requirements
 Invoice To: Account Payable
 Address: 11

Purchase Order No./Billing Reference: TCAT-002
 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 15:00 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

1 (17-1)

Samples INTACT upon arrival? 3, 1, 0 YES NO N/A
 Received ON WET ICE? Temp 2, 2, 6
 PROPER PRESERVATIVES indicated?
 Received WITHIN HOLDING TIMES?
 CUSTODY SEALS INTACT?
 VOLATILES rec'd w/OUT HEADSPACE?
 PROPER CONTAINERS used?
 YES NO N/A

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC USACE FL NC
 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			PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
Sw-5	11/31/16	1500	Water	P	1	250ml	N/A		Metals List!	01
Sw-4		1505							enhancing sensitivity	02
Sw-3		1510							background (background)	03
Sw-2		1520							cadmium, chromium	04
Sw-1		1525							about 1/2 cup level	05
RB-DPT		1205							very gross piece	06
RB-HA		1230							seminar, shuntium	07
DUP-Sw									thallium, promethium	08
									+ zinc	
									Mercury added	

Sampler's Signature: [Signature] Sampled By (Print Name): Patrick Stevens Affiliation: H&A

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.

Reinitiated By (Signature): [Signature] Received By (Signature): Patrick Stevens Date: 11/24/16 Military/Hours: 1050

Reinitiated By (Signature): [Signature] Received By (Signature): [Signature] Date: 11-24-16 Military/Hours: 1520

Reinitiated By (Signature): [Signature] Received For Prism Laboratories By: [Signature] Date: 11-7-16 Military/Hours: 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.

Method of Shipment: Fed Ex UPS Hand-delivered Prism Field Service Other

NPDES: NC SC GROUNDWATER: NC SC DRINKING WATER: NC SC SOLID WASTE: NC SC RCRA: NC SC CERCLA: NC SC LANDFILL: NC SC OTHER: NC SC

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

Additional Comments: by Patrick on 11/16/16

PRISM USE ONLY

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

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

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

Project: TCH-002

Lab Submittal Date: 11/07/2016
Prism Work Order: 6110120

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:

- A Continuing Calibration Verification standard recovery (82%) is less than the lower control limit (90%). Result has possible low bias.
- BH MB greater than one half of the RL, but the sample concentrations are greater than 10x the MB.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- MC Sample concentration too high for recovery evaluation.
- MI Matrix spike outside of the control limits. Matrix interference suspected.
- 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.

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
MW-7 (0-1)	6110120-01	Solid	11/01/16	11/07/16
MW-6 (0-1)	6110120-02	Solid	11/02/16	11/07/16
MW-5 (0-1)	6110120-03	Solid	11/02/16	11/07/16
MW-5 (6-7)	6110120-04	Solid	11/02/16	11/07/16
HH-4 (0-1)	6110120-05	Solid	11/03/16	11/07/16
HH-4 (4-5)	6110120-06	Solid	11/03/16	11/07/16
HH-5 (0-1)	6110120-07	Solid	11/03/16	11/07/16
HH-5 (3-4)	6110120-08	Solid	11/03/16	11/07/16
HH-3 (0-1)	6110120-09	Solid	11/03/16	11/07/16
HH-1 (0-1)	6110120-10	Solid	11/03/16	11/07/16
HH-3 (2-3)	6110120-11	Solid	11/03/16	11/07/16
HH-1 (7-8)	6110120-12	Solid	11/03/16	11/07/16
HH-2 (2-3)	6110120-13	Solid	11/03/16	11/07/16
HH-2 (0-1)	6110120-14	Solid	11/03/16	11/07/16
BG-1 (0-1)	6110120-15	Solid	11/03/16	11/07/16
BG-1 (2-3)	6110120-16	Solid	11/03/16	11/07/16
BG-2 (0-1)	6110120-17	Solid	11/03/16	11/07/16
BG-2 (2-3)	6110120-18	Solid	11/03/16	11/07/16
BG-3 (0-1)	6110120-19	Solid	11/03/16	11/07/16
BG-3 (2-3)	6110120-20	Solid	11/03/16	11/07/16
BG-4 (0-1)	6110120-21	Solid	11/03/16	11/07/16
BG-4 (2-3)	6110120-22	Solid	11/03/16	11/07/16
Dup	6110120-23	Solid	11/03/16	11/07/16

Samples were received in good condition at 2.6 degrees C unless otherwise noted.

Prism ID	Client ID	Parameter	Method	Result	Units
6110120-01	MW-7 (0-1)	Mercury	*7471B	0.030	mg/kg dry
6110120-01	MW-7 (0-1)	Arsenic	*6010D	2.6	mg/kg dry
6110120-01	MW-7 (0-1)	Barium	*6010D	67	mg/kg dry
6110120-01	MW-7 (0-1)	Beryllium	*6010D	0.87	mg/kg dry
6110120-01	MW-7 (0-1)	Chromium	*6010D	10	mg/kg dry
6110120-01	MW-7 (0-1)	Cobalt	*6010D	3.9	mg/kg dry
6110120-01	MW-7 (0-1)	Copper	*6010D	180	mg/kg dry
6110120-01	MW-7 (0-1)	Lead	*6010D	7.6	mg/kg dry
6110120-01	MW-7 (0-1)	Manganese	*6010D	100	mg/kg dry
6110120-01	MW-7 (0-1)	Nickel	*6010D	2.9	mg/kg dry
6110120-01	MW-7 (0-1)	Strontium	*6010D	6.7	mg/kg dry
6110120-01	MW-7 (0-1)	Vanadium	*6010D	61	mg/kg dry
6110120-01	MW-7 (0-1)	Zinc	*6010D	46	mg/kg dry
6110120-02	MW-6 (0-1)	Mercury	*7471B	0.082	mg/kg dry
6110120-02	MW-6 (0-1)	Arsenic	*6010D	2.9	mg/kg dry
6110120-02	MW-6 (0-1)	Barium	*6010D	38	mg/kg dry
6110120-02	MW-6 (0-1)	Beryllium	*6010D	0.61	mg/kg dry
6110120-02	MW-6 (0-1)	Chromium	*6010D	10	mg/kg dry
6110120-02	MW-6 (0-1)	Cobalt	*6010D	9.5	mg/kg dry
6110120-02	MW-6 (0-1)	Copper	*6010D	23	mg/kg dry
6110120-02	MW-6 (0-1)	Lead	*6010D	12	mg/kg dry
6110120-02	MW-6 (0-1)	Manganese	*6010D	570	mg/kg dry
6110120-02	MW-6 (0-1)	Nickel	*6010D	8.2	mg/kg dry
6110120-02	MW-6 (0-1)	Selenium	*6010D	1.0	mg/kg dry
6110120-02	MW-6 (0-1)	Strontium	*6010D	22	mg/kg dry
6110120-02	MW-6 (0-1)	Thallium	*6010D	0.81	mg/kg dry
6110120-02	MW-6 (0-1)	Vanadium	*6010D	31	mg/kg dry
6110120-02	MW-6 (0-1)	Zinc	*6010D	77	mg/kg dry
6110120-03	MW-5 (0-1)	Arsenic	*6010D	2.1	mg/kg dry
6110120-03	MW-5 (0-1)	Barium	*6010D	76	mg/kg dry
6110120-03	MW-5 (0-1)	Beryllium	*6010D	0.99	mg/kg dry
6110120-03	MW-5 (0-1)	Chromium	*6010D	18	mg/kg dry
6110120-03	MW-5 (0-1)	Cobalt	*6010D	27	mg/kg dry
6110120-03	MW-5 (0-1)	Copper	*6010D	49	mg/kg dry
6110120-03	MW-5 (0-1)	Lead	*6010D	4.0	mg/kg dry
6110120-03	MW-5 (0-1)	Manganese	*6010D	710	mg/kg dry
6110120-03	MW-5 (0-1)	Nickel	*6010D	5.0	mg/kg dry
6110120-03	MW-5 (0-1)	Strontium	*6010D	25	mg/kg dry
6110120-03	MW-5 (0-1)	Vanadium	*6010D	190	mg/kg dry
6110120-03	MW-5 (0-1)	Zinc	*6010D	47	mg/kg dry
6110120-04	MW-5 (6-7)	Arsenic	*6010D	1.4	mg/kg dry
6110120-04	MW-5 (6-7)	Barium	*6010D	61	mg/kg dry
6110120-04	MW-5 (6-7)	Beryllium	*6010D	0.60	mg/kg dry
6110120-04	MW-5 (6-7)	Chromium	*6010D	39	mg/kg dry

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Prism ID	Client ID	Parameter	Method	Result	Units
6110120-04	MW-5 (6-7)	Cobalt	*6010D	19	mg/kg dry
6110120-04	MW-5 (6-7)	Copper	*6010D	18	mg/kg dry
6110120-04	MW-5 (6-7)	Lead	*6010D	0.55	mg/kg dry
6110120-04	MW-5 (6-7)	Manganese	*6010D	940	mg/kg dry
6110120-04	MW-5 (6-7)	Nickel	*6010D	20	mg/kg dry
6110120-04	MW-5 (6-7)	Strontium	*6010D	29	mg/kg dry
6110120-04	MW-5 (6-7)	Thallium	*6010D	2.3	mg/kg dry
6110120-04	MW-5 (6-7)	Vanadium	*6010D	67	mg/kg dry
6110120-04	MW-5 (6-7)	Zinc	*6010D	75	mg/kg dry
6110120-05	HH-4 (0-1)	Arsenic	*6010D	2.4	mg/kg dry
6110120-05	HH-4 (0-1)	Barium	*6010D	72	mg/kg dry
6110120-05	HH-4 (0-1)	Beryllium	*6010D	1.0	mg/kg dry
6110120-05	HH-4 (0-1)	Chromium	*6010D	45	mg/kg dry
6110120-05	HH-4 (0-1)	Cobalt	*6010D	16	mg/kg dry
6110120-05	HH-4 (0-1)	Copper	*6010D	37	mg/kg dry
6110120-05	HH-4 (0-1)	Lead	*6010D	2.3	mg/kg dry
6110120-05	HH-4 (0-1)	Manganese	*6010D	630	mg/kg dry
6110120-05	HH-4 (0-1)	Nickel	*6010D	33	mg/kg dry
6110120-05	HH-4 (0-1)	Strontium	*6010D	42	mg/kg dry
6110120-05	HH-4 (0-1)	Thallium	*6010D	0.60	mg/kg dry
6110120-05	HH-4 (0-1)	Vanadium	*6010D	73	mg/kg dry
6110120-05	HH-4 (0-1)	Zinc	*6010D	70	mg/kg dry
6110120-06	HH-4 (4-5)	Antimony	6010D	0.0051	J mg/L
6110120-06	HH-4 (4-5)	Barium	6010D	0.64	mg/L
6110120-06	HH-4 (4-5)	Lead	6010D	0.011	J mg/L
6110120-06	HH-4 (4-5)	Manganese	6010D	0.013	J mg/L
6110120-06	HH-4 (4-5)	Selenium	6010D	0.031	J mg/L
6110120-06	HH-4 (4-5)	Strontium	6010D	0.45	mg/L
6110120-06	HH-4 (4-5)	Vanadium	6010D	0.0051	J mg/L
6110120-07	HH-5 (0-1)	Arsenic	*6010D	2.4	mg/kg dry
6110120-07	HH-5 (0-1)	Barium	*6010D	73	mg/kg dry
6110120-07	HH-5 (0-1)	Beryllium	*6010D	0.75	mg/kg dry
6110120-07	HH-5 (0-1)	Chromium	*6010D	23	mg/kg dry
6110120-07	HH-5 (0-1)	Cobalt	*6010D	8.4	mg/kg dry
6110120-07	HH-5 (0-1)	Copper	*6010D	19	mg/kg dry
6110120-07	HH-5 (0-1)	Lead	*6010D	9.3	mg/kg dry
6110120-07	HH-5 (0-1)	Manganese	*6010D	410	mg/kg dry
6110120-07	HH-5 (0-1)	Nickel	*6010D	14	mg/kg dry
6110120-07	HH-5 (0-1)	Selenium	*6010D	1.2	mg/kg dry
6110120-07	HH-5 (0-1)	Strontium	*6010D	23	mg/kg dry
6110120-07	HH-5 (0-1)	Vanadium	*6010D	39	mg/kg dry
6110120-07	HH-5 (0-1)	Zinc	*6010D	51	mg/kg dry
6110120-08	HH-5 (3-4)	Antimony	6010D	0.0033	J mg/L
6110120-08	HH-5 (3-4)	Barium	6010D	1.9	mg/L
6110120-08	HH-5 (3-4)	Manganese	6010D	0.021	J mg/L

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Prism ID	Client ID	Parameter	Method	Result		Units
6110120-08	HH-5 (3-4)	Selenium	6010D	0.040	J	mg/L
6110120-08	HH-5 (3-4)	Strontium	6010D	0.22		mg/L
6110120-08	HH-5 (3-4)	Vanadium	6010D	0.0090	J	mg/L
6110120-09	HH-3 (0-1)	Mercury	*7471B	0.076		mg/kg dry
6110120-09	HH-3 (0-1)	Arsenic	*6010D	9.9		mg/kg dry
6110120-09	HH-3 (0-1)	Barium	*6010D	200		mg/kg dry
6110120-09	HH-3 (0-1)	Beryllium	*6010D	1.3		mg/kg dry
6110120-09	HH-3 (0-1)	Chromium	*6010D	18		mg/kg dry
6110120-09	HH-3 (0-1)	Cobalt	*6010D	7.8		mg/kg dry
6110120-09	HH-3 (0-1)	Copper	*6010D	31		mg/kg dry
6110120-09	HH-3 (0-1)	Lead	*6010D	24		mg/kg dry
6110120-09	HH-3 (0-1)	Manganese	*6010D	350		mg/kg dry
6110120-09	HH-3 (0-1)	Nickel	*6010D	8.9		mg/kg dry
6110120-09	HH-3 (0-1)	Selenium	*6010D	2.4		mg/kg dry
6110120-09	HH-3 (0-1)	Strontium	*6010D	36		mg/kg dry
6110120-09	HH-3 (0-1)	Vanadium	*6010D	53		mg/kg dry
6110120-09	HH-3 (0-1)	Zinc	*6010D	100		mg/kg dry
6110120-10	HH-1 (0-1)	Mercury	*7471B	0.052		mg/kg dry
6110120-10	HH-1 (0-1)	Arsenic	*6010D	5.9		mg/kg dry
6110120-10	HH-1 (0-1)	Barium	*6010D	120		mg/kg dry
6110120-10	HH-1 (0-1)	Beryllium	*6010D	1.0		mg/kg dry
6110120-10	HH-1 (0-1)	Chromium	*6010D	21		mg/kg dry
6110120-10	HH-1 (0-1)	Cobalt	*6010D	7.9		mg/kg dry
6110120-10	HH-1 (0-1)	Copper	*6010D	25		mg/kg dry
6110120-10	HH-1 (0-1)	Lead	*6010D	27		mg/kg dry
6110120-10	HH-1 (0-1)	Manganese	*6010D	350		mg/kg dry
6110120-10	HH-1 (0-1)	Nickel	*6010D	8.8		mg/kg dry
6110120-10	HH-1 (0-1)	Selenium	*6010D	0.69		mg/kg dry
6110120-10	HH-1 (0-1)	Strontium	*6010D	31		mg/kg dry
6110120-10	HH-1 (0-1)	Vanadium	*6010D	48		mg/kg dry
6110120-10	HH-1 (0-1)	Zinc	*6010D	50		mg/kg dry
6110120-11	HH-3 (2-3)	Arsenic	6010D	0.018	J	mg/L
6110120-11	HH-3 (2-3)	Barium	6010D	0.74		mg/L
6110120-11	HH-3 (2-3)	Cobalt	6010D	0.0046	J	mg/L
6110120-11	HH-3 (2-3)	Copper	6010D	0.011	J	mg/L
6110120-11	HH-3 (2-3)	Lead	6010D	0.045		mg/L
6110120-11	HH-3 (2-3)	Manganese	6010D	0.29		mg/L
6110120-11	HH-3 (2-3)	Selenium	6010D	0.028	J	mg/L
6110120-11	HH-3 (2-3)	Strontium	6010D	0.10		mg/L
6110120-11	HH-3 (2-3)	Zinc	6010D	0.065	J	mg/L
6110120-11	HH-3 (2-3)	Vanadium	6010D	0.023	J	mg/L
6110120-12	HH-1 (7-8)	Barium	6010D	0.55		mg/L
6110120-12	HH-1 (7-8)	Manganese	6010D	0.043	J	mg/L
6110120-12	HH-1 (7-8)	Selenium	6010D	0.13		mg/L
6110120-12	HH-1 (7-8)	Strontium	6010D	2.5		mg/L

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Prism ID	Client ID	Parameter	Method	Result	Units
6110120-12	HH-1 (7-8)	Zinc	6010D	0.31	mg/L
6110120-13	HH-2 (2-3)	Antimony	6010D	0.0039 J	mg/L
6110120-13	HH-2 (2-3)	Barium	6010D	0.83	mg/L
6110120-13	HH-2 (2-3)	Manganese	6010D	0.014 J	mg/L
6110120-13	HH-2 (2-3)	Selenium	6010D	0.035 J	mg/L
6110120-13	HH-2 (2-3)	Strontium	6010D	0.23	mg/L
6110120-13	HH-2 (2-3)	Zinc	6010D	0.40	mg/L
6110120-13	HH-2 (2-3)	Vanadium	6010D	0.016 J	mg/L
6110120-14	HH-2 (0-1)	Mercury	*7471B	0.085	mg/kg dry
6110120-14	HH-2 (0-1)	Arsenic	*6010D	4.9	mg/kg dry
6110120-14	HH-2 (0-1)	Barium	*6010D	140	mg/kg dry
6110120-14	HH-2 (0-1)	Beryllium	*6010D	0.93	mg/kg dry
6110120-14	HH-2 (0-1)	Chromium	*6010D	14	mg/kg dry
6110120-14	HH-2 (0-1)	Cobalt	*6010D	12	mg/kg dry
6110120-14	HH-2 (0-1)	Copper	*6010D	21	mg/kg dry
6110120-14	HH-2 (0-1)	Lead	*6010D	30	mg/kg dry
6110120-14	HH-2 (0-1)	Manganese	*6010D	260	mg/kg dry
6110120-14	HH-2 (0-1)	Nickel	*6010D	5.9	mg/kg dry
6110120-14	HH-2 (0-1)	Selenium	*6010D	1.0	mg/kg dry
6110120-14	HH-2 (0-1)	Strontium	*6010D	25	mg/kg dry
6110120-14	HH-2 (0-1)	Vanadium	*6010D	48	mg/kg dry
6110120-14	HH-2 (0-1)	Zinc	*6010D	43	mg/kg dry
6110120-15	BG-1 (0-1)	Mercury	*7471B	0.033	mg/kg dry
6110120-15	BG-1 (0-1)	Arsenic	*6010D	1.9	mg/kg dry
6110120-15	BG-1 (0-1)	Barium	*6010D	36	mg/kg dry
6110120-15	BG-1 (0-1)	Beryllium	*6010D	0.39	mg/kg dry
6110120-15	BG-1 (0-1)	Chromium	*6010D	18	mg/kg dry
6110120-15	BG-1 (0-1)	Cobalt	*6010D	6.3	mg/kg dry
6110120-15	BG-1 (0-1)	Copper	*6010D	16	mg/kg dry
6110120-15	BG-1 (0-1)	Lead	*6010D	25	mg/kg dry
6110120-15	BG-1 (0-1)	Manganese	*6010D	310	mg/kg dry
6110120-15	BG-1 (0-1)	Nickel	*6010D	5.4	mg/kg dry
6110120-15	BG-1 (0-1)	Selenium	*6010D	1.6	mg/kg dry
6110120-15	BG-1 (0-1)	Strontium	*6010D	15	mg/kg dry
6110120-15	BG-1 (0-1)	Vanadium	*6010D	34	mg/kg dry
6110120-15	BG-1 (0-1)	Zinc	*6010D	43	mg/kg dry
6110120-16	BG-1 (2-3)	Mercury	*7471B	0.28	mg/kg dry
6110120-16	BG-1 (2-3)	Arsenic	*6010D	2.3	mg/kg dry
6110120-16	BG-1 (2-3)	Barium	*6010D	45	mg/kg dry
6110120-16	BG-1 (2-3)	Beryllium	*6010D	0.48	mg/kg dry
6110120-16	BG-1 (2-3)	Chromium	*6010D	19	mg/kg dry
6110120-16	BG-1 (2-3)	Cobalt	*6010D	7.3	mg/kg dry
6110120-16	BG-1 (2-3)	Copper	*6010D	18	mg/kg dry
6110120-16	BG-1 (2-3)	Lead	*6010D	43	mg/kg dry
6110120-16	BG-1 (2-3)	Manganese	*6010D	440	mg/kg dry

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Prism ID	Client ID	Parameter	Method	Result	Units
6110120-16	BG-1 (2-3)	Nickel	*6010D	6.2	mg/kg dry
6110120-16	BG-1 (2-3)	Selenium	*6010D	1.6	mg/kg dry
6110120-16	BG-1 (2-3)	Strontium	*6010D	15	mg/kg dry
6110120-16	BG-1 (2-3)	Vanadium	*6010D	35	mg/kg dry
6110120-16	BG-1 (2-3)	Zinc	*6010D	49	mg/kg dry
6110120-17	BG-2 (0-1)	Mercury	*7471B	0.045	mg/kg dry
6110120-17	BG-2 (0-1)	Arsenic	*6010D	1.9	mg/kg dry
6110120-17	BG-2 (0-1)	Barium	*6010D	45	mg/kg dry
6110120-17	BG-2 (0-1)	Beryllium	*6010D	0.50	mg/kg dry
6110120-17	BG-2 (0-1)	Chromium	*6010D	17	mg/kg dry
6110120-17	BG-2 (0-1)	Cobalt	*6010D	7.4	mg/kg dry
6110120-17	BG-2 (0-1)	Copper	*6010D	18	mg/kg dry
6110120-17	BG-2 (0-1)	Lead	*6010D	32	mg/kg dry
6110120-17	BG-2 (0-1)	Manganese	*6010D	410	mg/kg dry
6110120-17	BG-2 (0-1)	Nickel	*6010D	4.9	mg/kg dry
6110120-17	BG-2 (0-1)	Selenium	*6010D	1.1	mg/kg dry
6110120-17	BG-2 (0-1)	Strontium	*6010D	14	mg/kg dry
6110120-17	BG-2 (0-1)	Vanadium	*6010D	35	mg/kg dry
6110120-17	BG-2 (0-1)	Zinc	*6010D	44	mg/kg dry
6110120-18	BG-2 (2-3)	Mercury	*7471B	0.038	mg/kg dry
6110120-18	BG-2 (2-3)	Arsenic	*6010D	1.9	mg/kg dry
6110120-18	BG-2 (2-3)	Barium	*6010D	52	mg/kg dry
6110120-18	BG-2 (2-3)	Beryllium	*6010D	0.53	mg/kg dry
6110120-18	BG-2 (2-3)	Chromium	*6010D	24	mg/kg dry
6110120-18	BG-2 (2-3)	Cobalt	*6010D	7.5	mg/kg dry
6110120-18	BG-2 (2-3)	Copper	*6010D	20	mg/kg dry
6110120-18	BG-2 (2-3)	Lead	*6010D	26	mg/kg dry
6110120-18	BG-2 (2-3)	Manganese	*6010D	450	mg/kg dry
6110120-18	BG-2 (2-3)	Nickel	*6010D	7.9	mg/kg dry
6110120-18	BG-2 (2-3)	Selenium	*6010D	1.7	mg/kg dry
6110120-18	BG-2 (2-3)	Strontium	*6010D	19	mg/kg dry
6110120-18	BG-2 (2-3)	Vanadium	*6010D	37	mg/kg dry
6110120-18	BG-2 (2-3)	Zinc	*6010D	45	mg/kg dry
6110120-19	BG-3 (0-1)	Mercury	*7471B	0.024	mg/kg dry
6110120-19	BG-3 (0-1)	Arsenic	*6010D	1.7	mg/kg dry
6110120-19	BG-3 (0-1)	Barium	*6010D	44	mg/kg dry
6110120-19	BG-3 (0-1)	Beryllium	*6010D	0.43	mg/kg dry
6110120-19	BG-3 (0-1)	Chromium	*6010D	16	mg/kg dry
6110120-19	BG-3 (0-1)	Cobalt	*6010D	7.5	mg/kg dry
6110120-19	BG-3 (0-1)	Copper	*6010D	15	mg/kg dry
6110120-19	BG-3 (0-1)	Lead	*6010D	25	mg/kg dry
6110120-19	BG-3 (0-1)	Manganese	*6010D	410	mg/kg dry
6110120-19	BG-3 (0-1)	Nickel	*6010D	5.1	mg/kg dry
6110120-19	BG-3 (0-1)	Selenium	*6010D	1.4	mg/kg dry
6110120-19	BG-3 (0-1)	Strontium	*6010D	46	mg/kg dry

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Prism ID	Client ID	Parameter	Method	Result	Units
6110120-19	BG-3 (0-1)	Vanadium	*6010D	37	mg/kg dry
6110120-19	BG-3 (0-1)	Zinc	*6010D	40	mg/kg dry
6110120-20	BG-3 (2-3)	Mercury	*7471B	0.040	mg/kg dry
6110120-20	BG-3 (2-3)	Arsenic	*6010D	2.2	mg/kg dry
6110120-20	BG-3 (2-3)	Barium	*6010D	56	mg/kg dry
6110120-20	BG-3 (2-3)	Beryllium	*6010D	0.54	mg/kg dry
6110120-20	BG-3 (2-3)	Chromium	*6010D	22	mg/kg dry
6110120-20	BG-3 (2-3)	Cobalt	*6010D	7.5	mg/kg dry
6110120-20	BG-3 (2-3)	Copper	*6010D	18	mg/kg dry
6110120-20	BG-3 (2-3)	Lead	*6010D	29	mg/kg dry
6110120-20	BG-3 (2-3)	Manganese	*6010D	410	mg/kg dry
6110120-20	BG-3 (2-3)	Nickel	*6010D	5.2	mg/kg dry
6110120-20	BG-3 (2-3)	Selenium	*6010D	1.2	mg/kg dry
6110120-20	BG-3 (2-3)	Strontium	*6010D	19	mg/kg dry
6110120-20	BG-3 (2-3)	Vanadium	*6010D	40	mg/kg dry
6110120-20	BG-3 (2-3)	Zinc	*6010D	46	mg/kg dry
6110120-21	BG-4 (0-1)	Mercury	*7471B	0.026	mg/kg dry
6110120-21	BG-4 (0-1)	Arsenic	*6010D	1.7	mg/kg dry
6110120-21	BG-4 (0-1)	Barium	*6010D	50	mg/kg dry
6110120-21	BG-4 (0-1)	Beryllium	*6010D	0.50	mg/kg dry
6110120-21	BG-4 (0-1)	Chromium	*6010D	19	mg/kg dry
6110120-21	BG-4 (0-1)	Cobalt	*6010D	9.5	mg/kg dry
6110120-21	BG-4 (0-1)	Copper	*6010D	16	mg/kg dry
6110120-21	BG-4 (0-1)	Lead	*6010D	22	mg/kg dry
6110120-21	BG-4 (0-1)	Manganese	*6010D	450	BH mg/kg dry
6110120-21	BG-4 (0-1)	Nickel	*6010D	6.0	mg/kg dry
6110120-21	BG-4 (0-1)	Strontium	*6010D	16	A mg/kg dry
6110120-21	BG-4 (0-1)	Vanadium	*6010D	53	mg/kg dry
6110120-21	BG-4 (0-1)	Zinc	*6010D	50	mg/kg dry
6110120-22	BG-4 (2-3)	Mercury	*7471B	0.054	mg/kg dry
6110120-22	BG-4 (2-3)	Arsenic	*6010D	2.0	mg/kg dry
6110120-22	BG-4 (2-3)	Barium	*6010D	53	mg/kg dry
6110120-22	BG-4 (2-3)	Beryllium	*6010D	0.52	mg/kg dry
6110120-22	BG-4 (2-3)	Cadmium	*6010D	0.38	mg/kg dry
6110120-22	BG-4 (2-3)	Chromium	*6010D	23	mg/kg dry
6110120-22	BG-4 (2-3)	Cobalt	*6010D	11	mg/kg dry
6110120-22	BG-4 (2-3)	Copper	*6010D	23	mg/kg dry
6110120-22	BG-4 (2-3)	Lead	*6010D	21	mg/kg dry
6110120-22	BG-4 (2-3)	Manganese	*6010D	460	BH mg/kg dry
6110120-22	BG-4 (2-3)	Nickel	*6010D	8.5	mg/kg dry
6110120-22	BG-4 (2-3)	Strontium	*6010D	19	mg/kg dry
6110120-22	BG-4 (2-3)	Vanadium	*6010D	51	mg/kg dry
6110120-22	BG-4 (2-3)	Zinc	*6010D	230	mg/kg dry
6110120-23	Dup	Barium	6010D	1.3	mg/L
6110120-23	Dup	Manganese	6010D	0.069	mg/L

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Prism ID	Client ID	Parameter	Method	Result		Units
6110120-23	Dup	Selenium	6010D	0.035	J	mg/L
6110120-23	Dup	Strontium	6010D	0.17		mg/L
6110120-23	Dup	Zinc	6010D	0.37		mg/L
6110120-23	Dup	Vanadium	6010D	0.0026	J	mg/L
6110120-23	Dup	Mercury	*7471B	0.067		mg/kg dry
6110120-23	Dup	Arsenic	*6010D	3.4		mg/kg dry
6110120-23	Dup	Barium	*6010D	110		mg/kg dry
6110120-23	Dup	Beryllium	*6010D	0.79		mg/kg dry
6110120-23	Dup	Chromium	*6010D	20		mg/kg dry
6110120-23	Dup	Cobalt	*6010D	8.4		mg/kg dry
6110120-23	Dup	Copper	*6010D	17		mg/kg dry
6110120-23	Dup	Lead	*6010D	18		mg/kg dry
6110120-23	Dup	Manganese	*6010D	360	BH	mg/kg dry
6110120-23	Dup	Nickel	*6010D	12		mg/kg dry
6110120-23	Dup	Strontium	*6010D	30		mg/kg dry
6110120-23	Dup	Vanadium	*6010D	41		mg/kg dry
6110120-23	Dup	Zinc	*6010D	35		mg/kg dry

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: MW-7 (0-1)
 Prism Sample ID: 6110120-01
 Prism Work Order: 6110120
 Time Collected: 11/01/16 11:35
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	83.8	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.030	mg/kg dry	0.025	0.0014	1	*7471B	11/18/16 8:12	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.30	0.030	1	*6010D	11/11/16 0:04	bgm	P6K0165
Arsenic	2.6	mg/kg dry	0.30	0.036	1	*6010D	11/11/16 0:04	bgm	P6K0165
Barium	67	mg/kg dry	0.59	0.087	1	*6010D	11/11/16 0:04	bgm	P6K0165
Beryllium	0.87	mg/kg dry	0.30	0.0065	1	*6010D	11/11/16 0:04	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.30	0.0080	1	*6010D	11/11/16 0:04	bgm	P6K0165
Chromium	10	mg/kg dry	0.30	0.050	1	*6010D	11/11/16 0:04	bgm	P6K0165
Cobalt	3.9	mg/kg dry	0.30	0.0058	1	*6010D	11/11/16 0:04	bgm	P6K0165
Copper	180	mg/kg dry	15	1.3	25	*6010D	11/11/16 20:42	bgm	P6K0165
Lead	7.6	mg/kg dry	0.30	0.055	1	*6010D	11/11/16 0:04	bgm	P6K0165
Manganese	100	mg/kg dry	0.30	0.059	1	*6010D	11/11/16 0:04	bgm	P6K0165
Nickel	2.9	mg/kg dry	0.59	0.021	1	*6010D	11/11/16 0:04	bgm	P6K0165
Selenium	BRL	mg/kg dry	0.59	0.14	1	*6010D	11/11/16 0:04	bgm	P6K0165
Strontium	6.7	mg/kg dry	0.30	0.0063	1	*6010D	11/11/16 0:04	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.59	0.078	1	*6010D	11/11/16 0:04	bgm	P6K0165
Vanadium	61	mg/kg dry	0.30	0.0070	1	*6010D	11/11/16 0:04	bgm	P6K0165
Zinc	46	mg/kg dry	3.0	0.11	1	*6010D	11/11/16 0:04	bgm	P6K0165

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: MW-6 (0-1)
 Prism Sample ID: 6110120-02
 Prism Work Order: 6110120
 Time Collected: 11/02/16 13:50
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	97.3	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.082	mg/kg dry	0.021	0.0011	1	*7471B	11/18/16 8:25	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.26	0.026	1	*6010D	11/11/16 0:32	bgm	P6K0165
Arsenic	2.9	mg/kg dry	0.26	0.031	1	*6010D	11/11/16 0:32	bgm	P6K0165
Barium	38	mg/kg dry	0.51	0.075	1	*6010D	11/11/16 0:32	bgm	P6K0165
Beryllium	0.61	mg/kg dry	0.26	0.0057	1	*6010D	11/11/16 0:32	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.26	0.0069	1	*6010D	11/11/16 0:32	bgm	P6K0165
Chromium	10	mg/kg dry	0.26	0.043	1	*6010D	11/11/16 0:32	bgm	P6K0165
Cobalt	9.5	mg/kg dry	0.26	0.0050	1	*6010D	11/11/16 0:32	bgm	P6K0165
Copper	23	mg/kg dry	0.51	0.046	1	*6010D	11/11/16 0:32	bgm	P6K0165
Lead	12	mg/kg dry	0.26	0.048	1	*6010D	11/11/16 0:32	bgm	P6K0165
Manganese	570	mg/kg dry	6.4	1.3	25	*6010D	11/11/16 20:50	bgm	P6K0165
Nickel	8.2	mg/kg dry	0.51	0.018	1	*6010D	11/11/16 0:32	bgm	P6K0165
Selenium	1.0	mg/kg dry	0.51	0.12	1	*6010D	11/11/16 0:32	bgm	P6K0165
Strontium	22	mg/kg dry	0.26	0.0054	1	*6010D	11/11/16 0:32	bgm	P6K0165
Thallium	0.81	mg/kg dry	0.51	0.067	1	*6010D	11/11/16 0:32	bgm	P6K0165
Vanadium	31	mg/kg dry	0.26	0.0061	1	*6010D	11/11/16 0:32	bgm	P6K0165
Zinc	77	mg/kg dry	2.6	0.092	1	*6010D	11/11/16 0:32	bgm	P6K0165

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: MW-5 (0-1)
 Prism Sample ID: 6110120-03
 Prism Work Order: 6110120
 Time Collected: 11/02/16 16:05
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	85.1	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	BRL	mg/kg dry	0.023	0.0013	1	*7471B	11/18/16 8:30	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.30	0.030	1	*6010D	11/11/16 0:42	bgm	P6K0165
Arsenic	2.1	mg/kg dry	0.30	0.036	1	*6010D	11/11/16 0:42	bgm	P6K0165
Barium	76	mg/kg dry	0.59	0.087	1	*6010D	11/11/16 0:42	bgm	P6K0165
Beryllium	0.99	mg/kg dry	0.30	0.0065	1	*6010D	11/11/16 0:42	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.30	0.0080	1	*6010D	11/11/16 0:42	bgm	P6K0165
Chromium	18	mg/kg dry	0.30	0.050	1	*6010D	11/11/16 0:42	bgm	P6K0165
Cobalt	27	mg/kg dry	0.30	0.0058	1	*6010D	11/11/16 0:42	bgm	P6K0165
Copper	49	mg/kg dry	0.59	0.054	1	*6010D	11/11/16 0:42	bgm	P6K0165
Lead	4.0	mg/kg dry	0.30	0.055	1	*6010D	11/11/16 0:42	bgm	P6K0165
Manganese	710	mg/kg dry	7.4	1.5	25	*6010D	11/11/16 20:58	bgm	P6K0165
Nickel	5.0	mg/kg dry	0.59	0.021	1	*6010D	11/11/16 0:42	bgm	P6K0165
Selenium	BRL	mg/kg dry	0.59	0.14	1	*6010D	11/11/16 0:42	bgm	P6K0165
Strontium	25	mg/kg dry	0.30	0.0063	1	*6010D	11/11/16 0:42	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.59	0.078	1	*6010D	11/11/16 0:42	bgm	P6K0165
Vanadium	190	mg/kg dry	7.4	0.18	25	*6010D	11/11/16 20:58	bgm	P6K0165
Zinc	47	mg/kg dry	3.0	0.11	1	*6010D	11/11/16 0:42	bgm	P6K0165

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: MW-5 (6-7)
 Prism Sample ID: 6110120-04
 Prism Work Order: 6110120
 Time Collected: 11/02/16 16:35
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	94.4	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	BRL	mg/kg dry	0.020	0.0011	1	*7471B	11/18/16 8:35	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.27	0.027	1	*6010D	11/11/16 0:52	bgm	P6K0165
Arsenic	1.4	mg/kg dry	0.27	0.032	1	*6010D	11/11/16 0:52	bgm	P6K0165
Barium	61	mg/kg dry	0.53	0.078	1	*6010D	11/11/16 0:52	bgm	P6K0165
Beryllium	0.60	mg/kg dry	0.27	0.0059	1	*6010D	11/11/16 0:52	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.27	0.0071	1	*6010D	11/11/16 0:52	bgm	P6K0165
Chromium	39	mg/kg dry	0.27	0.044	1	*6010D	11/11/16 0:52	bgm	P6K0165
Cobalt	19	mg/kg dry	0.27	0.0052	1	*6010D	11/11/16 0:52	bgm	P6K0165
Copper	18	mg/kg dry	0.53	0.048	1	*6010D	11/11/16 0:52	bgm	P6K0165
Lead	0.55	mg/kg dry	0.27	0.049	1	*6010D	11/11/16 0:52	bgm	P6K0165
Manganese	940	mg/kg dry	6.7	1.3	25	*6010D	11/11/16 21:06	bgm	P6K0165
Nickel	20	mg/kg dry	0.53	0.019	1	*6010D	11/11/16 0:52	bgm	P6K0165
Selenium	BRL	mg/kg dry	0.53	0.13	1	*6010D	11/11/16 0:52	bgm	P6K0165
Strontium	29	mg/kg dry	0.27	0.0056	1	*6010D	11/11/16 0:52	bgm	P6K0165
Thallium	2.3	mg/kg dry	0.53	0.070	1	*6010D	11/11/16 0:52	bgm	P6K0165
Vanadium	67	mg/kg dry	0.27	0.0063	1	*6010D	11/11/16 0:52	bgm	P6K0165
Zinc	75	mg/kg dry	2.7	0.095	1	*6010D	11/11/16 0:52	bgm	P6K0165

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-4 (0-1)
 Prism Sample ID: 6110120-05
 Prism Work Order: 6110120
 Time Collected: 11/03/16 08:45
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	87.6	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	BRL	mg/kg dry	0.023	0.0013	1	*7471B	11/18/16 8:39	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.28	0.028	1	*6010D	11/11/16 1:03	bgm	P6K0165
Arsenic	2.4	mg/kg dry	0.28	0.034	1	*6010D	11/11/16 1:03	bgm	P6K0165
Barium	72	mg/kg dry	0.56	0.081	1	*6010D	11/11/16 1:03	bgm	P6K0165
Beryllium	1.0	mg/kg dry	0.28	0.0061	1	*6010D	11/11/16 1:03	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.28	0.0075	1	*6010D	11/11/16 1:03	bgm	P6K0165
Chromium	45	mg/kg dry	0.28	0.047	1	*6010D	11/11/16 1:03	bgm	P6K0165
Cobalt	16	mg/kg dry	0.28	0.0055	1	*6010D	11/11/16 1:03	bgm	P6K0165
Copper	37	mg/kg dry	0.56	0.050	1	*6010D	11/11/16 1:03	bgm	P6K0165
Lead	2.3	mg/kg dry	0.28	0.052	1	*6010D	11/11/16 1:03	bgm	P6K0165
Manganese	630	mg/kg dry	7.0	1.4	25	*6010D	11/11/16 21:14	bgm	P6K0165
Nickel	33	mg/kg dry	0.56	0.020	1	*6010D	11/11/16 1:03	bgm	P6K0165
Selenium	BRL	mg/kg dry	0.56	0.13	1	*6010D	11/11/16 1:03	bgm	P6K0165
Strontium	42	mg/kg dry	0.28	0.0059	1	*6010D	11/11/16 1:03	bgm	P6K0165
Thallium	0.60	mg/kg dry	0.56	0.073	1	*6010D	11/11/16 1:03	bgm	P6K0165
Vanadium	73	mg/kg dry	0.28	0.0066	1	*6010D	11/11/16 1:03	bgm	P6K0165
Zinc	70	mg/kg dry	2.8	0.10	1	*6010D	11/11/16 1:03	bgm	P6K0165

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-4 (4-5)
 Prism Sample ID: 6110120-06
 Prism Work Order: 6110120
 Time Collected: 11/03/16 09:00
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	79.1	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
SPLP Extraction by EPA 1312									
SPLP Extraction	Complete	N/A			1	*1312	11/10/16 7:30	JAB	P6K0226
SPLP Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/17/16 13:59	JAB	P6K0397
Antimony	0.0051 J	mg/L	0.025	0.0025	1	6010D	11/10/16 22:42	bgm	P6K0245
Arsenic	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 22:42	bgm	P6K0245
Barium	0.64	mg/L	0.050	0.0065	1	6010D	11/10/16 22:42	bgm	P6K0245
Beryllium	BRL	mg/L	0.050	0.00050	1	6010D	11/10/16 22:42	bgm	P6K0245
Cadmium	BRL	mg/L	0.0050	0.00065	1	6010D	11/10/16 22:42	bgm	P6K0245
Chromium	BRL	mg/L	0.025	0.0038	1	6010D	11/10/16 22:42	bgm	P6K0245
Cobalt	BRL	mg/L	0.025	0.00055	1	6010D	11/10/16 22:42	bgm	P6K0245
Copper	BRL	mg/L	0.050	0.0080	1	6010D	11/10/16 22:42	bgm	P6K0245
Lead	0.011 J	mg/L	0.025	0.0080	1	6010D	11/10/16 22:42	bgm	P6K0245
Manganese	0.013 J	mg/L	0.050	0.0085	1	6010D	11/10/16 22:42	bgm	P6K0245
Nickel	BRL	mg/L	0.050	0.0050	1	6010D	11/10/16 22:42	bgm	P6K0245
Selenium	0.031 J	mg/L	0.10	0.022	1	6010D	11/10/16 22:42	bgm	P6K0245
Strontium	0.45	mg/L	0.050	0.0028	1	6010D	11/10/16 22:42	bgm	P6K0245
Thallium	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 22:42	bgm	P6K0245
Zinc	BRL	mg/L	0.15	0.056	1	6010D	11/10/16 22:42	bgm	P6K0245
Vanadium	0.0051 J	mg/L	0.025	0.00075	1	6010D	11/10/16 22:42	bgm	P6K0245

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Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-5 (0-1)
 Prism Sample ID: 6110120-07
 Prism Work Order: 6110120
 Time Collected: 11/03/16 09:25
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	84.3	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	BRL	mg/kg dry	0.025	0.0014	1	*7471B	11/18/16 8:44	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.30	0.030	1	*6010D	11/11/16 1:23	bgm	P6K0165
Arsenic	2.4	mg/kg dry	0.30	0.036	1	*6010D	11/11/16 1:23	bgm	P6K0165
Barium	73	mg/kg dry	0.60	0.087	1	*6010D	11/11/16 1:23	bgm	P6K0165
Beryllium	0.75	mg/kg dry	0.30	0.0066	1	*6010D	11/11/16 1:23	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.30	0.0080	1	*6010D	11/11/16 1:23	bgm	P6K0165
Chromium	23	mg/kg dry	0.30	0.050	1	*6010D	11/11/16 1:23	bgm	P6K0165
Cobalt	8.4	mg/kg dry	0.30	0.0058	1	*6010D	11/11/16 1:23	bgm	P6K0165
Copper	19	mg/kg dry	0.60	0.054	1	*6010D	11/11/16 1:23	bgm	P6K0165
Lead	9.3	mg/kg dry	0.30	0.055	1	*6010D	11/11/16 1:23	bgm	P6K0165
Manganese	410	mg/kg dry	7.5	1.5	25	*6010D	11/11/16 21:29	bgm	P6K0165
Nickel	14	mg/kg dry	0.60	0.021	1	*6010D	11/11/16 1:23	bgm	P6K0165
Selenium	1.2	mg/kg dry	0.60	0.14	1	*6010D	11/11/16 1:23	bgm	P6K0165
Strontium	23	mg/kg dry	0.30	0.0063	1	*6010D	11/11/16 1:23	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.60	0.078	1	*6010D	11/11/16 1:23	bgm	P6K0165
Vanadium	39	mg/kg dry	0.30	0.0070	1	*6010D	11/11/16 1:23	bgm	P6K0165
Zinc	51	mg/kg dry	3.0	0.11	1	*6010D	11/11/16 1:23	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
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 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-5 (3-4)
 Prism Sample ID: 6110120-08
 Prism Work Order: 6110120
 Time Collected: 11/03/16 09:40
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	76.6	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
SPLP Extraction by EPA 1312									
SPLP Extraction	Complete	N/A			1	*1312	11/10/16 7:30	JAB	P6K0226
SPLP Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/17/16 14:10	JAB	P6K0397
Antimony	0.0033 J	mg/L	0.025	0.0025	1	6010D	11/10/16 23:03	bgm	P6K0245
Arsenic	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:03	bgm	P6K0245
Barium	1.9	mg/L	0.050	0.0065	1	6010D	11/10/16 23:03	bgm	P6K0245
Beryllium	BRL	mg/L	0.050	0.00050	1	6010D	11/10/16 23:03	bgm	P6K0245
Cadmium	BRL	mg/L	0.0050	0.00065	1	6010D	11/10/16 23:03	bgm	P6K0245
Chromium	BRL	mg/L	0.025	0.0038	1	6010D	11/10/16 23:03	bgm	P6K0245
Cobalt	BRL	mg/L	0.025	0.00055	1	6010D	11/10/16 23:03	bgm	P6K0245
Copper	BRL	mg/L	0.050	0.0080	1	6010D	11/10/16 23:03	bgm	P6K0245
Lead	BRL	mg/L	0.025	0.0080	1	6010D	11/10/16 23:03	bgm	P6K0245
Manganese	0.021 J	mg/L	0.050	0.0085	1	6010D	11/10/16 23:03	bgm	P6K0245
Nickel	BRL	mg/L	0.050	0.0050	1	6010D	11/10/16 23:03	bgm	P6K0245
Selenium	0.040 J	mg/L	0.10	0.022	1	6010D	11/10/16 23:03	bgm	P6K0245
Strontium	0.22	mg/L	0.050	0.0028	1	6010D	11/10/16 23:03	bgm	P6K0245
Thallium	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:03	bgm	P6K0245
Zinc	BRL	mg/L	0.15	0.056	1	6010D	11/10/16 23:03	bgm	P6K0245
Vanadium	0.0090 J	mg/L	0.025	0.00075	1	6010D	11/10/16 23:03	bgm	P6K0245

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-3 (0-1)
 Prism Sample ID: 6110120-09
 Prism Work Order: 6110120
 Time Collected: 11/03/16 10:05
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	77.2	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.076	mg/kg dry	0.027	0.0015	1	*7471B	11/18/16 8:48	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.33	0.033	1	*6010D	11/11/16 1:42	bgm	P6K0165
Arsenic	9.9	mg/kg dry	0.33	0.040	1	*6010D	11/11/16 1:42	bgm	P6K0165
Barium	200	mg/kg dry	16	2.4	25	*6010D	11/11/16 21:45	bgm	P6K0165
Beryllium	1.3	mg/kg dry	0.33	0.0072	1	*6010D	11/11/16 1:42	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.33	0.0087	1	*6010D	11/11/16 1:42	bgm	P6K0165
Chromium	18	mg/kg dry	0.33	0.054	1	*6010D	11/11/16 1:42	bgm	P6K0165
Cobalt	7.8	mg/kg dry	0.33	0.0064	1	*6010D	11/11/16 1:42	bgm	P6K0165
Copper	31	mg/kg dry	0.65	0.059	1	*6010D	11/11/16 1:42	bgm	P6K0165
Lead	24	mg/kg dry	0.33	0.061	1	*6010D	11/11/16 1:42	bgm	P6K0165
Manganese	350	mg/kg dry	8.1	1.6	25	*6010D	11/11/16 21:45	bgm	P6K0165
Nickel	8.9	mg/kg dry	0.65	0.023	1	*6010D	11/11/16 1:42	bgm	P6K0165
Selenium	2.4	mg/kg dry	0.65	0.15	1	*6010D	11/11/16 1:42	bgm	P6K0165
Strontium	36	mg/kg dry	0.33	0.0069	1	*6010D	11/11/16 1:42	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.65	0.085	1	*6010D	11/11/16 1:42	bgm	P6K0165
Vanadium	53	mg/kg dry	0.33	0.0077	1	*6010D	11/11/16 1:42	bgm	P6K0165
Zinc	100	mg/kg dry	3.3	0.12	1	*6010D	11/11/16 1:42	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-1 (0-1)
 Prism Sample ID: 6110120-10
 Prism Work Order: 6110120
 Time Collected: 11/03/16 10:30
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	88.1	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.052	mg/kg dry	0.023	0.0012	1	*7471B	11/18/16 8:53	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.29	0.029	1	*6010D	11/11/16 1:52	bgm	P6K0165
Arsenic	5.9	mg/kg dry	0.29	0.035	1	*6010D	11/11/16 1:52	bgm	P6K0165
Barium	120	mg/kg dry	0.58	0.084	1	*6010D	11/11/16 1:52	bgm	P6K0165
Beryllium	1.0	mg/kg dry	0.29	0.0063	1	*6010D	11/11/16 1:52	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.29	0.0077	1	*6010D	11/11/16 1:52	bgm	P6K0165
Chromium	21	mg/kg dry	0.29	0.048	1	*6010D	11/11/16 1:52	bgm	P6K0165
Cobalt	7.9	mg/kg dry	0.29	0.0056	1	*6010D	11/11/16 1:52	bgm	P6K0165
Copper	25	mg/kg dry	0.58	0.052	1	*6010D	11/11/16 1:52	bgm	P6K0165
Lead	27	mg/kg dry	0.29	0.054	1	*6010D	11/11/16 1:52	bgm	P6K0165
Manganese	350	mg/kg dry	7.2	1.4	25	*6010D	11/11/16 21:53	bgm	P6K0165
Nickel	8.8	mg/kg dry	0.58	0.021	1	*6010D	11/11/16 1:52	bgm	P6K0165
Selenium	0.69	mg/kg dry	0.58	0.14	1	*6010D	11/11/16 1:52	bgm	P6K0165
Strontium	31	mg/kg dry	0.29	0.0061	1	*6010D	11/11/16 1:52	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.58	0.075	1	*6010D	11/11/16 1:52	bgm	P6K0165
Vanadium	48	mg/kg dry	0.29	0.0068	1	*6010D	11/11/16 1:52	bgm	P6K0165
Zinc	50	mg/kg dry	2.9	0.10	1	*6010D	11/11/16 1:52	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-3 (2-3)
 Prism Sample ID: 6110120-11
 Prism Work Order: 6110120
 Time Collected: 11/03/16 11:25
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	78.7	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
SPLP Extraction by EPA 1312									
SPLP Extraction	Complete	N/A			1	*1312	11/10/16 7:30	JAB	P6K0226
SPLP Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/17/16 14:14	JAB	P6K0397
Antimony	BRL	mg/L	0.025	0.0025	1	6010D	11/10/16 23:09	bgm	P6K0245
Arsenic	0.018 J	mg/L	0.050	0.012	1	6010D	11/10/16 23:09	bgm	P6K0245
Barium	0.74	mg/L	0.050	0.0065	1	6010D	11/10/16 23:09	bgm	P6K0245
Beryllium	BRL	mg/L	0.050	0.00050	1	6010D	11/10/16 23:09	bgm	P6K0245
Cadmium	BRL	mg/L	0.0050	0.00065	1	6010D	11/10/16 23:09	bgm	P6K0245
Chromium	BRL	mg/L	0.025	0.0038	1	6010D	11/10/16 23:09	bgm	P6K0245
Cobalt	0.0046 J	mg/L	0.025	0.00055	1	6010D	11/10/16 23:09	bgm	P6K0245
Copper	0.011 J	mg/L	0.050	0.0080	1	6010D	11/10/16 23:09	bgm	P6K0245
Lead	0.045	mg/L	0.025	0.0080	1	6010D	11/10/16 23:09	bgm	P6K0245
Manganese	0.29	mg/L	0.050	0.0085	1	6010D	11/10/16 23:09	bgm	P6K0245
Nickel	BRL	mg/L	0.050	0.0050	1	6010D	11/10/16 23:09	bgm	P6K0245
Selenium	0.028 J	mg/L	0.10	0.022	1	6010D	11/10/16 23:09	bgm	P6K0245
Strontium	0.10	mg/L	0.050	0.0028	1	6010D	11/10/16 23:09	bgm	P6K0245
Thallium	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:09	bgm	P6K0245
Zinc	0.065 J	mg/L	0.15	0.056	1	6010D	11/10/16 23:09	bgm	P6K0245
Vanadium	0.023 J	mg/L	0.025	0.00075	1	6010D	11/10/16 23:09	bgm	P6K0245

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Sample Matrix: Solid

Client Sample ID: HH-1 (7-8)
 Prism Sample ID: 6110120-12
 Prism Work Order: 6110120
 Time Collected: 11/03/16 11:45
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	86.7	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
SPLP Extraction by EPA 1312									
SPLP Extraction	Complete	N/A			1	*1312	11/10/16 7:30	JAB	P6K0226
SPLP Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/17/16 14:18	JAB	P6K0397
Antimony	BRL	mg/L	0.025	0.0025	1	6010D	11/10/16 23:15	bgm	P6K0245
Arsenic	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:15	bgm	P6K0245
Barium	0.55	mg/L	0.050	0.0065	1	6010D	11/10/16 23:15	bgm	P6K0245
Beryllium	BRL	mg/L	0.050	0.00050	1	6010D	11/10/16 23:15	bgm	P6K0245
Cadmium	BRL	mg/L	0.0050	0.00065	1	6010D	11/10/16 23:15	bgm	P6K0245
Chromium	BRL	mg/L	0.025	0.0038	1	6010D	11/10/16 23:15	bgm	P6K0245
Cobalt	BRL	mg/L	0.025	0.00055	1	6010D	11/10/16 23:15	bgm	P6K0245
Copper	BRL	mg/L	0.050	0.0080	1	6010D	11/10/16 23:15	bgm	P6K0245
Lead	BRL	mg/L	0.025	0.0080	1	6010D	11/10/16 23:15	bgm	P6K0245
Manganese	0.043 J	mg/L	0.050	0.0085	1	6010D	11/10/16 23:15	bgm	P6K0245
Nickel	BRL	mg/L	0.050	0.0050	1	6010D	11/10/16 23:15	bgm	P6K0245
Selenium	0.13	mg/L	0.10	0.022	1	6010D	11/11/16 23:40	bgm	P6K0245
Strontium	2.5	mg/L	0.050	0.0028	1	6010D	11/10/16 23:15	bgm	P6K0245
Thallium	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:15	bgm	P6K0245
Zinc	0.31	mg/L	0.15	0.056	1	6010D	11/10/16 23:15	bgm	P6K0245
Vanadium	BRL	mg/L	0.025	0.00075	1	6010D	11/10/16 23:15	bgm	P6K0245

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-2 (2-3)
 Prism Sample ID: 6110120-13
 Prism Work Order: 6110120
 Time Collected: 11/03/16 11:45
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	72.8	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
SPLP Extraction by EPA 1312									
SPLP Extraction	Complete	N/A			1	*1312	11/10/16 7:30	JAB	P6K0226
SPLP Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/17/16 14:22	JAB	P6K0397
Antimony	0.0039 J	mg/L	0.025	0.0025	1	6010D	11/10/16 23:23	bgm	P6K0245
Arsenic	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:23	bgm	P6K0245
Barium	0.83	mg/L	0.050	0.0065	1	6010D	11/10/16 23:23	bgm	P6K0245
Beryllium	BRL	mg/L	0.050	0.00050	1	6010D	11/10/16 23:23	bgm	P6K0245
Cadmium	BRL	mg/L	0.0050	0.00065	1	6010D	11/10/16 23:23	bgm	P6K0245
Chromium	BRL	mg/L	0.025	0.0038	1	6010D	11/10/16 23:23	bgm	P6K0245
Cobalt	BRL	mg/L	0.025	0.00055	1	6010D	11/10/16 23:23	bgm	P6K0245
Copper	BRL	mg/L	0.050	0.0080	1	6010D	11/10/16 23:23	bgm	P6K0245
Lead	BRL	mg/L	0.025	0.0080	1	6010D	11/10/16 23:23	bgm	P6K0245
Manganese	0.014 J	mg/L	0.050	0.0085	1	6010D	11/10/16 23:23	bgm	P6K0245
Nickel	BRL	mg/L	0.050	0.0050	1	6010D	11/10/16 23:23	bgm	P6K0245
Selenium	0.035 J	mg/L	0.10	0.022	1	6010D	11/10/16 23:23	bgm	P6K0245
Strontium	0.23	mg/L	0.050	0.0028	1	6010D	11/10/16 23:23	bgm	P6K0245
Thallium	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:23	bgm	P6K0245
Zinc	0.40	mg/L	0.15	0.056	1	6010D	11/10/16 23:23	bgm	P6K0245
Vanadium	0.016 J	mg/L	0.025	0.00075	1	6010D	11/10/16 23:23	bgm	P6K0245

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: HH-2 (0-1)
 Prism Sample ID: 6110120-14
 Prism Work Order: 6110120
 Time Collected: 11/03/16 11:15
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	87.0	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.085	mg/kg dry	0.023	0.0013	1	*7471B	11/18/16 8:57	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.29	0.029	1	*6010D	11/11/16 2:41	bgm	P6K0165
Arsenic	4.9	mg/kg dry	0.29	0.035	1	*6010D	11/11/16 2:41	bgm	P6K0165
Barium	140	mg/kg dry	0.58	0.085	1	*6010D	11/11/16 2:41	bgm	P6K0165
Beryllium	0.93	mg/kg dry	0.29	0.0064	1	*6010D	11/11/16 2:41	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.29	0.0078	1	*6010D	11/11/16 2:41	bgm	P6K0165
Chromium	14	mg/kg dry	0.29	0.049	1	*6010D	11/11/16 2:41	bgm	P6K0165
Cobalt	12	mg/kg dry	0.29	0.0057	1	*6010D	11/11/16 2:41	bgm	P6K0165
Copper	21	mg/kg dry	0.58	0.052	1	*6010D	11/11/16 2:41	bgm	P6K0165
Lead	30	mg/kg dry	0.29	0.054	1	*6010D	11/11/16 2:41	bgm	P6K0165
Manganese	260	mg/kg dry	7.3	1.5	25	*6010D	11/11/16 22:35	bgm	P6K0165
Nickel	5.9	mg/kg dry	0.58	0.021	1	*6010D	11/11/16 2:41	bgm	P6K0165
Selenium	1.0	mg/kg dry	0.58	0.14	1	*6010D	11/11/16 2:41	bgm	P6K0165
Strontium	25	mg/kg dry	0.29	0.0062	1	*6010D	11/11/16 2:41	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.58	0.076	1	*6010D	11/11/16 2:41	bgm	P6K0165
Vanadium	48	mg/kg dry	0.29	0.0068	1	*6010D	11/11/16 2:41	bgm	P6K0165
Zinc	43	mg/kg dry	2.9	0.10	1	*6010D	11/11/16 2:41	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-1 (0-1)
 Prism Sample ID: 6110120-15
 Prism Work Order: 6110120
 Time Collected: 11/03/16 13:55
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	88.0	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.033	mg/kg dry	0.021	0.0012	1	*7471B	11/18/16 9:02	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.28	0.029	1	*6010D	11/11/16 2:51	bgm	P6K0165
Arsenic	1.9	mg/kg dry	0.28	0.035	1	*6010D	11/11/16 2:51	bgm	P6K0165
Barium	36	mg/kg dry	0.57	0.083	1	*6010D	11/11/16 2:51	bgm	P6K0165
Beryllium	0.39	mg/kg dry	0.28	0.0062	1	*6010D	11/11/16 2:51	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.28	0.0076	1	*6010D	11/11/16 2:51	bgm	P6K0165
Chromium	18	mg/kg dry	0.28	0.047	1	*6010D	11/11/16 2:51	bgm	P6K0165
Cobalt	6.3	mg/kg dry	0.28	0.0056	1	*6010D	11/11/16 2:51	bgm	P6K0165
Copper	16	mg/kg dry	0.57	0.051	1	*6010D	11/11/16 2:51	bgm	P6K0165
Lead	25	mg/kg dry	0.28	0.053	1	*6010D	11/11/16 2:51	bgm	P6K0165
Manganese	310	mg/kg dry	7.1	1.4	25	*6010D	11/11/16 22:43	bgm	P6K0165
Nickel	5.4	mg/kg dry	0.57	0.020	1	*6010D	11/11/16 2:51	bgm	P6K0165
Selenium	1.6	mg/kg dry	0.57	0.13	1	*6010D	11/11/16 2:51	bgm	P6K0165
Strontium	15	mg/kg dry	0.28	0.0060	1	*6010D	11/11/16 2:51	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.57	0.074	1	*6010D	11/11/16 2:51	bgm	P6K0165
Vanadium	34	mg/kg dry	0.28	0.0067	1	*6010D	11/11/16 2:51	bgm	P6K0165
Zinc	43	mg/kg dry	2.8	0.10	1	*6010D	11/11/16 2:51	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-1 (2-3)
 Prism Sample ID: 6110120-16
 Prism Work Order: 6110120
 Time Collected: 11/03/16 14:10
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	86.6	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.28	mg/kg dry	0.022	0.0012	1	*7471B	11/18/16 9:16	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.29	0.029	1	*6010D	11/11/16 3:00	bgm	P6K0165
Arsenic	2.3	mg/kg dry	0.29	0.035	1	*6010D	11/11/16 3:00	bgm	P6K0165
Barium	45	mg/kg dry	0.57	0.083	1	*6010D	11/11/16 3:00	bgm	P6K0165
Beryllium	0.48	mg/kg dry	0.29	0.0063	1	*6010D	11/11/16 3:00	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.29	0.0077	1	*6010D	11/11/16 3:00	bgm	P6K0165
Chromium	19	mg/kg dry	0.29	0.048	1	*6010D	11/11/16 3:00	bgm	P6K0165
Cobalt	7.3	mg/kg dry	0.29	0.0056	1	*6010D	11/11/16 3:00	bgm	P6K0165
Copper	18	mg/kg dry	0.57	0.052	1	*6010D	11/11/16 3:00	bgm	P6K0165
Lead	43	mg/kg dry	0.29	0.053	1	*6010D	11/11/16 3:00	bgm	P6K0165
Manganese	440	mg/kg dry	7.1	1.4	25	*6010D	11/11/16 22:51	bgm	P6K0165
Nickel	6.2	mg/kg dry	0.57	0.021	1	*6010D	11/11/16 3:00	bgm	P6K0165
Selenium	1.6	mg/kg dry	0.57	0.14	1	*6010D	11/11/16 3:00	bgm	P6K0165
Strontium	15	mg/kg dry	0.29	0.0061	1	*6010D	11/11/16 3:00	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.57	0.075	1	*6010D	11/11/16 3:00	bgm	P6K0165
Vanadium	35	mg/kg dry	0.29	0.0067	1	*6010D	11/11/16 3:00	bgm	P6K0165
Zinc	49	mg/kg dry	2.9	0.10	1	*6010D	11/11/16 3:00	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-2 (0-1)
 Prism Sample ID: 6110120-17
 Prism Work Order: 6110120
 Time Collected: 11/03/16 14:15
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	89.0	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.045	mg/kg dry	0.022	0.0012	1	*7471B	11/18/16 9:20	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.28	0.028	1	*6010D	11/11/16 3:10	bgm	P6K0165
Arsenic	1.9	mg/kg dry	0.28	0.034	1	*6010D	11/11/16 3:10	bgm	P6K0165
Barium	45	mg/kg dry	0.56	0.082	1	*6010D	11/11/16 3:10	bgm	P6K0165
Beryllium	0.50	mg/kg dry	0.28	0.0062	1	*6010D	11/11/16 3:10	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.28	0.0075	1	*6010D	11/11/16 3:10	bgm	P6K0165
Chromium	17	mg/kg dry	0.28	0.047	1	*6010D	11/11/16 3:10	bgm	P6K0165
Cobalt	7.4	mg/kg dry	0.28	0.0055	1	*6010D	11/11/16 3:10	bgm	P6K0165
Copper	18	mg/kg dry	0.56	0.051	1	*6010D	11/11/16 3:10	bgm	P6K0165
Lead	32	mg/kg dry	0.28	0.052	1	*6010D	11/11/16 3:10	bgm	P6K0165
Manganese	410	mg/kg dry	7.0	1.4	25	*6010D	11/11/16 22:58	bgm	P6K0165
Nickel	4.9	mg/kg dry	0.56	0.020	1	*6010D	11/11/16 3:10	bgm	P6K0165
Selenium	1.1	mg/kg dry	0.56	0.13	1	*6010D	11/11/16 3:10	bgm	P6K0165
Strontium	14	mg/kg dry	0.28	0.0059	1	*6010D	11/11/16 3:10	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.56	0.073	1	*6010D	11/11/16 3:10	bgm	P6K0165
Vanadium	35	mg/kg dry	0.28	0.0066	1	*6010D	11/11/16 3:10	bgm	P6K0165
Zinc	44	mg/kg dry	2.8	0.10	1	*6010D	11/11/16 3:10	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-2 (2-3)
 Prism Sample ID: 6110120-18
 Prism Work Order: 6110120
 Time Collected: 11/03/16 14:40
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	90.2	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.038	mg/kg dry	0.023	0.0013	1	*7471B	11/18/16 9:25	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.27	0.028	1	*6010D	11/11/16 3:19	bgm	P6K0165
Arsenic	1.9	mg/kg dry	0.27	0.033	1	*6010D	11/11/16 3:19	bgm	P6K0165
Barium	52	mg/kg dry	0.55	0.080	1	*6010D	11/11/16 3:19	bgm	P6K0165
Beryllium	0.53	mg/kg dry	0.27	0.0060	1	*6010D	11/11/16 3:19	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.27	0.0074	1	*6010D	11/11/16 3:19	bgm	P6K0165
Chromium	24	mg/kg dry	0.27	0.046	1	*6010D	11/11/16 3:19	bgm	P6K0165
Cobalt	7.5	mg/kg dry	0.27	0.0054	1	*6010D	11/11/16 3:19	bgm	P6K0165
Copper	20	mg/kg dry	0.55	0.050	1	*6010D	11/11/16 3:19	bgm	P6K0165
Lead	26	mg/kg dry	0.27	0.051	1	*6010D	11/11/16 3:19	bgm	P6K0165
Manganese	450	mg/kg dry	6.9	1.4	25	*6010D	11/11/16 23:06	bgm	P6K0165
Nickel	7.9	mg/kg dry	0.55	0.020	1	*6010D	11/11/16 3:19	bgm	P6K0165
Selenium	1.7	mg/kg dry	0.55	0.13	1	*6010D	11/11/16 3:19	bgm	P6K0165
Strontium	19	mg/kg dry	0.27	0.0058	1	*6010D	11/11/16 3:19	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.55	0.072	1	*6010D	11/11/16 3:19	bgm	P6K0165
Vanadium	37	mg/kg dry	0.27	0.0065	1	*6010D	11/11/16 3:19	bgm	P6K0165
Zinc	45	mg/kg dry	2.7	0.098	1	*6010D	11/11/16 3:19	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-3 (0-1)
 Prism Sample ID: 6110120-19
 Prism Work Order: 6110120
 Time Collected: 11/03/16 14:50
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	83.0	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.024	mg/kg dry	0.022	0.0012	1	*7471B	11/18/16 9:29	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.30	0.030	1	*6010D	11/11/16 3:29	bgm	P6K0165
Arsenic	1.7	mg/kg dry	0.30	0.037	1	*6010D	11/11/16 3:29	bgm	P6K0165
Barium	44	mg/kg dry	0.60	0.087	1	*6010D	11/11/16 3:29	bgm	P6K0165
Beryllium	0.43	mg/kg dry	0.30	0.0066	1	*6010D	11/11/16 3:29	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.30	0.0080	1	*6010D	11/11/16 3:29	bgm	P6K0165
Chromium	16	mg/kg dry	0.30	0.050	1	*6010D	11/11/16 3:29	bgm	P6K0165
Cobalt	7.5	mg/kg dry	0.30	0.0059	1	*6010D	11/11/16 3:29	bgm	P6K0165
Copper	15	mg/kg dry	0.60	0.054	1	*6010D	11/11/16 3:29	bgm	P6K0165
Lead	25	mg/kg dry	0.30	0.056	1	*6010D	11/11/16 3:29	bgm	P6K0165
Manganese	410	mg/kg dry	7.5	1.5	25	*6010D	11/11/16 23:14	bgm	P6K0165
Nickel	5.1	mg/kg dry	0.60	0.022	1	*6010D	11/11/16 3:29	bgm	P6K0165
Selenium	1.4	mg/kg dry	0.60	0.14	1	*6010D	11/11/16 3:29	bgm	P6K0165
Strontium	46	mg/kg dry	0.30	0.0064	1	*6010D	11/11/16 3:29	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.60	0.079	1	*6010D	11/11/16 3:29	bgm	P6K0165
Vanadium	37	mg/kg dry	0.30	0.0071	1	*6010D	11/11/16 3:29	bgm	P6K0165
Zinc	40	mg/kg dry	3.0	0.11	1	*6010D	11/11/16 3:29	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-3 (2-3)
 Prism Sample ID: 6110120-20
 Prism Work Order: 6110120
 Time Collected: 11/03/16 15:00
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	93.3	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.040	mg/kg dry	0.022	0.0012	1	*7471B	11/18/16 9:34	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.27	0.027	1	*6010D	11/11/16 3:38	bgm	P6K0165
Arsenic	2.2	mg/kg dry	0.27	0.033	1	*6010D	11/11/16 3:38	bgm	P6K0165
Barium	56	mg/kg dry	0.53	0.078	1	*6010D	11/11/16 3:38	bgm	P6K0165
Beryllium	0.54	mg/kg dry	0.27	0.0059	1	*6010D	11/11/16 3:38	bgm	P6K0165
Cadmium	BRL	mg/kg dry	0.27	0.0071	1	*6010D	11/11/16 3:38	bgm	P6K0165
Chromium	22	mg/kg dry	0.27	0.045	1	*6010D	11/11/16 3:38	bgm	P6K0165
Cobalt	7.5	mg/kg dry	0.27	0.0052	1	*6010D	11/11/16 3:38	bgm	P6K0165
Copper	18	mg/kg dry	0.53	0.048	1	*6010D	11/11/16 3:38	bgm	P6K0165
Lead	29	mg/kg dry	0.27	0.050	1	*6010D	11/11/16 3:38	bgm	P6K0165
Manganese	410	mg/kg dry	6.7	1.3	25	*6010D	11/11/16 23:21	bgm	P6K0165
Nickel	5.2	mg/kg dry	0.53	0.019	1	*6010D	11/11/16 3:38	bgm	P6K0165
Selenium	1.2	mg/kg dry	0.53	0.13	1	*6010D	11/11/16 3:38	bgm	P6K0165
Strontium	19	mg/kg dry	0.27	0.0057	1	*6010D	11/11/16 3:38	bgm	P6K0165
Thallium	BRL	mg/kg dry	0.53	0.070	1	*6010D	11/11/16 3:38	bgm	P6K0165
Vanadium	40	mg/kg dry	0.27	0.0063	1	*6010D	11/11/16 3:38	bgm	P6K0165
Zinc	46	mg/kg dry	2.7	0.095	1	*6010D	11/11/16 3:38	bgm	P6K0165

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-4 (0-1)
 Prism Sample ID: 6110120-21
 Prism Work Order: 6110120
 Time Collected: 11/03/16 15:10
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	85.6	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.026	mg/kg dry	0.025	0.0014	1	*7471B	11/18/16 9:38	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.29	0.029	1	*6010D	11/12/16 1:25	bgm	P6K0167
Arsenic	1.7	mg/kg dry	0.29	0.036	1	*6010D	11/12/16 1:25	bgm	P6K0167
Barium	50	mg/kg dry	0.59	0.086	1	*6010D	11/12/16 1:25	bgm	P6K0167
Beryllium	0.50	mg/kg dry	0.29	0.0065	1	*6010D	11/12/16 1:25	bgm	P6K0167
Cadmium	BRL	mg/kg dry	0.29	0.0079	1	*6010D	11/12/16 1:25	bgm	P6K0167
Chromium	19	mg/kg dry	0.29	0.049	1	*6010D	11/12/16 1:25	bgm	P6K0167
Cobalt	9.5	mg/kg dry	0.29	0.0058	1	*6010D	11/12/16 1:25	bgm	P6K0167
Copper	16	mg/kg dry	0.59	0.053	1	*6010D	11/12/16 1:25	bgm	P6K0167
Lead	22	mg/kg dry	0.29	0.055	1	*6010D	11/12/16 1:25	bgm	P6K0167
Manganese	450 BH	mg/kg dry	5.9	1.2	20	*6010D	11/14/16 21:37	bgm	P6K0167
Nickel	6.0	mg/kg dry	0.59	0.021	1	*6010D	11/12/16 1:25	bgm	P6K0167
Selenium	BRL	mg/kg dry	0.59	0.14	1	*6010D	11/12/16 1:25	bgm	P6K0167
Strontium	16 A	mg/kg dry	0.29	0.0062	1	*6010D	11/12/16 1:54	bgm	P6K0167
Thallium	BRL	mg/kg dry	0.59	0.077	1	*6010D	11/12/16 1:25	bgm	P6K0167
Vanadium	53	mg/kg dry	0.29	0.0069	1	*6010D	11/12/16 1:25	bgm	P6K0167
Zinc	50	mg/kg dry	2.9	0.11	1	*6010D	11/12/16 1:25	bgm	P6K0167

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

 Sample Matrix: Solid

Client Sample ID: BG-4 (2-3)
 Prism Sample ID: 6110120-22
 Prism Work Order: 6110120
 Time Collected: 11/03/16 15:20
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	74.9	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
Total Metals									
Mercury	0.054	mg/kg dry	0.026	0.0014	1	*7471B	11/18/16 9:43	JAB	P6K0421
Antimony	BRL	mg/kg dry	0.33	0.033	1	*6010D	11/12/16 1:55	bgm	P6K0167
Arsenic	2.0	mg/kg dry	0.33	0.040	1	*6010D	11/12/16 1:55	bgm	P6K0167
Barium	53	mg/kg dry	0.65	0.095	1	*6010D	11/12/16 1:55	bgm	P6K0167
Beryllium	0.52	mg/kg dry	0.33	0.0072	1	*6010D	11/12/16 1:55	bgm	P6K0167
Cadmium	0.38	mg/kg dry	0.33	0.0087	1	*6010D	11/12/16 1:55	bgm	P6K0167
Chromium	23	mg/kg dry	0.33	0.054	1	*6010D	11/12/16 1:55	bgm	P6K0167
Cobalt	11	mg/kg dry	0.33	0.0064	1	*6010D	11/12/16 1:55	bgm	P6K0167
Copper	23	mg/kg dry	0.65	0.059	1	*6010D	11/12/16 1:55	bgm	P6K0167
Lead	21	mg/kg dry	0.33	0.061	1	*6010D	11/12/16 1:55	bgm	P6K0167
Manganese	460 BH	mg/kg dry	6.5	1.3	20	*6010D	11/14/16 22:04	bgm	P6K0167
Nickel	8.5	mg/kg dry	0.65	0.023	1	*6010D	11/12/16 1:55	bgm	P6K0167
Selenium	BRL	mg/kg dry	0.65	0.15	1	*6010D	11/12/16 1:55	bgm	P6K0167
Strontium	19	mg/kg dry	0.33	0.0069	1	*6010D	11/21/16 18:34	bgm	P6K0167
Thallium	BRL	mg/kg dry	0.65	0.085	1	*6010D	11/12/16 1:55	bgm	P6K0167
Vanadium	51	mg/kg dry	0.33	0.0077	1	*6010D	11/12/16 1:55	bgm	P6K0167
Zinc	230	mg/kg dry	65	2.3	20	*6010D	11/14/16 22:04	bgm	P6K0167

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Sample Matrix: Solid

Client Sample ID: Dup
 Prism Sample ID: 6110120-23
 Prism Work Order: 6110120
 Time Collected: 11/03/16 00:00
 Time Submitted: 11/07/16 08:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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General Chemistry Parameters

% Solids	70.9	% by Weight	0.100	0.100	1	*SM2540 G	11/10/16 15:09	JLB	P6K0270
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SPLP Extraction by EPA 1312

SPLP Extraction	Complete	N/A			1	*1312	11/10/16 7:30	JAB	P6K0226
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SPLP Metals

Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/17/16 14:26	JAB	P6K0397
Antimony	BRL	mg/L	0.025	0.0025	1	6010D	11/10/16 23:28	bgm	P6K0245
Arsenic	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:28	bgm	P6K0245
Barium	1.3	mg/L	0.050	0.0065	1	6010D	11/10/16 23:28	bgm	P6K0245
Beryllium	BRL	mg/L	0.050	0.00050	1	6010D	11/10/16 23:28	bgm	P6K0245
Cadmium	BRL	mg/L	0.0050	0.00065	1	6010D	11/10/16 23:28	bgm	P6K0245
Chromium	BRL	mg/L	0.025	0.0038	1	6010D	11/10/16 23:28	bgm	P6K0245
Cobalt	BRL	mg/L	0.025	0.00055	1	6010D	11/10/16 23:28	bgm	P6K0245
Copper	BRL	mg/L	0.050	0.0080	1	6010D	11/10/16 23:28	bgm	P6K0245
Lead	BRL	mg/L	0.025	0.0080	1	6010D	11/10/16 23:28	bgm	P6K0245
Manganese	0.069	mg/L	0.050	0.0085	1	6010D	11/10/16 23:28	bgm	P6K0245
Nickel	BRL	mg/L	0.050	0.0050	1	6010D	11/10/16 23:28	bgm	P6K0245
Selenium	0.035 J	mg/L	0.10	0.022	1	6010D	11/10/16 23:28	bgm	P6K0245
Strontium	0.17	mg/L	0.050	0.0028	1	6010D	11/10/16 23:28	bgm	P6K0245
Thallium	BRL	mg/L	0.050	0.012	1	6010D	11/10/16 23:28	bgm	P6K0245
Zinc	0.37	mg/L	0.15	0.056	1	6010D	11/10/16 23:28	bgm	P6K0245
Vanadium	0.0026 J	mg/L	0.025	0.00075	1	6010D	11/10/16 23:28	bgm	P6K0245

Total Metals

Mercury	0.067	mg/kg dry	0.028	0.0015	1	*7471B	11/18/16 10:28	JAB	P6K0422
Antimony	BRL	mg/kg dry	0.35	0.035	1	*6010D	11/12/16 2:05	bgm	P6K0167
Arsenic	3.4	mg/kg dry	0.35	0.043	1	*6010D	11/12/16 2:05	bgm	P6K0167
Barium	110	mg/kg dry	0.71	0.10	1	*6010D	11/12/16 2:05	bgm	P6K0167
Beryllium	0.79	mg/kg dry	0.35	0.0078	1	*6010D	11/12/16 2:05	bgm	P6K0167
Cadmium	BRL	mg/kg dry	0.35	0.0095	1	*6010D	11/12/16 2:05	bgm	P6K0167
Chromium	20	mg/kg dry	0.35	0.059	1	*6010D	11/12/16 2:05	bgm	P6K0167
Cobalt	8.4	mg/kg dry	0.35	0.0069	1	*6010D	11/12/16 2:05	bgm	P6K0167
Copper	17	mg/kg dry	0.71	0.064	1	*6010D	11/12/16 2:05	bgm	P6K0167
Lead	18	mg/kg dry	0.35	0.066	1	*6010D	11/12/16 2:05	bgm	P6K0167
Manganese	360 BH	mg/kg dry	7.1	1.4	20	*6010D	11/14/16 22:12	bgm	P6K0167
Nickel	12	mg/kg dry	0.71	0.025	1	*6010D	11/12/16 2:05	bgm	P6K0167
Selenium	BRL	mg/kg dry	0.71	0.17	1	*6010D	11/12/16 2:05	bgm	P6K0167
Strontium	30	mg/kg dry	0.35	0.0075	1	*6010D	11/21/16 18:44	bgm	P6K0167
Thallium	BRL	mg/kg dry	0.71	0.092	1	*6010D	11/12/16 2:05	bgm	P6K0167
Vanadium	41	mg/kg dry	0.35	0.0083	1	*6010D	11/12/16 2:05	bgm	P6K0167
Zinc	35	mg/kg dry	3.5	0.13	1	*6010D	11/12/16 2:05	bgm	P6K0167

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Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6110120
Time Submitted: 11/7/2016 8:00:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0165 - 3050B

Blank (P6K0165-BLK1)

Prepared: 11/08/16 Analyzed: 11/10/16

Antimony	BRL	0.25	mg/kg wet							
Arsenic	BRL	0.25	mg/kg wet							
Barium	BRL	0.50	mg/kg wet							
Beryllium	BRL	0.25	mg/kg wet							
Cadmium	BRL	0.25	mg/kg wet							
Chromium	BRL	0.25	mg/kg wet							
Cobalt	BRL	0.25	mg/kg wet							
Copper	BRL	0.50	mg/kg wet							
Lead	BRL	0.25	mg/kg wet							
Manganese	BRL	0.25	mg/kg wet							
Nickel	BRL	0.50	mg/kg wet							
Selenium	BRL	0.50	mg/kg wet							
Strontium	BRL	0.25	mg/kg wet							
Thallium	BRL	0.50	mg/kg wet							
Vanadium	BRL	0.25	mg/kg wet							
Zinc	BRL	2.5	mg/kg wet							

LCS (P6K0165-BS1)

Prepared: 11/08/16 Analyzed: 11/10/16

Antimony	23.4	0.25	mg/kg wet	25.00		94	80-120			
Arsenic	23.3	0.25	mg/kg wet	25.00		93	80-120			
Barium	24.4	0.50	mg/kg wet	25.00		98	80-120			
Beryllium	25.1	0.25	mg/kg wet	25.00		100	80-120			
Cadmium	23.4	0.25	mg/kg wet	25.00		94	80-120			
Chromium	24.2	0.25	mg/kg wet	25.00		97	80-120			
Cobalt	23.9	0.25	mg/kg wet	25.00		96	80-120			
Copper	25.6	0.50	mg/kg wet	25.00		103	80-120			
Lead	23.3	0.25	mg/kg wet	25.00		93	80-120			
Manganese	24.4	0.25	mg/kg wet	25.00		97	80-120			
Nickel	23.3	0.50	mg/kg wet	25.00		93	80-120			
Selenium	22.3	0.50	mg/kg wet	25.00		89	80-120			
Strontium	24.0	0.25	mg/kg wet	25.00		96	80-120			
Thallium	23.8	0.50	mg/kg wet	25.00		95	80-120			
Vanadium	24.7	0.25	mg/kg wet	25.00		99	80-120			
Zinc	23.4	2.5	mg/kg wet	25.00		94	80-120			

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6110120
Time Submitted: 11/7/2016 8:00:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0165 - 3050B										
Matrix Spike (P6K0165-MS1)										
			Source: 6110120-01		Prepared: 11/08/16		Analyzed: 11/11/16			
Antimony	5.50	0.30	mg/kg dry	30.12	BRL	18	75-125			MI
Arsenic	24.5	0.30	mg/kg dry	30.12	2.58	73	75-125			MI
Barium	94.6	0.60	mg/kg dry	30.12	67.3	91	75-125			
Beryllium	28.7	0.30	mg/kg dry	30.12	0.865	92	75-125			
Cadmium	25.1	0.30	mg/kg dry	30.12	BRL	83	75-125			
Chromium	37.3	0.30	mg/kg dry	30.12	9.97	91	75-125			
Cobalt	29.0	0.30	mg/kg dry	30.12	3.87	83	75-125			
Copper	3.01E10	0.60	mg/kg dry	30.12	182	NR	75-125			MC
Lead	32.8	0.30	mg/kg dry	30.12	7.63	84	75-125			
Manganese	130	0.30	mg/kg dry	30.12	104	87	75-125			
Nickel	27.8	0.60	mg/kg dry	30.12	2.92	83	75-125			
Selenium	21.9	0.60	mg/kg dry	30.12	BRL	73	75-125			MI
Strontium	32.1	0.30	mg/kg dry	30.12	6.71	84	75-125			
Thallium	23.7	0.60	mg/kg dry	30.12	BRL	79	75-125			
Vanadium	87.1	0.30	mg/kg dry	30.12	60.5	88	75-125			
Zinc	79.1	3.0	mg/kg dry	30.12	46.4	109	75-125			
Matrix Spike Dup (P6K0165-MSD1)										
			Source: 6110120-01		Prepared: 11/08/16		Analyzed: 11/11/16			
Antimony	3.29	0.30	mg/kg dry	29.96	BRL	11	75-125	50	20	MI
Arsenic	22.6	0.30	mg/kg dry	29.96	2.58	67	75-125	8	20	MI
Barium	94.4	0.60	mg/kg dry	29.96	67.3	90	75-125	0.2	20	
Beryllium	28.6	0.30	mg/kg dry	29.96	0.865	93	75-125	0.05	20	
Cadmium	24.7	0.30	mg/kg dry	29.96	BRL	83	75-125	1	20	
Chromium	36.1	0.30	mg/kg dry	29.96	9.97	87	75-125	3	20	
Cobalt	28.5	0.30	mg/kg dry	29.96	3.87	82	75-125	2	20	
Copper	3.00E10	0.60	mg/kg dry	29.96	182	NR	75-125	0.5	20	MC
Lead	31.9	0.30	mg/kg dry	29.96	7.63	81	75-125	3	20	
Manganese	130	0.30	mg/kg dry	29.96	104	89	75-125	0.3	20	
Nickel	27.2	0.60	mg/kg dry	29.96	2.92	81	75-125	2	20	
Selenium	21.1	0.60	mg/kg dry	29.96	BRL	70	75-125	4	20	MI
Strontium	31.7	0.30	mg/kg dry	29.96	6.71	83	75-125	1	20	
Thallium	23.1	0.60	mg/kg dry	29.96	BRL	77	75-125	2	20	
Vanadium	85.5	0.30	mg/kg dry	29.96	60.5	83	75-125	2	20	
Zinc	77.7	3.0	mg/kg dry	29.96	46.4	104	75-125	2	20	

Hart & Hickman (Raleigh)
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Project: TCH-002

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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0167 - 3050B

Blank (P6K0167-BLK1)

Prepared: 11/08/16 Analyzed: 11/12/16

Antimony	BRL	0.25	mg/kg wet							
Arsenic	BRL	0.25	mg/kg wet							
Barium	BRL	0.50	mg/kg wet							
Beryllium	BRL	0.25	mg/kg wet							
Cadmium	BRL	0.25	mg/kg wet							
Chromium	BRL	0.25	mg/kg wet							
Cobalt	BRL	0.25	mg/kg wet							
Copper	BRL	0.50	mg/kg wet							
Lead	BRL	0.25	mg/kg wet							
Manganese	BRL	0.25	mg/kg wet							BH
Nickel	BRL	0.50	mg/kg wet							
Selenium	BRL	0.50	mg/kg wet							
Strontium	BRL	0.25	mg/kg wet							A
Thallium	BRL	0.50	mg/kg wet							
Vanadium	BRL	0.25	mg/kg wet							
Zinc	BRL	2.5	mg/kg wet							

LCS (P6K0167-BS1)

Prepared: 11/08/16 Analyzed: 11/12/16

Antimony	24.2	0.25	mg/kg wet	25.00		97	80-120			
Arsenic	24.1	0.25	mg/kg wet	25.00		96	80-120			
Barium	24.9	0.50	mg/kg wet	25.00		100	80-120			
Beryllium	24.9	0.25	mg/kg wet	25.00		100	80-120			
Cadmium	23.5	0.25	mg/kg wet	25.00		94	80-120			
Chromium	24.9	0.25	mg/kg wet	25.00		100	80-120			
Cobalt	24.5	0.25	mg/kg wet	25.00		98	80-120			
Copper	25.1	0.50	mg/kg wet	25.00		100	80-120			
Lead	23.4	0.25	mg/kg wet	25.00		94	80-120			
Manganese	24.3	0.25	mg/kg wet	25.00		97	80-120			
Nickel	24.2	0.50	mg/kg wet	25.00		97	80-120			
Selenium	23.8	0.50	mg/kg wet	25.00		95	80-120			
Strontium	20.9	0.25	mg/kg wet	25.00		84	80-120			A
Thallium	24.4	0.50	mg/kg wet	25.00		97	80-120			
Vanadium	25.6	0.25	mg/kg wet	25.00		102	80-120			
Zinc	24.1	2.5	mg/kg wet	25.00		96	80-120			

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Project: TCH-002

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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0167 - 3050B										
Matrix Spike (P6K0167-MS1)										
			Source: 6110120-21		Prepared: 11/08/16		Analyzed: 11/12/16			
Antimony	5.28	0.29	mg/kg dry	29.06	0.0314	18	75-125			MI
Arsenic	23.5	0.29	mg/kg dry	29.06	1.72	75	75-125			
Barium	80.2	0.58	mg/kg dry	29.06	50.2	103	75-125			
Beryllium	25.4	0.29	mg/kg dry	29.06	0.500	86	75-125			
Cadmium	22.3	0.29	mg/kg dry	29.06	0.0938	76	75-125			
Chromium	47.2	0.29	mg/kg dry	29.06	19.4	96	75-125			
Cobalt	32.6	0.29	mg/kg dry	29.06	9.54	79	75-125			
Copper	45.8	0.58	mg/kg dry	29.06	16.3	102	75-125			
Lead	43.8	0.29	mg/kg dry	29.06	21.9	75	75-125			
Manganese	2.91E10	0.29	mg/kg dry	29.06	452	NR	75-125			MI
Nickel	30.0	0.58	mg/kg dry	29.06	6.01	82	75-125			
Selenium	22.8	0.58	mg/kg dry	29.06	BRL	79	75-125			
Strontium	47.9	0.29	mg/kg dry	29.06	15.9	110	75-125			A
Thallium	23.1	0.58	mg/kg dry	29.06	BRL	79	75-125			
Vanadium	80.3	0.29	mg/kg dry	29.06	53.1	93	75-125			
Zinc	78.2	2.9	mg/kg dry	29.06	50.2	96	75-125			
Matrix Spike Dup (P6K0167-MSD1)										
			Source: 6110120-21		Prepared: 11/08/16		Analyzed: 11/12/16			
Antimony	6.70	0.29	mg/kg dry	29.35	0.0314	23	75-125	24	20	MI
Arsenic	24.8	0.29	mg/kg dry	29.35	1.72	79	75-125	5	20	
Barium	79.9	0.59	mg/kg dry	29.35	50.2	101	75-125	0.3	20	
Beryllium	26.7	0.29	mg/kg dry	29.35	0.500	89	75-125	5	20	
Cadmium	23.4	0.29	mg/kg dry	29.35	0.0938	79	75-125	5	20	
Chromium	46.5	0.29	mg/kg dry	29.35	19.4	92	75-125	2	20	
Cobalt	34.1	0.29	mg/kg dry	29.35	9.54	84	75-125	5	20	
Copper	47.2	0.59	mg/kg dry	29.35	16.3	105	75-125	3	20	
Lead	41.8	0.29	mg/kg dry	29.35	21.9	68	75-125	5	20	MI
Manganese	2.94E10	0.29	mg/kg dry	29.35	452	NR	75-125	1	20	MI
Nickel	30.3	0.59	mg/kg dry	29.35	6.01	83	75-125	1	20	
Selenium	23.6	0.59	mg/kg dry	29.35	BRL	80	75-125	3	20	
Strontium	47.8	0.29	mg/kg dry	29.35	15.9	108	75-125	0.2	20	A
Thallium	24.2	0.59	mg/kg dry	29.35	BRL	82	75-125	5	20	
Vanadium	81.3	0.29	mg/kg dry	29.35	53.1	96	75-125	1	20	
Zinc	80.8	2.9	mg/kg dry	29.35	50.2	104	75-125	3	20	

Hart & Hickman (Raleigh)
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Project: TCH-002

Prism Work Order: 6110120
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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0167 - 3050B										
Post Spike (P6K0167-PS1)										
			Source: 6110120-21		Prepared: 11/08/16		Analyzed: 11/12/16			
Antimony	0.830		mg/L	1.000	0.00108	83	80-120			
Arsenic	0.902		mg/L	1.000	0.0588	84	80-120			
Barium	2.49		mg/L	1.000	1.72	76	80-120			MI
Beryllium	0.855		mg/L	1.000	0.0171	84	80-120			
Cadmium	0.771		mg/L	1.000	0.00321	77	80-120			MI
Chromium	1.47		mg/L	1.000	0.664	80	80-120			
Cobalt	1.12		mg/L	1.000	0.327	80	80-120			
Copper	1.45		mg/L	1.000	0.557	90	80-120			
Lead	1.48		mg/L	1.000	0.749	74	80-120			MI
Manganese	1.00E9		mg/L	1.000	15.5	NR	80-120			MC
Nickel	0.992		mg/L	1.000	0.206	79	80-120			MI
Selenium	0.840		mg/L	1.000	-0.00217	84	80-120			
Strontium	1.22		mg/L	1.000	0.546	67	80-120			A, MI
Thallium	0.784		mg/L	1.000	0.000655	78	80-120			MI
Vanadium	2.62		mg/L	1.000	1.82	80	80-120			
Zinc	2.50		mg/L	1.000	1.72	78	80-120			MI

Batch P6K0421 - 7471B

Blank (P6K0421-BLK1)										
					Prepared: 11/17/16		Analyzed: 11/18/16			
Mercury	BRL	0.020	mg/kg wet							
LCS (P6K0421-BS1)										
					Prepared: 11/17/16		Analyzed: 11/18/16			
Mercury	0.426	0.020	mg/kg wet	0.4167		102	80-120			
Matrix Spike (P6K0421-MS1)										
			Source: 6110120-01		Prepared: 11/17/16		Analyzed: 11/18/16			
Mercury	0.488	0.023	mg/kg dry	0.4733	0.0296	97	80-120			

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

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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0421 - 7471B										
Matrix Spike Dup (P6K0421-MSD1)		Source: 6110120-01			Prepared: 11/17/16 Analyzed: 11/18/16					
Mercury	0.520	0.022	mg/kg dry	0.4659	0.0296	105	80-120	6	20	
Batch P6K0422 - 7471B										
Blank (P6K0422-BLK1)		Prepared: 11/17/16 Analyzed: 11/18/16								
Mercury	BRL	0.020	mg/kg wet							
LCS (P6K0422-BS1)		Prepared: 11/17/16 Analyzed: 11/18/16								
Mercury	0.485	0.020	mg/kg wet	0.4167		116	80-120			
Matrix Spike (P6K0422-MS1)		Source: 6110120-23			Prepared: 11/17/16 Analyzed: 11/18/16					
Mercury	0.722	0.029	mg/kg dry	0.5977	0.0667	110	80-120			
Matrix Spike Dup (P6K0422-MSD1)		Source: 6110120-23			Prepared: 11/17/16 Analyzed: 11/18/16					
Mercury	0.745	0.031	mg/kg dry	0.6412	0.0667	106	80-120	3	20	



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SPLP Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0245 - 3010A

Blank (P6K0245-BLK1)

Prepared & Analyzed: 11/10/16

Antimony	BRL	0.025	mg/L							
Arsenic	BRL	0.050	mg/L							
Barium	BRL	0.050	mg/L							
Beryllium	BRL	0.010	mg/L							
Cadmium	BRL	0.0050	mg/L							
Chromium	BRL	0.025	mg/L							
Cobalt	BRL	0.025	mg/L							
Copper	BRL	0.050	mg/L							
Lead	BRL	0.025	mg/L							
Manganese	BRL	0.050	mg/L							
Nickel	BRL	0.050	mg/L							
Selenium	BRL	0.10	mg/L							
Strontium	BRL	0.050	mg/L							
Thallium	BRL	0.050	mg/L							
Zinc	BRL	0.15	mg/L							
Vanadium	BRL	0.025	mg/L							

LCS (P6K0245-BS1)

Prepared & Analyzed: 11/10/16

Antimony	1.23	0.025	mg/L	1.250		98	80-120			
Arsenic	1.23	0.050	mg/L	1.250		99	80-120			
Barium	1.25	0.050	mg/L	1.250		100	80-120			
Beryllium	1.24	0.010	mg/L	1.250		99	80-120			
Cadmium	1.25	0.0050	mg/L	1.250		100	80-120			
Chromium	1.24	0.025	mg/L	1.250		99	80-120			
Cobalt	1.25	0.025	mg/L	1.250		100	80-120			
Copper	1.23	0.050	mg/L	1.250		98	80-120			
Lead	1.25	0.025	mg/L	1.250		100	80-120			
Manganese	1.25	0.050	mg/L	1.250		100	80-120			
Nickel	1.24	0.050	mg/L	1.250		99	80-120			
Selenium	1.20	0.10	mg/L	1.250		96	80-120			
Strontium	1.19	0.050	mg/L	1.250		95	80-120			
Thallium	1.28	0.050	mg/L	1.250		102	80-120			
Zinc	1.20	0.15	mg/L	1.250		96	85-115			
Vanadium	1.25	0.025	mg/L	1.250		100	80-120			

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SPLP Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0245 - 3010A

Matrix Spike (P6K0245-MS1)	Source: 6110120-06			Prepared & Analyzed: 11/10/16						
Antimony	1.23	0.025	mg/L	1.250	0.00513	98	75-125			
Arsenic	1.23	0.050	mg/L	1.250	BRL	99	75-125			
Barium	1.90	0.050	mg/L	1.250	0.637	101	75-125			
Beryllium	1.24	0.010	mg/L	1.250	BRL	99	75-125			
Cadmium	1.24	0.0050	mg/L	1.250	BRL	99	75-125			
Chromium	1.24	0.025	mg/L	1.250	BRL	99	75-125			
Cobalt	1.25	0.025	mg/L	1.250	BRL	100	75-125			
Copper	1.24	0.050	mg/L	1.250	BRL	99	75-125			
Lead	1.26	0.025	mg/L	1.250	0.0113	100	75-125			
Manganese	1.25	0.050	mg/L	1.250	0.0126	99	75-125			
Nickel	1.23	0.050	mg/L	1.250	BRL	99	75-125			
Selenium	1.24	0.10	mg/L	1.250	0.0306	97	75-125			
Strontium	1.64	0.050	mg/L	1.250	0.454	95	75-125			
Thallium	1.27	0.050	mg/L	1.250	BRL	101	75-125			
Zinc	1.29	0.15	mg/L	1.250	BRL	104	70-130			
Vanadium	1.24	0.025	mg/L	1.250	0.00511	99	75-125			

Matrix Spike Dup (P6K0245-MSD1)	Source: 6110120-06			Prepared & Analyzed: 11/10/16						
Antimony	1.24	0.025	mg/L	1.250	0.00513	99	75-125	0.9	20	
Arsenic	1.25	0.050	mg/L	1.250	BRL	100	75-125	2	20	
Barium	1.93	0.050	mg/L	1.250	0.637	104	75-125	2	20	
Beryllium	1.26	0.010	mg/L	1.250	BRL	101	75-125	2	20	
Cadmium	1.26	0.0050	mg/L	1.250	BRL	101	75-125	2	20	
Chromium	1.26	0.025	mg/L	1.250	BRL	101	75-125	2	20	
Cobalt	1.27	0.025	mg/L	1.250	BRL	102	75-125	2	20	
Copper	1.26	0.050	mg/L	1.250	BRL	101	75-125	2	20	
Lead	1.27	0.025	mg/L	1.250	0.0113	101	75-125	1	20	
Manganese	1.28	0.050	mg/L	1.250	0.0126	101	75-125	2	20	
Nickel	1.26	0.050	mg/L	1.250	BRL	101	75-125	2	20	
Selenium	1.25	0.10	mg/L	1.250	0.0306	98	75-125	0.5	20	
Strontium	1.65	0.050	mg/L	1.250	0.454	95	75-125	0.5	20	
Thallium	1.29	0.050	mg/L	1.250	BRL	103	75-125	2	20	
Zinc	1.30	0.15	mg/L	1.250	BRL	104	70-130	0.06	20	
Vanadium	1.27	0.025	mg/L	1.250	0.00511	101	75-125	2	20	



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SPLP Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0397 - 7470A										
Blank (P6K0397-BLK1)				Prepared & Analyzed: 11/17/16						
Mercury	BRL	0.00020	mg/L							
LCS (P6K0397-BS1)				Prepared & Analyzed: 11/17/16						
Mercury	0.00910	0.00020	mg/L	0.009375		97	80-120			
Matrix Spike (P6K0397-MS1)				Source: 6110120-06 Prepared & Analyzed: 11/17/16						
Mercury	0.00896	0.00020	mg/L	0.009375	BRL	96	80-120			
Matrix Spike Dup (P6K0397-MSD1)				Source: 6110120-06 Prepared & Analyzed: 11/17/16						
Mercury	0.00883	0.00020	mg/L	0.009375	BRL	94	80-120	1	20	

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Project: TCH-002

Prism Work Order: 6110120

Time Submitted: 11/7/2016 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 P6K0270 - Solids, Dry Weight										
Duplicate (P6K0270-DUP1)		Source: 6110120-02			Prepared & Analyzed: 11/10/16					
% Solids	97.2	0.100	% by Weight		97.3			0.05	20	

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6110120

Time Submitted: 11/7/2016 8:00:00AM

SPLP Extraction by EPA 1312 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0226 - 1312										
Blank (P6K0226-BLK1)										
Prepared: 11/09/16 Analyzed: 11/10/16										
SPLP Extraction	Complete		N/A							

Sample Extraction Data

Prep Method: Solids, Dry Weight

Lab Number	Batch	Initial	Final	Date/Time
6110120-01	P6K0270	30 g	30 g	11/10/16 15:09
6110120-02	P6K0270	30 g	30 g	11/10/16 15:09
6110120-03	P6K0270	30 g	30 g	11/10/16 15:09
6110120-04	P6K0270	30 g	30 g	11/10/16 15:09
6110120-05	P6K0270	30 g	30 g	11/10/16 15:09
6110120-06	P6K0270	30 g	30 g	11/10/16 15:09
6110120-07	P6K0270	30 g	30 g	11/10/16 15:09
6110120-08	P6K0270	30 g	30 g	11/10/16 15:09
6110120-09	P6K0270	30 g	30 g	11/10/16 15:09
6110120-10	P6K0270	30 g	30 g	11/10/16 15:09
6110120-11	P6K0270	30 g	30 g	11/10/16 15:09
6110120-12	P6K0270	30 g	30 g	11/10/16 15:09
6110120-13	P6K0270	30 g	30 g	11/10/16 15:09
6110120-14	P6K0270	30 g	30 g	11/10/16 15:09
6110120-15	P6K0270	30 g	30 g	11/10/16 15:09
6110120-16	P6K0270	30 g	30 g	11/10/16 15:09
6110120-17	P6K0270	30 g	30 g	11/10/16 15:09
6110120-18	P6K0270	30 g	30 g	11/10/16 15:09
6110120-19	P6K0270	30 g	30 g	11/10/16 15:09
6110120-20	P6K0270	30 g	30 g	11/10/16 15:09
6110120-21	P6K0270	30 g	30 g	11/10/16 15:09
6110120-22	P6K0270	30 g	30 g	11/10/16 15:09
6110120-23	P6K0270	30 g	30 g	11/10/16 15:09

Prep Method: 1312

Lab Number	Batch	Initial	Final	Date/Time
6110120-06	P6K0226	100 g	2000 mL	11/09/16 14:05
6110120-08	P6K0226	100 g	2000 mL	11/09/16 14:05
6110120-11	P6K0226	100 g	2000 mL	11/09/16 14:05
6110120-12	P6K0226	100 g	2000 mL	11/09/16 14:05
6110120-13	P6K0226	100 g	2000 mL	11/09/16 14:05
6110120-23	P6K0226	100 g	2000 mL	11/09/16 14:05

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6110120-06	P6K0245	10 mL	50 mL	11/10/16 13:30
6110120-08	P6K0245	10 mL	50 mL	11/10/16 13:30
6110120-11	P6K0245	10 mL	50 mL	11/10/16 13:30
6110120-12	P6K0245	10 mL	50 mL	11/10/16 13:30
6110120-12	P6K0245	10 mL	50 mL	11/10/16 13:30
6110120-13	P6K0245	10 mL	50 mL	11/10/16 13:30
6110120-23	P6K0245	10 mL	50 mL	11/10/16 13:30

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
6110120-06	P6K0397	20 mL	30 mL	11/17/16 8:50
6110120-08	P6K0397	20 mL	30 mL	11/17/16 8:50
6110120-11	P6K0397	20 mL	30 mL	11/17/16 8:50
6110120-12	P6K0397	20 mL	30 mL	11/17/16 8:50
6110120-13	P6K0397	20 mL	30 mL	11/17/16 8:50
6110120-23	P6K0397	20 mL	30 mL	11/17/16 8:50

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Sample Extraction Data

Prep Method: 3050B

Lab Number	Batch	Initial	Final	Date/Time
6110120-01	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-01	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-02	P6K0165	2 g	50 mL	11/08/16 8:30
6110120-02	P6K0165	2 g	50 mL	11/08/16 8:30
6110120-03	P6K0165	1.98 g	50 mL	11/08/16 8:30
6110120-03	P6K0165	1.98 g	50 mL	11/08/16 8:30
6110120-04	P6K0165	1.99 g	50 mL	11/08/16 8:30
6110120-04	P6K0165	1.99 g	50 mL	11/08/16 8:30
6110120-05	P6K0165	2.05 g	50 mL	11/08/16 8:30
6110120-05	P6K0165	2.05 g	50 mL	11/08/16 8:30
6110120-07	P6K0165	1.99 g	50 mL	11/08/16 8:30
6110120-07	P6K0165	1.99 g	50 mL	11/08/16 8:30
6110120-09	P6K0165	1.99 g	50 mL	11/08/16 8:30
6110120-09	P6K0165	1.99 g	50 mL	11/08/16 8:30
6110120-10	P6K0165	1.97 g	50 mL	11/08/16 8:30
6110120-10	P6K0165	1.97 g	50 mL	11/08/16 8:30
6110120-14	P6K0165	1.98 g	50 mL	11/08/16 8:30
6110120-14	P6K0165	1.98 g	50 mL	11/08/16 8:30
6110120-15	P6K0165	2 g	50 mL	11/08/16 8:30
6110120-15	P6K0165	2 g	50 mL	11/08/16 8:30
6110120-16	P6K0165	2.02 g	50 mL	11/08/16 8:30
6110120-16	P6K0165	2.02 g	50 mL	11/08/16 8:30
6110120-17	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-17	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-18	P6K0165	2.02 g	50 mL	11/08/16 8:30
6110120-18	P6K0165	2.02 g	50 mL	11/08/16 8:30
6110120-19	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-19	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-20	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-20	P6K0165	2.01 g	50 mL	11/08/16 8:30
6110120-21	P6K0167	1.99 g	50 mL	11/08/16 8:30
6110120-21	P6K0167	1.99 g	50 mL	11/08/16 8:30
6110120-21	P6K0167	1.99 g	50 mL	11/08/16 8:30
6110120-22	P6K0167	2.05 g	50 mL	11/08/16 8:30
6110120-22	P6K0167	2.05 g	50 mL	11/08/16 8:30
6110120-22	P6K0167	2.05 g	50 mL	11/08/16 8:30
6110120-23	P6K0167	2 g	50 mL	11/08/16 8:30
6110120-23	P6K0167	2 g	50 mL	11/08/16 8:30
6110120-23	P6K0167	2 g	50 mL	11/08/16 8:30

Prep Method: 7471B

Lab Number	Batch	Initial	Final	Date/Time
6110120-01	P6K0421	0.57 g	50 mL	11/17/16 13:50
6110120-02	P6K0421	0.59 g	50 mL	11/17/16 13:50
6110120-03	P6K0421	0.61 g	50 mL	11/17/16 13:50
6110120-04	P6K0421	0.65 g	50 mL	11/17/16 13:50
6110120-05	P6K0421	0.59 g	50 mL	11/17/16 13:50
6110120-07	P6K0421	0.58 g	50 mL	11/17/16 13:50
6110120-09	P6K0421	0.57 g	50 mL	11/17/16 13:50
6110120-10	P6K0421	0.6 g	50 mL	11/17/16 13:50
6110120-14	P6K0421	0.59 g	50 mL	11/17/16 13:50
6110120-15	P6K0421	0.64 g	50 mL	11/17/16 13:50
6110120-16	P6K0421	0.63 g	50 mL	11/17/16 13:50
6110120-17	P6K0421	0.6 g	50 mL	11/17/16 13:50
6110120-18	P6K0421	0.58 g	50 mL	11/17/16 13:50
6110120-19	P6K0421	0.65 g	50 mL	11/17/16 13:50

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Sample Extraction Data

Prep Method: 7471B

Lab Number	Batch	Initial	Final	Date/Time
6110120-20	P6K0421	0.58 g	50 mL	11/17/16 13:50
6110120-21	P6K0421	0.57 g	50 mL	11/17/16 13:50
6110120-22	P6K0421	0.62 g	50 mL	11/17/16 13:50
6110120-23	P6K0422	0.61 g	50 mL	11/17/16 13:50

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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

CHAIN OF CUSTODY RECORD

PAGE 1 OF 3 QUOTE # TO ENSURE PROPER BILLING: TC14-002

Project Name: TC14-002 UST Project: (Yes) (NO)
 Short Hold Analysis: (Yes) (NO)
 *Please ATTACH any project specific reporting (QC LEVEL I III IIII IV) provisions and/or QC Requirements
 Invoice To: Account Payable
 Address: _____

Client Company Name: Howe & Hickman
 Report To/Contact Name: Patrick Stevens
 Reporting Address: 2023 S. Taylor Street
Suite 100 Charlotte NC 28203
 Phone: 704-516-6474 Fax (Yes) (NO): _____
 Email Address: ps@howehickman.com
 EDD Type: PDF Excel Other _____
 Site Location Name: TC14-002
 Site Location Physical Address: Cape Hill Ave

Purchase Order No./Billing Reference: TC14-002
 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)

TO BE FILLED IN BY CLIENTS/SAMPLING PERSONNEL
 Certification: MELAC SC DOD OTHER FL N/A NC _____
 Water Chlorinated: YES NO
 Sample Iced Upon Collection: YES NO

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: 1RT-11 Observed: 3.0 °C / Corr: 2.6 °C

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER			PRESERVATIVES	ANALYSIS REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
MW-7 (0-1)	11/11/16	1135	Soil	G	1	4oz	NA		* Metals list: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, magnesium, nickel, selenium, silver, vanadium, zinc	01
MW-6 (0-1)	11/21/16	1350			1					02
MW-5 (0-1)	11/21/16	1605			1					03
MW-5 (0-1)	11/21/16	1635			1					04
MW-4 (0-1)	11/31/16	845			1					05
MW-4 (4-5)	11/31/16	900			1					06
MW-5 (0-1)		925			1					07
MW-5 (3-4)		940			1					08
MW-3 (0-1)		1005			1					09
MW-1 (0-1)		1030			1					10

Sampler's Signature: [Signature] Sampled By (Print Name): Patrick Stevens Affiliation: Howe

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.

Releasable By (Signature): [Signature] Received By (Signature): [Signature] Date: 11/4/16 Military/Hours: 1650

Releasable By (Signature): [Signature] Received By (Signature): [Signature] Date: 11/4/16 Military/Hours: 1500

Releasable By (Signature): [Signature] Received For Prism Laboratories By: [Signature] Date: 11-7-16 Military/Hours: 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.

Method of Shipment: Fed Ex UPS Hand-delivered Prism Field Service Other _____

NPDES: NC SC GROUNDWATER: NC SC DRINKING WATER: NC SC SOLID WASTE: NC SC RCRA: NC SC CERCLA: NC SC LANDFILL: NC SC OTHER: 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

PRISM USE ONLY

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

Additional Comments: _____

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Full-Service Analytical & Environmental Solutions

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

Client Company Name: Hart & Hickman

Report To/Contact Name: Patrick Stevens

Reporting Address: 2023 S. Tryon Street

Phone: 704-586-0027 Fax (Yes) (No):

Email Address: patrick@hartandhickman.com

EDD Type: PDF Excel Other

Site Location Name: TC11-002

Site Location Physical Address: Chapel Hill, NC

CHAIN OF CUSTODY RECORD

PAGE 2 OF 3 QUOTE # TO ENSURE PROPER BILLING: TC11-002

Project Name: TC11-002 UST Project: (Yes) (NO)

Short Hold Analysis: (Yes) (NO) *Please ATTACH any project specific reporting (QC LEVEL I III IV)

Provisions and/or QC Requirements

Invoice To: Accounts Payable

Address:

Purchase Order No./Billing Reference

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

Samples INTACT upon arrival?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
Received ON WET ICE?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
PROPER PRESERVATIVES indicated?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
Received WITHIN HOLDING TIMES?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
CUSTODY SEALS INTACT?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
VOLATILES rec'd W/OUT HEADSPACE?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
PROPER CONTAINERS used?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
TEMP: Therm ID: <u>187-1</u> Observed: <u>3.0</u> °C / <u>2.8</u> °C			

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC DOD FL NC

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			PRESERVATIVES	ANALYSIS REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
H11-3 (2-3)	11/3/16	1125	Soil	G	1	402	N/A	NG	X	11
H11-1 (2-8)		1145							X	12
H11-2 (2-3)		1145							X	13
H11-2 (0-1)		1115							X	14
B6-1 (0-1)		1355							X	15
B6-1 (2-3)		1410							X	16
B6-2 (0-1)		1415							X	17
B6-2 (2-3)		1440							X	18
B6-3 (0-1)		1450							X	19
B6-3 (2-3)		1500							X	20

Sampler's Signature: Patrick Stevens Sampled By (Print Name): Patrick Stevens Affiliation: HHH

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.

Relinquished By: (Signature) [Signature] Received By: (Signature) [Signature] Date: 11/4/16 Military/Hours: 1050

Relinquished By: (Signature) [Signature] Received By: (Signature) [Signature] Date: 11/4/16 Military/Hours: 1500

Relinquished By: (Signature) [Signature] Received For Prism Laboratories By: [Signature] Date: 11-7-16 Military/Hours: 0800

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. OOC Group No. 6010120

Fed Ex UPS Hand-delivered Prism Field Service Other

NPDES: NC SC UST: NC SC GROUNDWATER: NC SC DRINKING WATER: NC SC SOLID WASTE: NC SC RCRA: NC SC CERCLA NC SC LANDFILL: NC SC OTHER: NC SC

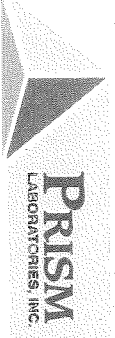
*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

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PRISM USE ONLY

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

SEE REVERSE FOR TERMS & CONDITIONS



Full Service Analytical & Environmental Solutions

440 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/523-0409

Client Company Name: HAT HICKMAN

Report To/Contact Name: Patrick Stevens

Reporting Address: 2035 Teton Street Suite 100

Charlotte NC 28203

Phone: 704-529-6364 Fax (Yes) (No):

Email (Yes) (No) Email Address: Patrick.Stevens@hickman.com

EDD Type: PDF Excel Other

Site Location Name: TCH-002

Site Location Physical Address: Onpel Hill Rd

CHAIN OF CUSTODY RECORD

PAGE 3 OF 3 QUOTE # TO ENSURE PROPER BILLING: TCH-002

Project Name: TCH-002 USR Project: (Yes) (No)

Short Hold Analysis: (Yes) (No)

*Please ATTACH any project specific reporting (QC LEVEL I III IV)

provisions and/or QC Requirements

Invoice To: Archie Pascale

Address: 11 11

Purchase Order No./Billing Reference: TCH-002

Requested Due Date 1 Day 2 Days 3 Days 4 Days 5 Days

"Working Days" 6-9 Days Standard 10 days Pre-Approved

Samples received after 15:00 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

Samples INTACT upon arrival?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
Received ON WET ICE? Temp	<u>2.6</u>		
PROPER PRESERVATIVES indicated?	<input checked="" type="checkbox"/>		
Received WITHIN HOLDING TIMES?	<input checked="" type="checkbox"/>		
CUSTODY SEALS INTACT?	<input checked="" type="checkbox"/>		
VOLATILES rec'd W/OUT HEADSPACE?	<input checked="" type="checkbox"/>		
PROPER CONTAINERS used?	<input checked="" type="checkbox"/>		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC USACE FL NC

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			PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
B6-4(6-1)	11/3/16	1510	Soil	G	1	402	N/A	<input checked="" type="checkbox"/> Metals <input checked="" type="checkbox"/> Volatiles <input checked="" type="checkbox"/> PCBs		21
B6-4(2-3)	11/3/16	1520	Soil	G	1	402	N/A			22
DUP										23

Sampler's Signature: [Signature] Sampled By (Print Name): Patrick Stevens Affiliation: HAT

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.

Relinquished By: (Signature) [Signature] Received By: (Signature) [Signature] Date: 11/4/16 Military/Hours: 1050

Relinquished By: (Signature) [Signature] Received By: (Signature) [Signature] Date: 11/4/16 Military/Hours: 1520

Relinquished By: (Signature) [Signature] Received For Prism Laboratories By: [Signature] Date: 11-7-16 Military/Hours: 0800

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Method of Shipment: 11-4-16 1800 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.

Additional Comments:

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PRISM USE ONLY

Site Arrival Time:

Site Departure Time:

Field Tech Fee:

Mileage:

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

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

Project: TCH-002
Project No.: TCH-002
Lab Submittal Date: 11/15/2016
Prism Work Order: 6110292

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.

Narrative Notes:

This is a Revised Report and supercedes the original laboratory report dated 11/19/16. Results are reported down to the MDL.

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

Respectfully,

PRISM LABORATORIES, INC.



Robbi A. Jones
President/Project Manager



Reviewed By Angela D. Overcash For Robbi A. Jones
VP Laboratory Services

Data Qualifiers Key Reference:

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
MC	Sample concentration too high for recovery evaluation.
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.

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
MW-4A	6110292-01	Water	11/09/16	11/15/16
MW-3A	6110292-02	Water	11/09/16	11/15/16
MW-6	6110292-03	Water	11/09/16	11/15/16
MW-5	6110292-04	Water	11/09/16	11/15/16
MW-1	6110292-05	Water	11/10/16	11/15/16
MW-1 Filtered	6110292-06	Water	11/10/16	11/15/16
Dup- GW	6110292-07	Water	11/10/16	11/15/16

Samples were received in good condition at 1.5 degrees C unless otherwise noted.

Prism ID	Client ID	Parameter	Method	Result		Units
6110292-01	MW-4A	Barium	6010D	0.036		mg/L
6110292-01	MW-4A	Chromium	6010D	0.0012	J	mg/L
6110292-01	MW-4A	Manganese	6010D	0.14		mg/L
6110292-01	MW-4A	Selenium	6010D	0.0072	J	mg/L
6110292-01	MW-4A	Strontium	6010D	0.17		mg/L
6110292-01	MW-4A	Zinc	6010D	0.017	J	mg/L
6110292-02	MW-3A	Barium	6010D	0.053		mg/L
6110292-02	MW-3A	Manganese	6010D	0.014		mg/L
6110292-02	MW-3A	Selenium	6010D	0.050		mg/L
6110292-02	MW-3A	Strontium	6010D	2.4		mg/L
6110292-02	MW-3A	Thallium	6010D	0.0054	J	mg/L
6110292-02	MW-3A	Vanadium	6010D	0.00094	J	mg/L
6110292-02	MW-3A	Zinc	6010D	0.012	J	mg/L
6110292-03	MW-6	Barium	6010D	0.34		mg/L
6110292-03	MW-6	Chromium	6010D	0.029		mg/L
6110292-03	MW-6	Copper	6010D	0.0019	J	mg/L
6110292-03	MW-6	Manganese	6010D	2.5		mg/L
6110292-03	MW-6	Nickel	6010D	0.022		mg/L
6110292-03	MW-6	Selenium	6010D	0.020		mg/L
6110292-03	MW-6	Strontium	6010D	0.69		mg/L
6110292-03	MW-6	Vanadium	6010D	0.0012	J	mg/L
6110292-04	MW-5	Barium	6010D	0.051		mg/L
6110292-04	MW-5	Cobalt	6010D	0.00027	J	mg/L
6110292-04	MW-5	Manganese	6010D	0.58		mg/L
6110292-04	MW-5	Selenium	6010D	0.023		mg/L
6110292-04	MW-5	Strontium	6010D	0.19		mg/L
6110292-04	MW-5	Vanadium	6010D	0.00039	J	mg/L
6110292-05	MW-1	Arsenic	6010D	0.019		mg/L
6110292-05	MW-1	Barium	6010D	0.47		mg/L
6110292-05	MW-1	Beryllium	6010D	0.0041		mg/L
6110292-05	MW-1	Cadmium	6010D	0.00015	J	mg/L
6110292-05	MW-1	Chromium	6010D	0.031		mg/L
6110292-05	MW-1	Cobalt	6010D	0.032		mg/L
6110292-05	MW-1	Copper	6010D	0.057		mg/L
6110292-05	MW-1	Lead	6010D	0.010		mg/L
6110292-05	MW-1	Manganese	6010D	8.6		mg/L
6110292-05	MW-1	Nickel	6010D	0.021		mg/L
6110292-05	MW-1	Selenium	6010D	0.023		mg/L
6110292-05	MW-1	Strontium	6010D	2.2		mg/L
6110292-05	MW-1	Vanadium	6010D	0.092		mg/L
6110292-05	MW-1	Zinc	6010D	0.099		mg/L
6110292-06	MW-1 Filtered	Barium	6010D	0.16		mg/L
6110292-06	MW-1 Filtered	Beryllium	6010D	0.00053	J	mg/L
6110292-06	MW-1 Filtered	Cobalt	6010D	0.0060		mg/L

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Prism ID	Client ID	Parameter	Method	Result	Units
6110292-06	MW-1 Filtered	Manganese	6010D	8.0	mg/L
6110292-06	MW-1 Filtered	Nickel	6010D	0.0023 J	mg/L
6110292-06	MW-1 Filtered	Strontium	6010D	2.1	mg/L
6110292-06	MW-1 Filtered	Vanadium	6010D	0.0012 J	mg/L
6110292-07	Dup- GW	Barium	6010D	0.053	mg/L
6110292-07	Dup- GW	Manganese	6010D	0.015	mg/L
6110292-07	Dup- GW	Selenium	6010D	0.052	mg/L
6110292-07	Dup- GW	Strontium	6010D	2.4	mg/L
6110292-07	Dup- GW	Thallium	6010D	0.0053 J	mg/L
6110292-07	Dup- GW	Vanadium	6010D	0.00095 J	mg/L

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: MW-4A
 Prism Sample ID: 6110292-01
 Prism Work Order: 6110292
 Time Collected: 11/09/16 10:40
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 13:50	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 2:14	bgm	P6K0398
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/18/16 2:14	bgm	P6K0398
Barium	0.036	mg/L	0.010	0.0013	1	6010D	11/18/16 2:14	bgm	P6K0398
Beryllium	BRL	mg/L	0.0020	0.00010	1	6010D	11/18/16 2:14	bgm	P6K0398
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/18/16 2:14	bgm	P6K0398
Chromium	0.0012 J	mg/L	0.0050	0.00076	1	6010D	11/18/16 2:14	bgm	P6K0398
Cobalt	BRL	mg/L	0.0050	0.00011	1	6010D	11/18/16 2:14	bgm	P6K0398
Copper	BRL	mg/L	0.010	0.0016	1	6010D	11/18/16 2:14	bgm	P6K0398
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/18/16 2:14	bgm	P6K0398
Manganese	0.14	mg/L	0.010	0.0017	1	6010D	11/18/16 2:14	bgm	P6K0398
Nickel	BRL	mg/L	0.010	0.0010	1	6010D	11/18/16 2:14	bgm	P6K0398
Selenium	0.0072 J	mg/L	0.020	0.0044	1	6010D	11/18/16 2:14	bgm	P6K0398
Strontium	0.17	mg/L	0.010	0.00057	1	6010D	11/18/16 2:14	bgm	P6K0398
Thallium	BRL	mg/L	0.010	0.0025	1	6010D	11/18/16 2:14	bgm	P6K0398
Vanadium	BRL	mg/L	0.0050	0.00015	1	6010D	11/18/16 2:14	bgm	P6K0398
Zinc	0.017 J	mg/L	0.030	0.011	1	6010D	11/18/16 2:14	bgm	P6K0398

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: MW-3A
 Prism Sample ID: 6110292-02
 Prism Work Order: 6110292
 Time Collected: 11/09/16 11:25
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 13:54	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 2:38	bgm	P6K0398
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/18/16 2:38	bgm	P6K0398
Barium	0.053	mg/L	0.010	0.0013	1	6010D	11/18/16 2:38	bgm	P6K0398
Beryllium	BRL	mg/L	0.0020	0.00010	1	6010D	11/18/16 2:38	bgm	P6K0398
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/18/16 2:38	bgm	P6K0398
Chromium	BRL	mg/L	0.0050	0.00076	1	6010D	11/18/16 2:38	bgm	P6K0398
Cobalt	BRL	mg/L	0.0050	0.00011	1	6010D	11/18/16 2:38	bgm	P6K0398
Copper	BRL	mg/L	0.010	0.0016	1	6010D	11/18/16 2:38	bgm	P6K0398
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/18/16 2:38	bgm	P6K0398
Manganese	0.014	mg/L	0.010	0.0017	1	6010D	11/18/16 2:38	bgm	P6K0398
Nickel	BRL	mg/L	0.010	0.0010	1	6010D	11/18/16 2:38	bgm	P6K0398
Selenium	0.050	mg/L	0.020	0.0044	1	6010D	11/18/16 2:38	bgm	P6K0398
Strontium	2.4	mg/L	0.010	0.00057	1	6010D	11/18/16 2:38	bgm	P6K0398
Thallium	0.0054 J	mg/L	0.010	0.0025	1	6010D	11/18/16 2:38	bgm	P6K0398
Vanadium	0.00094 J	mg/L	0.0050	0.00015	1	6010D	11/18/16 2:38	bgm	P6K0398
Zinc	0.012 J	mg/L	0.030	0.011	1	6010D	11/18/16 2:38	bgm	P6K0398

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: MW-6
 Prism Sample ID: 6110292-03
 Prism Work Order: 6110292
 Time Collected: 11/09/16 12:45
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 13:58	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 2:46	bgm	P6K0398
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/18/16 2:46	bgm	P6K0398
Barium	0.34	mg/L	0.010	0.0013	1	6010D	11/18/16 2:46	bgm	P6K0398
Beryllium	BRL	mg/L	0.0020	0.00010	1	6010D	11/18/16 2:46	bgm	P6K0398
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/18/16 2:46	bgm	P6K0398
Chromium	0.029	mg/L	0.0050	0.00076	1	6010D	11/18/16 2:46	bgm	P6K0398
Cobalt	BRL	mg/L	0.0050	0.00011	1	6010D	11/18/16 2:46	bgm	P6K0398
Copper	0.0019 J	mg/L	0.010	0.0016	1	6010D	11/18/16 2:46	bgm	P6K0398
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/18/16 2:46	bgm	P6K0398
Manganese	2.5	mg/L	0.010	0.0017	1	6010D	11/18/16 2:46	bgm	P6K0398
Nickel	0.022	mg/L	0.010	0.0010	1	6010D	11/18/16 2:46	bgm	P6K0398
Selenium	0.020	mg/L	0.020	0.0044	1	6010D	11/18/16 2:46	bgm	P6K0398
Strontium	0.69	mg/L	0.010	0.00057	1	6010D	11/18/16 2:46	bgm	P6K0398
Thallium	BRL	mg/L	0.010	0.0025	1	6010D	11/18/16 2:46	bgm	P6K0398
Vanadium	0.0012 J	mg/L	0.0050	0.00015	1	6010D	11/18/16 2:46	bgm	P6K0398
Zinc	BRL	mg/L	0.030	0.011	1	6010D	11/18/16 2:46	bgm	P6K0398

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: MW-5
 Prism Sample ID: 6110292-04
 Prism Work Order: 6110292
 Time Collected: 11/09/16 13:45
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 14:02	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 2:54	bgm	P6K0398
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/18/16 2:54	bgm	P6K0398
Barium	0.051	mg/L	0.010	0.0013	1	6010D	11/18/16 2:54	bgm	P6K0398
Beryllium	BRL	mg/L	0.0020	0.00010	1	6010D	11/18/16 2:54	bgm	P6K0398
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/18/16 2:54	bgm	P6K0398
Chromium	BRL	mg/L	0.0050	0.00076	1	6010D	11/18/16 2:54	bgm	P6K0398
Cobalt	0.00027 J	mg/L	0.0050	0.00011	1	6010D	11/18/16 2:54	bgm	P6K0398
Copper	BRL	mg/L	0.010	0.0016	1	6010D	11/18/16 2:54	bgm	P6K0398
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/18/16 2:54	bgm	P6K0398
Manganese	0.58	mg/L	0.010	0.0017	1	6010D	11/18/16 2:54	bgm	P6K0398
Nickel	BRL	mg/L	0.010	0.0010	1	6010D	11/18/16 2:54	bgm	P6K0398
Selenium	0.023	mg/L	0.020	0.0044	1	6010D	11/18/16 2:54	bgm	P6K0398
Strontium	0.19	mg/L	0.010	0.00057	1	6010D	11/18/16 2:54	bgm	P6K0398
Thallium	BRL	mg/L	0.010	0.0025	1	6010D	11/18/16 2:54	bgm	P6K0398
Vanadium	0.00039 J	mg/L	0.0050	0.00015	1	6010D	11/18/16 2:54	bgm	P6K0398
Zinc	BRL	mg/L	0.030	0.011	1	6010D	11/18/16 2:54	bgm	P6K0398

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: MW-1
 Prism Sample ID: 6110292-05
 Prism Work Order: 6110292
 Time Collected: 11/10/16 10:45
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 14:06	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 3:02	bgm	P6K0398
Arsenic	0.019	mg/L	0.010	0.0024	1	6010D	11/18/16 3:02	bgm	P6K0398
Barium	0.47	mg/L	0.010	0.0013	1	6010D	11/18/16 3:02	bgm	P6K0398
Beryllium	0.0041	mg/L	0.0020	0.00010	1	6010D	11/21/16 21:36	bgm	P6K0398
Cadmium	0.00015 J	mg/L	0.0010	0.00013	1	6010D	11/18/16 3:02	bgm	P6K0398
Chromium	0.031	mg/L	0.0050	0.00076	1	6010D	11/18/16 3:02	bgm	P6K0398
Cobalt	0.032	mg/L	0.0050	0.00011	1	6010D	11/18/16 3:02	bgm	P6K0398
Copper	0.057	mg/L	0.010	0.0016	1	6010D	11/18/16 3:02	bgm	P6K0398
Lead	0.010	mg/L	0.0050	0.0016	1	6010D	11/18/16 3:02	bgm	P6K0398
Manganese	8.6	mg/L	0.10	0.017	10	6010D	11/21/16 21:45	bgm	P6K0398
Nickel	0.021	mg/L	0.010	0.0010	1	6010D	11/18/16 3:02	bgm	P6K0398
Selenium	0.023	mg/L	0.020	0.0044	1	6010D	11/18/16 3:02	bgm	P6K0398
Strontium	2.2	mg/L	0.010	0.00057	1	6010D	11/18/16 3:02	bgm	P6K0398
Thallium	BRL	mg/L	0.010	0.0025	1	6010D	11/18/16 3:02	bgm	P6K0398
Vanadium	0.092	mg/L	0.0050	0.00015	1	6010D	11/18/16 3:02	bgm	P6K0398
Zinc	0.099	mg/L	0.030	0.011	1	6010D	11/18/16 3:02	bgm	P6K0398

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: MW-1 Filtered
 Prism Sample ID: 6110292-06
 Prism Work Order: 6110292
 Time Collected: 11/10/16 10:45
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dissolved Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 14:09	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/23/16 16:19	bgm	P6K0486
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/23/16 16:19	bgm	P6K0486
Barium	0.16	mg/L	0.010	0.0013	1	6010D	11/23/16 16:19	bgm	P6K0486
Beryllium	0.00053 J	mg/L	0.0020	0.00010	1	6010D	11/23/16 16:19	bgm	P6K0486
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/23/16 16:19	bgm	P6K0486
Chromium	BRL	mg/L	0.0050	0.00076	1	6010D	11/23/16 16:19	bgm	P6K0486
Cobalt	0.0060	mg/L	0.0050	0.00011	1	6010D	11/23/16 16:19	bgm	P6K0486
Copper	BRL	mg/L	0.010	0.0016	1	6010D	11/23/16 16:19	bgm	P6K0486
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/23/16 16:19	bgm	P6K0486
Manganese	8.0	mg/L	0.10	0.017	10	6010D	11/28/16 16:05	bgm	P6K0486
Nickel	0.0023 J	mg/L	0.010	0.0010	1	6010D	11/23/16 16:19	bgm	P6K0486
Strontium	2.1	mg/L	0.010	0.00057	1	6010D	11/23/16 16:19	bgm	P6K0486
Thallium	BRL	mg/L	0.010	0.0025	1	6010D	11/23/16 16:19	bgm	P6K0486
Vanadium	0.0012 J	mg/L	0.0050	0.00015	1	6010D	11/23/16 16:19	bgm	P6K0486
Zinc	BRL	mg/L	0.030	0.011	1	6010D	11/23/16 16:19	bgm	P6K0486

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Project: TCH-002
 Project No.: TCH-002
 Sample Matrix: Water

Client Sample ID: Dup- GW
 Prism Sample ID: 6110292-07
 Prism Work Order: 6110292
 Time Collected: 11/10/16 00:00
 Time Submitted: 11/15/16 09:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/21/16 14:13	JAB	P6K0479
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 3:18	bgm	P6K0398
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/18/16 3:18	bgm	P6K0398
Barium	0.053	mg/L	0.010	0.0013	1	6010D	11/18/16 3:18	bgm	P6K0398
Beryllium	BRL	mg/L	0.0020	0.00010	1	6010D	11/18/16 3:18	bgm	P6K0398
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/18/16 3:18	bgm	P6K0398
Chromium	BRL	mg/L	0.0050	0.00076	1	6010D	11/18/16 3:18	bgm	P6K0398
Cobalt	BRL	mg/L	0.0050	0.00011	1	6010D	11/18/16 3:18	bgm	P6K0398
Copper	BRL	mg/L	0.010	0.0016	1	6010D	11/18/16 3:18	bgm	P6K0398
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/18/16 3:18	bgm	P6K0398
Manganese	0.015	mg/L	0.010	0.0017	1	6010D	11/18/16 3:18	bgm	P6K0398
Nickel	BRL	mg/L	0.010	0.0010	1	6010D	11/18/16 3:18	bgm	P6K0398
Selenium	0.052	mg/L	0.020	0.0044	1	6010D	11/18/16 3:18	bgm	P6K0398
Strontium	2.4	mg/L	0.010	0.00057	1	6010D	11/18/16 3:18	bgm	P6K0398
Thallium	0.0053 J	mg/L	0.010	0.0025	1	6010D	11/18/16 3:18	bgm	P6K0398
Vanadium	0.00095 J	mg/L	0.0050	0.00015	1	6010D	11/18/16 3:18	bgm	P6K0398
Zinc	BRL	mg/L	0.030	0.011	1	6010D	11/18/16 3:18	bgm	P6K0398

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6110292
Time Submitted: 11/15/2016 9:20:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0398 - 3010A

Blank (P6K0398-BLK1)

Prepared: 11/17/16 Analyzed: 11/18/16

Antimony	BRL	0.0050	mg/L							
Arsenic	BRL	0.010	mg/L							
Barium	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	BRL	0.0050	mg/L							
Cobalt	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Manganese	BRL	0.010	mg/L							
Nickel	BRL	0.010	mg/L							
Selenium	BRL	0.020	mg/L							
Strontium	BRL	0.010	mg/L							
Thallium	BRL	0.010	mg/L							
Vanadium	BRL	0.0050	mg/L							
Zinc	BRL	0.030	mg/L							

LCS (P6K0398-BS1)

Prepared: 11/17/16 Analyzed: 11/18/16

Antimony	0.240	0.0050	mg/L	0.2500		96	80-120			
Arsenic	0.242	0.010	mg/L	0.2500		97	80-120			
Barium	0.243	0.010	mg/L	0.2500		97	80-120			
Beryllium	0.243	0.0020	mg/L	0.2500		97	80-120			
Cadmium	0.234	0.0010	mg/L	0.2500		94	80-120			
Chromium	0.245	0.0050	mg/L	0.2500		98	80-120			
Cobalt	0.241	0.0050	mg/L	0.2500		97	80-120			
Copper	0.249	0.010	mg/L	0.2500		99	80-120			
Lead	0.238	0.0050	mg/L	0.2500		95	80-120			
Manganese	0.240	0.010	mg/L	0.2500		96	80-120			
Nickel	0.242	0.010	mg/L	0.2500		97	80-120			
Selenium	0.245	0.020	mg/L	0.2500		98	80-120			
Strontium	0.228	0.010	mg/L	0.2500		91	80-120			
Thallium	0.245	0.010	mg/L	0.2500		98	80-120			
Vanadium	0.247	0.0050	mg/L	0.2500		99	80-120			
Zinc	0.241	0.030	mg/L	0.2500		96	80-120			

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Project No: TCH-002

Prism Work Order: 6110292

Time Submitted: 11/15/2016 9:20:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0398 - 3010A

Matrix Spike (P6K0398-MS1)

Source: 6110292-01

Prepared: 11/17/16

Analyzed: 11/18/16

Antimony	0.238	0.0050	mg/L	0.2500	BRL	95	75-125			
Arsenic	0.243	0.010	mg/L	0.2500	BRL	97	75-125			
Barium	0.272	0.010	mg/L	0.2500	0.0363	94	75-125			
Beryllium	0.239	0.0020	mg/L	0.2500	BRL	96	75-125			
Cadmium	0.229	0.0010	mg/L	0.2500	BRL	91	75-125			
Chromium	0.236	0.0050	mg/L	0.2500	0.00116	94	75-125			
Cobalt	0.232	0.0050	mg/L	0.2500	BRL	93	75-125			
Copper	0.244	0.010	mg/L	0.2500	BRL	98	75-125			
Lead	0.231	0.0050	mg/L	0.2500	BRL	93	75-125			
Manganese	0.373	0.010	mg/L	0.2500	0.137	94	75-125			
Nickel	0.231	0.010	mg/L	0.2500	BRL	92	75-125			
Selenium	0.248	0.020	mg/L	0.2500	0.00720	96	75-125			
Strontium	0.401	0.010	mg/L	0.2500	0.167	94	75-125			
Thallium	0.239	0.010	mg/L	0.2500	BRL	96	75-125			
Vanadium	0.243	0.0050	mg/L	0.2500	BRL	97	75-125			
Zinc	0.257	0.030	mg/L	0.2500	0.0165	96	75-125			

Matrix Spike Dup (P6K0398-MSD1)

Source: 6110292-01

Prepared: 11/17/16

Analyzed: 11/18/16

Antimony	0.241	0.0050	mg/L	0.2500	BRL	96	75-125	1	20	
Arsenic	0.242	0.010	mg/L	0.2500	BRL	97	75-125	0.4	20	
Barium	0.274	0.010	mg/L	0.2500	0.0363	95	75-125	0.8	20	
Beryllium	0.242	0.0020	mg/L	0.2500	BRL	97	75-125	1	20	
Cadmium	0.229	0.0010	mg/L	0.2500	BRL	92	75-125	0.2	20	
Chromium	0.238	0.0050	mg/L	0.2500	0.00116	95	75-125	0.7	20	
Cobalt	0.232	0.0050	mg/L	0.2500	BRL	93	75-125	0.07	20	
Copper	0.245	0.010	mg/L	0.2500	BRL	98	75-125	0.3	20	
Lead	0.231	0.0050	mg/L	0.2500	BRL	92	75-125	0.3	20	
Manganese	0.387	0.010	mg/L	0.2500	0.137	100	75-125	4	20	
Nickel	0.233	0.010	mg/L	0.2500	BRL	93	75-125	0.8	20	
Selenium	0.247	0.020	mg/L	0.2500	0.00720	96	75-125	0.3	20	
Strontium	0.405	0.010	mg/L	0.2500	0.167	95	75-125	1	20	
Thallium	0.239	0.010	mg/L	0.2500	BRL	96	75-125	0.06	20	
Vanadium	0.244	0.0050	mg/L	0.2500	BRL	98	75-125	0.5	20	
Zinc	0.257	0.030	mg/L	0.2500	0.0165	96	75-125	0.02	20	

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6110292
Time Submitted: 11/15/2016 9:20:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0479 - 7470A										
Blank (P6K0479-BLK1)				Prepared & Analyzed: 11/21/16						
Mercury	BRL	0.00020	mg/L							
LCS (P6K0479-BS1)				Prepared & Analyzed: 11/21/16						
Mercury	0.00878	0.00020	mg/L	0.009375		94	80-120			

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6110292
Time Submitted: 11/15/2016 9:20:00AM

Dissolved Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6K0486 - 3010A

Blank (P6K0486-BLK1)

Prepared: 11/21/16 Analyzed: 11/23/16

Antimony	BRL	0.0050	mg/L							
Arsenic	BRL	0.010	mg/L							
Barium	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	BRL	0.0050	mg/L							
Cobalt	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Manganese	0.00191	0.010	mg/L							J
Nickel	BRL	0.010	mg/L							
Strontium	BRL	0.010	mg/L							
Thallium	BRL	0.010	mg/L							
Vanadium	BRL	0.0050	mg/L							
Zinc	BRL	0.030	mg/L							

LCS (P6K0486-BS1)

Prepared: 11/21/16 Analyzed: 11/23/16

Antimony	0.248	0.0050	mg/L	0.2500		99	80-120			
Arsenic	0.250	0.010	mg/L	0.2500		100	80-120			
Barium	0.251	0.010	mg/L	0.2500		100	80-120			
Beryllium	0.250	0.0020	mg/L	0.2500		100	80-120			
Cadmium	0.251	0.0010	mg/L	0.2500		101	80-120			
Chromium	0.250	0.0050	mg/L	0.2500		100	80-120			
Cobalt	0.251	0.0050	mg/L	0.2500		100	80-120			
Copper	0.248	0.010	mg/L	0.2500		99	80-120			
Lead	0.251	0.0050	mg/L	0.2500		101	80-120			
Manganese	0.249	0.010	mg/L	0.2500		100	80-120			
Nickel	0.250	0.010	mg/L	0.2500		100	80-120			
Strontium	0.234	0.010	mg/L	0.2500		94	80-120			
Thallium	0.257	0.010	mg/L	0.2500		103	80-120			
Vanadium	0.252	0.0050	mg/L	0.2500		101	80-120			
Zinc	0.246	0.030	mg/L	0.2500		98	80-120			

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002
Project No: TCH-002

Prism Work Order: 6110292
Time Submitted: 11/15/2016 9:20:00AM

Dissolved Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0486 - 3010A										
Matrix Spike (P6K0486-MS1)		Source: 6110292-06			Prepared: 11/21/16		Analyzed: 11/23/16			
Antimony	0.251	0.0050	mg/L	0.2500	BRL	100	75-125			
Arsenic	0.265	0.010	mg/L	0.2500	BRL	106	75-125			
Barium	0.396	0.010	mg/L	0.2500	0.156	96	75-125			
Beryllium	0.248	0.0020	mg/L	0.2500	0.000529	99	75-125			
Cadmium	0.245	0.0010	mg/L	0.2500	BRL	98	75-125			
Chromium	0.242	0.0050	mg/L	0.2500	BRL	97	75-125			
Cobalt	0.242	0.0050	mg/L	0.2500	0.00601	94	75-125			
Copper	0.244	0.010	mg/L	0.2500	BRL	98	75-125			
Lead	0.245	0.0050	mg/L	0.2500	BRL	98	75-125			
Manganese	1.00E9	0.010	mg/L	0.2500	7.99	NR	75-125			MC
Nickel	0.237	0.010	mg/L	0.2500	0.00233	94	75-125			
Strontium	2.31	0.010	mg/L	0.2500	2.08	90	75-125			
Thallium	0.255	0.010	mg/L	0.2500	BRL	102	75-125			
Vanadium	0.250	0.0050	mg/L	0.2500	0.00125	99	75-125			
Zinc	0.272	0.030	mg/L	0.2500	BRL	109	75-125			
Matrix Spike Dup (P6K0486-MSD1)		Source: 6110292-06			Prepared: 11/21/16		Analyzed: 11/23/16			
Antimony	0.241	0.0050	mg/L	0.2500	BRL	97	75-125	4	20	
Arsenic	0.258	0.010	mg/L	0.2500	BRL	103	75-125	3	20	
Barium	0.387	0.010	mg/L	0.2500	0.156	92	75-125	2	20	
Beryllium	0.239	0.0020	mg/L	0.2500	0.000529	95	75-125	4	20	
Cadmium	0.234	0.0010	mg/L	0.2500	BRL	94	75-125	5	20	
Chromium	0.233	0.0050	mg/L	0.2500	BRL	93	75-125	4	20	
Cobalt	0.233	0.0050	mg/L	0.2500	0.00601	91	75-125	4	20	
Copper	0.236	0.010	mg/L	0.2500	BRL	94	75-125	3	20	
Lead	0.235	0.0050	mg/L	0.2500	BRL	94	75-125	4	20	
Manganese	1.00E9	0.010	mg/L	0.2500	7.99	NR	75-125	0	20	MC
Nickel	0.228	0.010	mg/L	0.2500	0.00233	90	75-125	4	20	
Strontium	2.39	0.010	mg/L	0.2500	2.08	122	75-125	3	20	
Thallium	0.246	0.010	mg/L	0.2500	BRL	98	75-125	4	20	
Vanadium	0.241	0.0050	mg/L	0.2500	0.00125	96	75-125	3	20	
Zinc	0.262	0.030	mg/L	0.2500	BRL	105	75-125	4	20	

Sample Extraction Data

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6110292-06	P6K0486	50 mL	50 mL	11/21/16 9:00
6110292-06	P6K0486	50 mL	50 mL	11/21/16 9:00

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
6110292-06	P6K0479	20 mL	30 mL	11/21/16 8:25

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6110292-01	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-02	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-03	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-04	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-05	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-05	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-05	P6K0398	50 mL	50 mL	11/17/16 9:05
6110292-07	P6K0398	50 mL	50 mL	11/17/16 9:05

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
6110292-01	P6K0479	20 mL	30 mL	11/21/16 8:25
6110292-02	P6K0479	20 mL	30 mL	11/21/16 8:25
6110292-03	P6K0479	20 mL	30 mL	11/21/16 8:25
6110292-04	P6K0479	20 mL	30 mL	11/21/16 8:25
6110292-05	P6K0479	20 mL	30 mL	11/21/16 8:25
6110292-07	P6K0479	20 mL	30 mL	11/21/16 8:25



CHAIN OF CUSTODY RECORD

LAB USE ONLY

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
 Phone: 704/525-6364 • Fax: 704/525-0409
 Client Company Name: Hart & Hickman
 Report To/Contact Name: Patrick Stevens, Steve Hart
 Reporting Address: 3334 Hillsborough St
Raleigh, NC 27607

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: TCH002
 Project Name: TCH002
 Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)
 *Please ATTACH any project specific reporting (QC LEVEL I III III IV)
 provisions and/or QC Requirements
 Invoice To: accounts payable@charhickman.com
 Address: _____

Samples INTACT upon arrival? 10/11 YES NO N/A
 Received ON WET ICE? Temp 1.5 YES NO N/A
 PROPER PRESERVATIVES indicated? YES NO N/A
 Received WITHIN HOLDING TIMES? YES NO N/A
 CUSTODY SEALS INTACT? YES NO N/A
 VOLATILES rec'd W/OUT HEADSPACE? YES NO N/A
 PROPER CONTAINERS used? YES NO N/A

Phone: 704-586-0007 Fax (Yes) (No): _____
 Email (Yes) (No) Email Address: pkstevens@charhickman.com
 EDD Type: PDF Excel Other charhickman.com
 Site Location Name: Chapel Hill Police Department
 Site Location Physical Address: Chapel Hill NC

Purchase Order No./Billing Reference _____
 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 15:00 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)

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
 Certification: NELAC USACE 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			PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
MW-4A	11/9/16	1040	Water	P	1	250mL	HNO3			01
MW-3A	11/9/16	1125								02
MW-6	11/9/16	1245								03
MW-5	11/9/16	1345								04
MW-1 Filtered	11/10/16	1045								05
DUP-6W										07

Sampler's Signature: [Signature] Sampled By (Print Name): Lisa Nickels Affiliation: Hart & Hickman
 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.
 Relinquished By: (Signature) [Signature] Received By: (Signature) [Signature] Date: 11/10/16 Military Hours: 1700
 Relinquished By: (Signature) [Signature] Received By: (Signature) [Signature] Date: 11/14/16 Military Hours: 1330
 Relinquished By: (Signature) [Signature] Received For: Prism Laboratories By: [Signature] Date: 11/15/16 Military Hours: 0920
 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

GROUNDWATER: NC SC GROUNDWATER: NC SC DRINKING WATER: NC SC SOLID WASTE: NC SC RCRA: NC SC CERCLA NC SC LANDFILL NC SC OTHER: 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

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

Project: TCH-002

Lab Submittal Date: 11/16/2016
Prism Work Order: 6110311

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.

Narrative Notes:

This is a Revised Report and supercedes the original laboratory report dated 12/02/16. Results are reported down to the MDL.

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

Respectfully,

PRISM LABORATORIES, INC.



Robbi A. Jones
President/Project Manager



Reviewed By Angela D. Overcash For Robbi A. Jones
VP Laboratory Services

Data Qualifiers Key Reference:

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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.

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
MW-7	6110311-01	Water	11/14/16	11/16/16

Samples were received in good condition at 1.7 degrees C unless otherwise noted.

Summary of Detections

12/15/2016

Prism Work Order: 6110311

Prism ID	Client ID	Parameter	Method	Result	Units
6110311-01	MW-7	Barium	6010D	0.010	mg/L
6110311-01	MW-7	Chromium	6010D	0.0013 J	mg/L
6110311-01	MW-7	Cobalt	6010D	0.00017 J	mg/L
6110311-01	MW-7	Copper	6010D	0.0016 J	mg/L
6110311-01	MW-7	Manganese	6010D	0.14	mg/L
6110311-01	MW-7	Nickel	6010D	0.0016 J	mg/L
6110311-01	MW-7	Strontium	6010D	0.042	mg/L
6110311-01	MW-7	Vanadium	6010D	0.0011 J	mg/L
6110311-01	MW-7	Zinc	6010D	0.026 J	mg/L

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

Sample Matrix: Water

Client Sample ID: MW-7
 Prism Sample ID: 6110311-01
 Prism Work Order: 6110311
 Time Collected: 11/14/16 15:35
 Time Submitted: 11/16/16 08:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Total Metals									
Mercury	BRL	mg/L	0.00020	0.000030	1	7470A	11/22/16 14:36	JAB	P6K0530
Antimony	BRL	mg/L	0.0050	0.00050	1	6010D	11/18/16 3:25	bgm	P6K0398
Arsenic	BRL	mg/L	0.010	0.0024	1	6010D	11/18/16 3:25	bgm	P6K0398
Barium	0.010	mg/L	0.010	0.0013	1	6010D	11/18/16 3:25	bgm	P6K0398
Beryllium	BRL	mg/L	0.0020	0.00010	1	6010D	11/18/16 3:25	bgm	P6K0398
Cadmium	BRL	mg/L	0.0010	0.00013	1	6010D	11/18/16 3:25	bgm	P6K0398
Chromium	0.0013 J	mg/L	0.0050	0.00076	1	6010D	11/18/16 3:25	bgm	P6K0398
Cobalt	0.00017 J	mg/L	0.0050	0.00011	1	6010D	11/18/16 3:25	bgm	P6K0398
Copper	0.0016 J	mg/L	0.010	0.0016	1	6010D	11/18/16 3:25	bgm	P6K0398
Lead	BRL	mg/L	0.0050	0.0016	1	6010D	11/18/16 3:25	bgm	P6K0398
Manganese	0.14	mg/L	0.010	0.0017	1	6010D	11/18/16 3:25	bgm	P6K0398
Nickel	0.0016 J	mg/L	0.010	0.0010	1	6010D	11/18/16 3:25	bgm	P6K0398
Selenium	BRL	mg/L	0.020	0.0044	1	6010D	11/18/16 3:25	bgm	P6K0398
Strontium	0.042	mg/L	0.010	0.00057	1	6010D	11/18/16 3:25	bgm	P6K0398
Thallium	BRL	mg/L	0.010	0.0025	1	6010D	11/18/16 3:25	bgm	P6K0398
Vanadium	0.0011 J	mg/L	0.0050	0.00015	1	6010D	11/18/16 3:25	bgm	P6K0398
Zinc	0.026 J	mg/L	0.030	0.011	1	6010D	11/18/16 3:25	bgm	P6K0398

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6110311

Time Submitted: 11/16/2016 8:35:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch P6K0398 - 3010A

Blank (P6K0398-BLK1)

Prepared: 11/17/16 Analyzed: 11/18/16

Antimony	BRL	0.0050	mg/L							
Arsenic	BRL	0.010	mg/L							
Barium	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	BRL	0.0050	mg/L							
Cobalt	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Manganese	BRL	0.010	mg/L							
Nickel	BRL	0.010	mg/L							
Selenium	BRL	0.020	mg/L							
Strontium	BRL	0.010	mg/L							
Thallium	BRL	0.010	mg/L							
Vanadium	BRL	0.0050	mg/L							
Zinc	BRL	0.030	mg/L							

LCS (P6K0398-BS1)

Prepared: 11/17/16 Analyzed: 11/18/16

Antimony	0.240	0.0050	mg/L	0.2500		96	80-120			
Arsenic	0.242	0.010	mg/L	0.2500		97	80-120			
Barium	0.243	0.010	mg/L	0.2500		97	80-120			
Beryllium	0.243	0.0020	mg/L	0.2500		97	80-120			
Cadmium	0.234	0.0010	mg/L	0.2500		94	80-120			
Chromium	0.245	0.0050	mg/L	0.2500		98	80-120			
Cobalt	0.241	0.0050	mg/L	0.2500		97	80-120			
Copper	0.249	0.010	mg/L	0.2500		99	80-120			
Lead	0.238	0.0050	mg/L	0.2500		95	80-120			
Manganese	0.240	0.010	mg/L	0.2500		96	80-120			
Nickel	0.242	0.010	mg/L	0.2500		97	80-120			
Selenium	0.245	0.020	mg/L	0.2500		98	80-120			
Strontium	0.228	0.010	mg/L	0.2500		91	80-120			
Thallium	0.245	0.010	mg/L	0.2500		98	80-120			
Vanadium	0.247	0.0050	mg/L	0.2500		99	80-120			
Zinc	0.241	0.030	mg/L	0.2500		96	80-120			



Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6110311
Time Submitted: 11/16/2016 8:35:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0530 - 7470A										
Blank (P6K0530-BLK1)				Prepared & Analyzed: 11/22/16						
Mercury	BRL	0.00020	mg/L							
LCS (P6K0530-BS1)				Prepared & Analyzed: 11/22/16						
Mercury	0.0101	0.00020	mg/L	0.009375		107	80-120			
Matrix Spike (P6K0530-MS1)				Source: 6110311-01		Prepared & Analyzed: 11/22/16				
Mercury	0.00999	0.00020	mg/L	0.009375	BRL	107	80-120			
Matrix Spike Dup (P6K0530-MSD1)				Source: 6110311-01		Prepared & Analyzed: 11/22/16				
Mercury	0.00971	0.00020	mg/L	0.009375	BRL	104	80-120	3	20	

Sample Extraction Data

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6110311-01	P6K0398	50 mL	50 mL	11/17/16 9:05

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
6110311-01	P6K0530	20 mL	30 mL	11/22/16 10:50

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



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Automated Report

Technical Report for

Hart & Hickman

TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

TCH-002

SGS Accutest Job Number: JC31091

Sampling Date: 11/03/16

Report to:

Hart & Hickman
2923 South Tryon Street Suite 100
Charlotte, NC 28203
pstevens@harthickman.com

ATTN: Patrick Stevens

Total number of pages in report: 22



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Kelly Patterson 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC,
OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.



ACCUTEST

Nov 16, 2016

Mr. Patrick Stevens
Hart & Hickman
2923 South Tryon Street Suite 100
Charlotte, NC 28203

RE: SGS Accutest - Dayton, Job # JC31134 and JC31091 –Reissues

Dear Mr. Stevens:

The final report for SGS Accutest job number JC31134 and JC31091 has been edited to reflect changes to your data package. These edits have been incorporated into the revised report which is attached.

Specifically, the data has been revised to report to the MDL for sample JC31134 and JC31091. The attached revised report incorporates these revisions.

Please contact Me at (732) 329-0200 if you need further assistance in this matter.

Sincerely,

Kelly Ramos
Project Manager

SGS Accutest

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION,
TESTING AND CERTIFICATION COMPANY.

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Sample Summary

Hart & Hickman

Job No: JC31091

TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC
 Project No: TCH-002

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JC31091-1	11/03/16	15:20 PHS	11/04/16	AQ	Surface Water	SW-2
JC31091-2	11/03/16	15:25 PHS	11/04/16	AQ	Surface Water	SW-1
JC31091-3	11/03/16	15:00 PHS	11/04/16	AQ	Surface Water	SW-5
JC31091-4	11/03/16	15:05 PHS	11/04/16	AQ	Surface Water	SW-4
JC31091-5	11/03/16	15:10 PHS	11/04/16	AQ	Surface Water	SW-3
JC31091-6	11/03/16	12:05 PHS	11/04/16	AQ	Surface Water	RB-DPT
JC31091-7	11/03/16	12:30 PHS	11/04/16	AQ	Surface Water	RB-HA
JC31091-8	11/03/16	00:00 PHS	11/04/16	AQ	Surface Water	DUP-SW

Summary of Hits

Job Number: JC31091
Account: Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC
Collected: 11/03/16

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC31091-1 **SW-2**

No hits reported in this sample.

JC31091-2 **SW-1**

No hits reported in this sample.

JC31091-3 **SW-5**

No hits reported in this sample.

JC31091-4 **SW-4**

No hits reported in this sample.

JC31091-5 **SW-3**

No hits reported in this sample.

JC31091-6 **RB-DPT**

No hits reported in this sample.

JC31091-7 **RB-HA**

No hits reported in this sample.

JC31091-8 **DUP-SW**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: SW-2	Date Sampled: 11/03/16
Lab Sample ID: JC31091-1	Date Received: 11/04/16
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 11:47 TT	SW846	7199

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: SW-1	Date Sampled: 11/03/16
Lab Sample ID: JC31091-2	Date Received: 11/04/16
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 12:03 TT	SW846	7199

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: SW-5	Date Sampled: 11/03/16
Lab Sample ID: JC31091-3	Date Received: 11/04/16
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 10:46 TT	SW846	7199

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: SW-4	Date Sampled: 11/03/16
Lab Sample ID: JC31091-4	Date Received: 11/04/16
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 11:02 TT	SW846	7199

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: SW-3	Date Sampled: 11/03/16
Lab Sample ID: JC31091-5	Date Received: 11/04/16
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 11:39 TT	SW846	7199

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: RB-DPT	Date Sampled: 11/03/16
Lab Sample ID: JC31091-6	Date Received: 11/04/16
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 10:14 TT	SW846	7199

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: RB-HA		Date Sampled: 11/03/16
Lab Sample ID: JC31091-7		Date Received: 11/04/16
Matrix: AQ - Surface Water		Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 10:30 TT	SW846	7199

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: DUP-SW		Date Sampled: 11/03/16
Lab Sample ID: JC31091-8		Date Received: 11/04/16
Matrix: AQ - Surface Water		Percent Solids: n/a
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.00074 U	0.0055	0.00074	mg/l	1	11/04/16 12:19 TT	SW846	7199

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Accutest Laboratories Southeast Chain of Custody

4405 Virland Road, Suite C-15 Orlando, FL 32811
 TEL: 407-425-6700 • FAX: 407-425-0707
 www.accutest.com

FED EX 7776 3041 6918
 Accutest JOB # JC 31091 PAGE 1 OF 1

Accutest Quote # _____ SKIFF# _____

Client/Reporting Information			Project Information														Analytical Information										Matrix Codes
Company Name <u>Hart + Hickman</u>			Project Name <u>TC-002</u>																								DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge LO - Other Liquid APL - Air SOL - Other Solid WP - Wastewater
Address <u>2623 S Taylor Street, Suite 102</u>			Site # <u>6235 Martin Luther King Jr. Blvd</u>																								
City <u>Greenville</u> State <u>SC</u> Zip <u>29623</u>			City <u>Greenville</u> State <u>SC</u>																								
Project Copy # _____			Project # <u>TC-002</u>																								
Phone # <u>704-500-0007</u>			Fax # _____																								
Samples Name(s) <u>Private</u>			Client Invoice Order # <u>TC-002</u>																								
Accutest Sample #	Field ID / Point of Collection	ANALYTES INFORMATION																LAB USE ONLY									
		TOPE	TOSE	TOB	TOC	TOH	TOA	TOF	TOG	TOI	TOJ	TOK	TOL	TOM	TON	TOO	TOQ		TOX								
1	Sw-2																		X	61							
2	Sw-1																		X								
3	Sw-5																		X								
4	Sw-4																		X								
5	Sw-3																		X								
6	RB-PPT																		X								
7	RB-4A	✓																	X								
8	Dip-Sw																		X								

TURNAROUND TIME (Business Days): _____ Data Deliverable Indicator: _____ Comments/Remarks: _____

Approved By: [Signature] Push Code: _____

INITIAL ASSESSMENT: [Signature]

LABEL VERIFICATION: [Signature]

Emergency or Rush T/A Data Available Via Email or Lablink: _____

COMMERCIAL "A" (RESULTS ONLY)

COMMERCIAL "B" (RESULTS PLUS QC)

RED1 (EPA LEVEL 3)

FULT1 (EPA LEVEL 4)

EDDS

Accutest Laboratories
 Raleigh, North Carolina
 Service Center

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sample # <u>1</u>	Date/Time: <u>11/16/12 12:45</u>	Received By: <u>[Signature]</u>	Date/Time: <u>11/16/12 1:30</u>	Relinquished by: <u>FED EX</u>	Date/Time: _____	Received By: <u>[Signature]</u>
Relinquished by: _____	Date/Time: _____	Received By: _____	Date/Time: _____	Relinquished by: _____	Date/Time: _____	Received By: _____

Lab Use Only: Custody Sea in Place: Y N Temp Bank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: _____ Cooler Temperature (s) Celsius: 0.8 C

4.1
4

Job Change Order: JC31091

Requested Date: 11/7/2016 **Received Date:** 11/4/2016
Account Name: Hart & Hickman **Due Date:** 11/18/2016
Project Description: TCH-002, 828 Martin Luther King Junior Boulevard, **Deliverable:** NEED
CSR: kellyp **TAT (Days):** 7

=====
Sample #: JC31091-ALL **Change:**
Revise TAT to 7 days, due 11/11

Dept:
TAT: 7

=====

Above Changes Per: Michelle Williams **Date/Time:** 11/7/2016 11:48:38 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

SGS Accutest Sample Receipt Summary

Job Number: JC31091

Client: _____

Project: TCH-002

Date / Time Received: 11/4/2016 8:30:00 AM

Delivery Method: FedEx

Airbill #s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (0.8);
Cooler Temps (Corrected) °C: Cooler 1: (1.7);

Cooler Security

Y or N

Y or N

- | | |
|--|---|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature

Y or N

1. Temp criteria achieved:
2. Cooler temp verification: _____
IR Gun
3. Cooler media: _____
Ice (direct contact)
4. No. Coolers: _____
1

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments 1) Received 1 250ml xcr 7199 not listed on coc, Sample ID: Dup SW, will add to coc as -8

JC31091: Chain of Custody

Page 3 of 3

4.1
4

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC31091
Account: HAHNCC - Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP1230/GN54606	0.0055	0.0	mg/l	0.0501	0.0476	95.1	90-110%

Associated Samples:

Batch GP1230: JC31091-1, JC31091-2, JC31091-3, JC31091-4, JC31091-5, JC31091-6, JC31091-7, JC31091-8
(*) Outside of QC limits

5.1
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC31091
Account: HAHNCC - Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP1230/GN54606	JC31091-1	mg/l	0.00074 U	0.0	0.0	0-20%

Associated Samples:

Batch GP1230: JC31091-1, JC31091-2, JC31091-3, JC31091-4, JC31091-5, JC31091-6, JC31091-7, JC31091-8
(*) Outside of QC limits

5.2
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC31091
Account: HAHNCC - Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP1230/GN54606	JC31091-1	mg/l	0.00074 U	0.0501	0.047	93.9	85-115%

Associated Samples:

Batch GP1230: JC31091-1, JC31091-2, JC31091-3, JC31091-4, JC31091-5, JC31091-6, JC31091-7, JC31091-8

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

5.3
5

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



e-Hardcopy 2.0
Automated Report

Technical Report for

Hart & Hickman

TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

TCH-002

SGS Accutest Job Number: JC31134

Sampling Dates: 11/01/16 - 11/03/16



Report to:

Hart & Hickman
2923 South Tryon Street Suite 100
Charlotte, NC 28203
pstevens@harthickman.com

ATTN: Patrick Stevens

Total number of pages in report: **35**



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Kelly Patterson 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC,
OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.



ACCUTEST

Nov 16, 2016

Mr. Patrick Stevens
Hart & Hickman
2923 South Tryon Street Suite 100
Charlotte, NC 28203

RE: SGS Accutest - Dayton, Job # JC31134 and JC31091 –Reissues

Dear Mr. Stevens:

The final report for SGS Accutest job number JC31134 and JC31091 has been edited to reflect changes to your data package. These edits have been incorporated into the revised report which is attached.

Specifically, the data has been revised to report to the MDL for sample JC31134 and JC31091. The attached revised report incorporates these revisions.

Please contact Me at (732) 329-0200 if you need further assistance in this matter.

Sincerely,

Kelly Ramos
Project Manager

SGS Accutest

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION,
TESTING AND CERTIFICATION COMPANY.

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Sample Summary

Hart & Hickman

Job No: JC31134

TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC
 Project No: TCH-002

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JC31134-1	11/01/16	11:35 PHS	11/04/16	SO	Soil	MW-7 (0-1)
JC31134-2	11/02/16	13:30 PHS	11/04/16	SO	Soil	MW-6 (0-1)
JC31134-3	11/02/16	16:05 PHS	11/04/16	SO	Soil	MW-5 (0-1)
JC31134-4	11/02/16	16:35 PHS	11/04/16	SO	Soil	MW-5 (6-7)
JC31134-5	11/03/16	08:45 PHS	11/04/16	SO	Soil	HH-4 (0-1)
JC31134-6	11/03/16	09:25 PHS	11/04/16	SO	Soil	HH-5 (0-1)
JC31134-7	11/03/16	10:05 PHS	11/04/16	SO	Soil	HH-3 (0-1)
JC31134-8	11/03/16	10:30 PHS	11/04/16	SO	Soil	HH-1 (0-1)
JC31134-9	11/03/16	11:15 PHS	11/04/16	SO	Soil	HH-2 (0-1)
JC31134-10	11/03/16	13:55 PHS	11/04/16	SO	Soil	BG-1 (0-1)
JC31134-11	11/03/16	14:10 PHS	11/04/16	SO	Soil	BG-1 (2-3)
JC31134-12	11/03/16	14:15 PHS	11/04/16	SO	Soil	BG-2 (0-1)
JC31134-13	11/03/16	14:40 PHS	11/04/16	SO	Soil	BG-2 (2-3)

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary

(continued)

Hart & Hickman

Job No: JC31134

TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Project No: TCH-002

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JC31134-14	11/03/16	14:50 PHS	11/04/16	SO	Soil	BG-3 (0-1)
JC31134-15	11/03/16	15:00 PHS	11/04/16	SO	Soil	BG-3 (2-3)
JC31134-16	11/03/16	15:10 PHS	11/04/16	SO	Soil	BG-4 (0-1)
JC31134-17	11/03/16	15:20 PHS	11/04/16	SO	Soil	BG-4 (2-3)
JC31134-18	11/03/16	00:00 PHS	11/04/16	SO	Soil	DUP-SOIL

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: JC31134
Account: Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC
Collected: 11/01/16 thru 11/03/16

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC31134-1	MW-7 (0-1)					
Chromium, Hexavalent		0.89	0.59	0.16	mg/kg	SW846 3060A/7199
JC31134-2	MW-6 (0-1)					
Chromium, Hexavalent		0.21 B	0.43	0.12	mg/kg	SW846 3060A/7199
JC31134-3	MW-5 (0-1)					
Chromium, Hexavalent		0.43 B	0.48	0.13	mg/kg	SW846 3060A/7199
JC31134-4	MW-5 (6-7)					
Chromium, Hexavalent		0.81	0.45	0.12	mg/kg	SW846 3060A/7199
JC31134-5	HH-4 (0-1)					
Chromium, Hexavalent		0.50	0.47	0.13	mg/kg	SW846 3060A/7199
JC31134-6	HH-5 (0-1)					
No hits reported in this sample.						
JC31134-7	HH-3 (0-1)					
Chromium, Hexavalent		0.46 B	0.53	0.15	mg/kg	SW846 3060A/7199
JC31134-8	HH-1 (0-1)					
Chromium, Hexavalent		0.45	0.45	0.12	mg/kg	SW846 3060A/7199
JC31134-9	HH-2 (0-1)					
Chromium, Hexavalent		0.43	0.42	0.12	mg/kg	SW846 3060A/7199
JC31134-10	BG-1 (0-1)					
Chromium, Hexavalent		0.87	0.45	0.12	mg/kg	SW846 3060A/7199
JC31134-11	BG-1 (2-3)					
No hits reported in this sample.						

Summary of Hits

Job Number: JC31134
Account: Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC
Collected: 11/01/16 thru 11/03/16

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC31134-12	BG-2 (0-1)					
Chromium, Hexavalent		0.84	0.45	0.13	mg/kg	SW846 3060A/7199
JC31134-13	BG-2 (2-3)					
Chromium, Hexavalent		0.70	0.61	0.17	mg/kg	SW846 3060A/7199
JC31134-14	BG-3 (0-1)					
Chromium, Hexavalent		0.21 B	0.44	0.12	mg/kg	SW846 3060A/7199
JC31134-15	BG-3 (2-3)					
Chromium, Hexavalent		0.88	0.46	0.13	mg/kg	SW846 3060A/7199
JC31134-16	BG-4 (0-1)					
No hits reported in this sample.						
JC31134-17	BG-4 (2-3)					
Chromium, Hexavalent		0.50 B	0.52	0.14	mg/kg	SW846 3060A/7199
JC31134-18	DUP-SOIL					
Chromium, Hexavalent		0.54	0.53	0.14	mg/kg	SW846 3060A/7199

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-7 (0-1)	Date Sampled: 11/01/16
Lab Sample ID: JC31134-1	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 70.8
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.89	0.59	0.16	mg/kg	1	11/11/16 15:53 TT	SW846	3060A/7199
Solids, Percent	70.8			%	1	11/06/16 17:00 KP	SM2540	G-97

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-6 (0-1)	Date Sampled: 11/02/16
Lab Sample ID: JC31134-2	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 97.2
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.21 B	0.43	0.12	mg/kg	1	11/11/16 16:09 TT	SW846	3060A/7199
Solids, Percent	97.2			%	1	11/06/16 17:00 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-5 (0-1)	Date Sampled: 11/02/16
Lab Sample ID: JC31134-3	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 86.1
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.43 B	0.48	0.13	mg/kg	1	11/11/16 15:13 TT	SW846	3060A/7199
Solids, Percent	86.1			%	1	11/06/16 17:00 KP	SM2540	G-97

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-5 (6-7)	Date Sampled: 11/02/16
Lab Sample ID: JC31134-4	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 91.8
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.81	0.45	0.12	mg/kg	1	11/11/16 16:17 TT	SW846	3060A/7199
Solids, Percent	91.8			%	1	11/06/16 17:00 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: HH-4 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-5	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 83.7
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.50	0.47	0.13	mg/kg	1	11/11/16 16:32 TT	SW846	3060A/7199
Solids, Percent	83.7			%	1	11/06/16 17:00 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: HH-5 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-6	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 80.8
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.14 U	0.49	0.14	mg/kg	1	11/11/16 16:56 TT	SW846	3060A/7199
Solids, Percent	80.8			%	1	11/06/16 17:00 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: HH-3 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-7	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 75.2
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.46 B	0.53	0.15	mg/kg	1	11/11/16 17:12 TT	SW846	3060A/7199
Solids, Percent	75.2			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis



Client Sample ID: HH-1 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-8	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 90.8
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.45	0.45	0.12	mg/kg	1	11/11/16 17:20 TT	SW846	3060A/7199
Solids, Percent	90.8			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: HH-2 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-9	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 93.3
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.43	0.42	0.12	mg/kg	1	11/11/16 17:43 TT	SW846	3060A/7199
Solids, Percent	93.3			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-1 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-10	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 87.1
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.87	0.45	0.12	mg/kg	1	11/11/16 17:59 TT	SW846	3060A/7199
Solids, Percent	87.1			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-1 (2-3)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-11	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 89.1
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.12 U	0.44	0.12	mg/kg	1	11/11/16 18:15 TT	SW846	3060A/7199
Solids, Percent	89.1			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-2 (0-1)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-12	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 88.7
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.84	0.45	0.13	mg/kg	1	11/11/16 18:40 TT	SW846	3060A/7199
Solids, Percent	88.7			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-2 (2-3)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-13	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 67.6
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.70	0.61	0.17	mg/kg	1	11/11/16 19:03 TT	SW846	3060A/7199
Solids, Percent	67.6			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-3 (0-1)		Date Sampled: 11/03/16
Lab Sample ID: JC31134-14		Date Received: 11/04/16
Matrix: SO - Soil		Percent Solids: 92.1
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.21 B	0.44	0.12	mg/kg	1	11/11/16 19:11 TT	SW846	3060A/7199
Solids, Percent	92.1			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-3 (2-3)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-15	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 90.7
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.88	0.46	0.13	mg/kg	1	11/11/16 19:35 TT	SW846	3060A/7199
Solids, Percent	90.7			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-4 (0-1)		Date Sampled: 11/03/16
Lab Sample ID: JC31134-16		Date Received: 11/04/16
Matrix: SO - Soil		Percent Solids: 86.3
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.13 U	0.47	0.13	mg/kg	1	11/11/16 19:50 TT	SW846	3060A/7199
Solids, Percent	86.3			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: BG-4 (2-3)	Date Sampled: 11/03/16
Lab Sample ID: JC31134-17	Date Received: 11/04/16
Matrix: SO - Soil	Percent Solids: 79.3
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.50 B	0.52	0.14	mg/kg	1	11/11/16 19:58 TT	SW846	3060A/7199
Solids, Percent	79.3			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: DUP-SOIL		Date Sampled: 11/03/16
Lab Sample ID: JC31134-18		Date Received: 11/04/16
Matrix: SO - Soil		Percent Solids: 76.5
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.54	0.53	0.14	mg/kg	1	11/11/16 20:14 TT	SW846	3060A/7199
Solids, Percent	76.5			%	1	11/06/16 17:30 KP	SM2540	G-97

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS Accutest Sample Receipt Summary

Job Number: JC31134

Client: _____

Project: _____

Date / Time Received: 11/4/2016 9:30:00 AM

Delivery Method: _____

Airbill #'s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.9);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smp/ Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

JC31134: Chain of Custody

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4.1
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Job Change Order: JC31134

Requested Date: 11/7/2016 **Received Date:** 11/4/2016
Account Name: Hart & Hickman **Due Date:** 11/18/2016
Project Description: TCH-002, 828 Martin Luther King Junior Boulevard, **Deliverable:** NEED
CSR: kellyp **TAT (Days):** 7

=====
Sample #: JC31134-ALL **Change:**
Dept: Revise TAT to 7 days, due 11/11

TAT: 7

Above Changes Per: Michelle Williams **Date/Time:** 11/7/2016 11:47:33 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC31134
Account: HAHNCC - Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP1361/GN55009	0.40	0.0	mg/kg	40	34.9	87.3	80-120%
Chromium, Hexavalent	GP1361/GN55009			mg/kg	1280	1360	106.3	80-120%
Chromium, Hexavalent	GP1361/GN55009			mg/kg	551	471	85.4	71-95%

Associated Samples:

Batch GP1361: JC31134-1, JC31134-2, JC31134-3, JC31134-4, JC31134-5, JC31134-6, JC31134-7, JC31134-8, JC31134-9, JC31134-10, JC31134-11, JC31134-12, JC31134-13, JC31134-14, JC31134-15, JC31134-16, JC31134-17, JC31134-18

(*) Outside of QC limits

5.1
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC31134
Account: HAHNCC - Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP1361/GN55009	JC31134-3	mg/kg	0.43 B	0.55	24.5(a)	0-20%

Associated Samples:

Batch GP1361: JC31134-1, JC31134-2, JC31134-3, JC31134-4, JC31134-5, JC31134-6, JC31134-7, JC31134-8, JC31134-9, JC31134-10, JC31134-11, JC31134-12, JC31134-13, JC31134-14, JC31134-15, JC31134-16, JC31134-17, JC31134-18

(*) Outside of QC limits

(a) RPD acceptable due to low duplicate and sample concentrations.

5.2
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC31134
Account: HAHNCC - Hart & Hickman
Project: TCH-002, 828 Martin Luther King Junior Boulevard, Chapel Hill, NC

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP1361/GN55009	JC31134-3	mg/kg	0.43 B	48.2	40.1	82.3 (a)	75-125%
Chromium, Hexavalent	GP1361/GN55009	JC31134-3	mg/kg	0.43 B	1360	1040	76.5 (b)	75-125%

Associated Samples:

Batch GP1361: JC31134-1, JC31134-2, JC31134-3, JC31134-4, JC31134-5, JC31134-6, JC31134-7, JC31134-8, JC31134-9, JC31134-10, JC31134-11, JC31134-12, JC31134-13, JC31134-14, JC31134-15, JC31134-16, JC31134-17, JC31134-18

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Good recovery on soluble XCR matrix spike. Good recovery (92.3%) on the post-spike.

(b) Good recovery on insoluble XCR matrix spike. See additional comments on soluble matrix spike recovery.

5.3
5

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-163622-2

Client Project/Site: Prism

For:

Access Analytical Services

7478 Carlisle Street

Irmo, South Carolina 29063

Attn: Ms. Angela Martin

Cesar C Cortes

Authorized for release by:

11/9/2016 2:48:23 PM

Cesar Cortes, Project Management Assistant I

(916)373-5600

cesar.cortes@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-163622-7	SED-1	Solid	10/27/16 15:15	10/28/16 10:40
440-163622-8	SED-2	Solid	10/27/16 14:55	10/28/16 10:40
440-163622-9	SED-3	Solid	10/27/16 14:35	10/28/16 10:40
440-163622-10	SED-4	Solid	10/27/16 14:20	10/28/16 10:40
440-163622-11	SED-5	Solid	10/27/16 14:05	10/28/16 10:40
440-163622-12	DUP-SED	Solid	10/27/16 00:00	10/28/16 10:40
440-163622-13	HH-6	Solid	10/27/16 12:10	10/28/16 10:40
440-163622-14	HH-7	Solid	10/27/16 11:55	10/28/16 10:40
440-163622-15	HH-8	Solid	10/27/16 11:45	10/28/16 10:40



Case Narrative

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Job ID: 440-163622-2

Laboratory: TestAmerica Irvine

Narrative

Receipt

The samples were received on 10/28/2016 at 10:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

Receipt Exceptions

The Chain-of-Custody (COC) is not relinquished.

Regarding sample 440-163622-12 (DUP-SED), the Chain-of-Custody (COC) does not provide a sample time. Client did communicate a desired time (00:00) which login currently reflects.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client Sample Results

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Client Sample ID: SED-1
Date Collected: 10/27/16 15:15
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-7
Matrix: Solid
Percent Solids: 78.0

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.24	J	0.38	0.19	mg/Kg	☼	10/31/16 15:21	11/01/16 23:22	3

Client Sample ID: SED-2
Date Collected: 10/27/16 14:55
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-8
Matrix: Solid
Percent Solids: 76.5

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.40	0.20	mg/Kg	☼	10/31/16 15:21	11/01/16 23:33	3

Client Sample ID: SED-3
Date Collected: 10/27/16 14:35
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-9
Matrix: Solid
Percent Solids: 76.7

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.39	0.20	mg/Kg	☼	10/31/16 15:21	11/01/16 23:45	3

Client Sample ID: SED-4
Date Collected: 10/27/16 14:20
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-10
Matrix: Solid
Percent Solids: 79.0

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.38	0.19	mg/Kg	☼	11/02/16 15:00	11/03/16 13:45	3

Client Sample ID: SED-5
Date Collected: 10/27/16 14:05
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-11
Matrix: Solid
Percent Solids: 80.8

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.37	0.19	mg/Kg	☼	10/31/16 15:21	11/01/16 23:57	3

Client Sample ID: DUP-SED
Date Collected: 10/27/16 00:00
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-12
Matrix: Solid
Percent Solids: 75.0

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.40	0.20	mg/Kg	☼	10/31/16 15:21	11/02/16 00:08	3

Client Sample ID: HH-6
Date Collected: 10/27/16 12:10
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-13
Matrix: Solid
Percent Solids: 91.8

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.33	0.16	mg/Kg	☼	10/31/16 15:21	11/02/16 00:20	3

TestAmerica Irvine

Client Sample Results

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Client Sample ID: HH-7

Date Collected: 10/27/16 11:55

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-14

Matrix: Solid

Percent Solids: 82.2

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.61	0.31	mg/Kg	☼	10/31/16 15:21	11/02/16 00:31	5

Client Sample ID: HH-8

Date Collected: 10/27/16 11:45

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-15

Matrix: Solid

Percent Solids: 84.6

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.35	0.18	mg/Kg	☼	10/31/16 15:21	11/02/16 00:43	3

Method Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	TAL IRV
Moisture	Percent Moisture	EPA	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



Lab Chronicle

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Client Sample ID: SED-1

Date Collected: 10/27/16 15:15

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: SED-1

Date Collected: 10/27/16 15:15

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-7

Matrix: Solid

Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/01/16 23:22	TLN	TAL IRV

Client Sample ID: SED-2

Date Collected: 10/27/16 14:55

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: SED-2

Date Collected: 10/27/16 14:55

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-8

Matrix: Solid

Percent Solids: 76.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.48 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/01/16 23:33	TLN	TAL IRV

Client Sample ID: SED-3

Date Collected: 10/27/16 14:35

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: SED-3

Date Collected: 10/27/16 14:35

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-9

Matrix: Solid

Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.49 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/01/16 23:45	TLN	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Client Sample ID: SED-4

Date Collected: 10/27/16 14:20

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: SED-4

Date Collected: 10/27/16 14:20

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-10

Matrix: Solid

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.51 g	100 mL	366556	11/02/16 15:00	TMB	TAL IRV
Total/NA	Analysis	7199		3			366670	11/03/16 13:45	MN	TAL IRV

Client Sample ID: SED-5

Date Collected: 10/27/16 14:05

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-11

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: SED-5

Date Collected: 10/27/16 14:05

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-11

Matrix: Solid

Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/01/16 23:57	TLN	TAL IRV

Client Sample ID: DUP-SED

Date Collected: 10/27/16 00:00

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-12

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: DUP-SED

Date Collected: 10/27/16 00:00

Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-12

Matrix: Solid

Percent Solids: 75.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.49 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/02/16 00:08	TLN	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Client Sample ID: HH-6
Date Collected: 10/27/16 12:10
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: HH-6
Date Collected: 10/27/16 12:10
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-13
Matrix: Solid
Percent Solids: 91.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.48 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/02/16 00:20	TLN	TAL IRV

Client Sample ID: HH-7
Date Collected: 10/27/16 11:55
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: HH-7
Date Collected: 10/27/16 11:55
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-14
Matrix: Solid
Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.48 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		5			366075	11/02/16 00:31	TLN	TAL IRV

Client Sample ID: HH-8
Date Collected: 10/27/16 11:45
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			365708	10/29/16 09:34	MMH	TAL IRV

Client Sample ID: HH-8
Date Collected: 10/27/16 11:45
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-15
Matrix: Solid
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	365964	10/31/16 15:21	TMB	TAL IRV
Total/NA	Analysis	7199		3			366075	11/02/16 00:43	TLN	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TestAmerica Irvine

QC Sample Results

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 440-365964/1-A
Matrix: Solid
Analysis Batch: 366075

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 365964

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30	0.15	mg/Kg		10/31/16 15:21	11/01/16 20:24	3

Lab Sample ID: LCS 440-365964/2-A
Matrix: Solid
Analysis Batch: 366075

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 365964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cr (VI)	40.5	36.0		mg/Kg		89	80 - 120

Lab Sample ID: MB 440-366556/1-A
Matrix: Solid
Analysis Batch: 366670

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 366556

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30	0.15	mg/Kg		11/02/16 15:00	11/03/16 10:31	3

Lab Sample ID: LCS 440-366556/2-A
Matrix: Solid
Analysis Batch: 366670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 366556

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cr (VI)	39.8	31.9		mg/Kg		80	80 - 120

QC Association Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

HPLC/IC

Prep Batch: 365964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-163622-7	SED-1	Total/NA	Solid	3060A	
440-163622-8	SED-2	Total/NA	Solid	3060A	
440-163622-9	SED-3	Total/NA	Solid	3060A	
440-163622-11	SED-5	Total/NA	Solid	3060A	
440-163622-12	DUP-SED	Total/NA	Solid	3060A	
440-163622-13	HH-6	Total/NA	Solid	3060A	
440-163622-14	HH-7	Total/NA	Solid	3060A	
440-163622-15	HH-8	Total/NA	Solid	3060A	
MB 440-365964/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 440-365964/2-A	Lab Control Sample	Total/NA	Solid	3060A	

Analysis Batch: 366075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-163622-7	SED-1	Total/NA	Solid	7199	365964
440-163622-8	SED-2	Total/NA	Solid	7199	365964
440-163622-9	SED-3	Total/NA	Solid	7199	365964
440-163622-11	SED-5	Total/NA	Solid	7199	365964
440-163622-12	DUP-SED	Total/NA	Solid	7199	365964
440-163622-13	HH-6	Total/NA	Solid	7199	365964
440-163622-14	HH-7	Total/NA	Solid	7199	365964
440-163622-15	HH-8	Total/NA	Solid	7199	365964
MB 440-365964/1-A	Method Blank	Total/NA	Solid	7199	365964
LCS 440-365964/2-A	Lab Control Sample	Total/NA	Solid	7199	365964

Prep Batch: 366556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-163622-10	SED-4	Total/NA	Solid	3060A	
MB 440-366556/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 440-366556/2-A	Lab Control Sample	Total/NA	Solid	3060A	

Analysis Batch: 366670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-163622-10	SED-4	Total/NA	Solid	7199	366556
MB 440-366556/1-A	Method Blank	Total/NA	Solid	7199	366556
LCS 440-366556/2-A	Lab Control Sample	Total/NA	Solid	7199	366556

General Chemistry

Analysis Batch: 365708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-163622-7	SED-1	Total/NA	Solid	Moisture	
440-163622-8	SED-2	Total/NA	Solid	Moisture	
440-163622-9	SED-3	Total/NA	Solid	Moisture	
440-163622-10	SED-4	Total/NA	Solid	Moisture	
440-163622-11	SED-5	Total/NA	Solid	Moisture	
440-163622-12	DUP-SED	Total/NA	Solid	Moisture	
440-163622-13	HH-6	Total/NA	Solid	Moisture	
440-163622-14	HH-7	Total/NA	Solid	Moisture	
440-163622-15	HH-8	Total/NA	Solid	Moisture	

TestAmerica Irvine

Definitions/Glossary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17
Alaska (UST)	State Program	10	UST-055	12-18-16
Arizona	State Program	9	AZ0708	08-11-17
Arkansas DEQ	State Program	6	88-0691	06-17-17
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-17
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-17
Hawaii	State Program	9	N/A	01-31-17
Illinois	NELAP	5	200060	03-17-17
Kansas	NELAP	7	E-10375	10-31-16 *
Louisiana	NELAP	6	30612	06-30-17
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-17
New Jersey	NELAP	2	CA005	06-30-17
New York	NELAP	2	11666	04-01-17
Oregon	NELAP	10	4040	01-29-17
Pennsylvania	NELAP	3	68-01272	03-31-17
Texas	NELAP	6	T104704399	07-31-17
US Fish & Wildlife	Federal		LE148388-0	10-31-17
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-17
Virginia	NELAP	3	460278	03-14-17
Washington	State Program	10	C581	05-05-17
West Virginia (DW)	State Program	3	9930C	12-31-16
Wyoming	State Program	8	8TMS-L	01-29-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

440-143622

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING: TCH-001

Project Name: _____
 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: Access Analytical
 Address: _____

PRISM LABORATORIES, INC.
 Full Service Analytical & Environmental Solutions
 449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
 Phone: 704/529-6364 • Fax: 704/525-0409
 Client Company Name: Prism Labs, Inc.
 Report To/Contact Name: Robbi Jones
 Reporting Address: _____

Phone: _____ Fax (Yes) (No): _____
 Email (Y s) (No) Email Address: rjones@prismlabs.com
 EDD Type: PDF Excel Other
 Site Location Name: TCH-002
 Site Location Physical Address: Chapel Hill, NC

LAB USE ONLY
 Samples INTACT upon arrival? YES NO N/A
 Received ON WET ICE? Temp _____
 PROPER PRESERVATIVES indicated? _____
 Received WITHIN HOLDING TIMES? _____
 CUSTODY SEALS INTACT? _____
 VOLATILES rec'd W/OUT HEADSPACE? _____
 PROPER CONTAINERS used? _____

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
 Certification: NELAC USACE 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			PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
SW-S	10/27/16	1400	Water	P	1	250mL	NA	X		
SW-4		1415		P				X		
SW-3		1430		P				X		
SW-2		1450		P				X		
SW-1		1510		P				X		
DUP-SW				P				X		
SED-1		1515	Soil	G		402		X		
SED-2		1455		G				X		
SED-3		1435		G				X		
SED-4		1420		G				X		

PRISM USE ONLY
 Additional Comments:
 Ship Fed Ex priority to:
 Test America, 17461 Derian Ave. - Suite 100, Irvine, CA 92614
 Mileage: 949.261.1022
 Fed Ex #215-8067-2

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

PRISM USE ONLY
 PRESS DOWN FIRMLY - 3 COPIES

Received By: (Signature) Fedex
 Received By: (Signature) TAT
 Received For: Prism Laboratories By: _____

Received Date: 10/27/16 10:30
 Received Date: 10/28/16 10:40
 Received Date: _____

Log-in Group No. _____

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 _____

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

Login Sample Receipt Checklist

Client: Access Analytical Services

Job Number: 440-163622-2

Login Number: 163622

List Source: TestAmerica Irvine

List Number: 1

Creator: Escalante, Maria I

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	Insufficient time to successfully extract within holding time
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	Missing sample times – Client later provided
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-163622-1

Client Project/Site: Prism

For:

Access Analytical Services

7478 Carlisle Street

Irmo, South Carolina 29063

Attn: Ms. Angela Martin

Cesar C Cortes

Authorized for release by:

11/9/2016 2:43:30 PM

Cesar Cortes, Project Management Assistant I

(916)373-5600

cesar.cortes@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-163622-1	SW-5	Water	10/27/16 14:00	10/28/16 10:40
440-163622-2	SW-4	Water	10/27/16 14:15	10/28/16 10:40
440-163622-3	SW-3	Water	10/27/16 14:30	10/28/16 10:40
440-163622-4	SW-2	Water	10/27/16 14:50	10/28/16 10:40
440-163622-5	SW-1	Water	10/27/16 15:10	10/28/16 10:40
440-163622-6	DUP-SW	Water	10/27/16 00:00	10/28/16 10:40
440-163622-16	RB-SED	Water	10/27/16 17:45	10/28/16 10:40

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Case Narrative

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Job ID: 440-163622-1

Laboratory: TestAmerica Irvine

Narrative

Receipt

The samples were received on 10/28/2016 at 10:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

Receipt Exceptions

The Chain-of-Custody (COC) is not relinquished.

Regarding sample 440-163622-6 (DUP-SW), the COC does not provide a sample time. Client did communicate a desired time (00:00) which login currently reflects.

Samples SW-5 (440-163622-1), SW-4 (440-163622-2), SW-3 (440-163622-3), SW-2 (440-163622-4), SW-1 (440-163622-5) and DUP-SW (440-163622-6) were received with insufficient time to successfully extract within holding time. This was communicated to the client and the laboratory was instructed to proceed with analysis.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Client Sample Results

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Client Sample ID: SW-5
Date Collected: 10/27/16 14:00
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-1
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	0.25	ug/L	-		10/28/16 13:04	1

Client Sample ID: SW-4
Date Collected: 10/27/16 14:15
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-2
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	0.25	ug/L	-		10/28/16 13:15	1

Client Sample ID: SW-3
Date Collected: 10/27/16 14:30
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-3
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	0.25	ug/L	-		10/28/16 13:27	1

Client Sample ID: SW-2
Date Collected: 10/27/16 14:50
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-4
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	0.25	ug/L	-		10/28/16 13:39	1

Client Sample ID: SW-1
Date Collected: 10/27/16 15:10
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-5
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	0.25	ug/L	-		10/28/16 13:50	1

Client Sample ID: DUP-SW
Date Collected: 10/27/16 00:00
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-6
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	0.25	ug/L	-		10/28/16 12:29	1

Client Sample ID: RB-SED
Date Collected: 10/27/16 17:45
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-16
Matrix: Water

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		2.0	0.25	ug/L	-		10/28/16 12:17	1

TestAmerica Irvine

Method Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



Lab Chronicle

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Client Sample ID: SW-5
Date Collected: 10/27/16 14:00
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 13:04	RW	TAL IRV

Client Sample ID: SW-4
Date Collected: 10/27/16 14:15
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 13:15	RW	TAL IRV

Client Sample ID: SW-3
Date Collected: 10/27/16 14:30
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 13:27	RW	TAL IRV

Client Sample ID: SW-2
Date Collected: 10/27/16 14:50
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 13:39	RW	TAL IRV

Client Sample ID: SW-1
Date Collected: 10/27/16 15:10
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 13:50	RW	TAL IRV

Client Sample ID: DUP-SW
Date Collected: 10/27/16 00:00
Date Received: 10/28/16 10:40

Lab Sample ID: 440-163622-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 12:29	RW	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Client Sample ID: RB-SED

Lab Sample ID: 440-163622-16

Date Collected: 10/27/16 17:45

Matrix: Water

Date Received: 10/28/16 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			365437	10/28/16 12:17	RW	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 440-365437/3
Matrix: Water
Analysis Batch: 365437

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		2.0	0.25	ug/L			10/28/16 07:52	1

Lab Sample ID: LCS 440-365437/2
Matrix: Water
Analysis Batch: 365437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	50.0	51.7		ug/L		103	90 - 110

Lab Sample ID: MRL 440-365437/4
Matrix: Water
Analysis Batch: 365437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.00	0.990	J	ug/L		99	50 - 150

QC Association Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

HPLC/IC

Analysis Batch: 365437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-163622-1	SW-5	Total/NA	Water	7199	
440-163622-2	SW-4	Total/NA	Water	7199	
440-163622-3	SW-3	Total/NA	Water	7199	
440-163622-4	SW-2	Total/NA	Water	7199	
440-163622-5	SW-1	Total/NA	Water	7199	
440-163622-6	DUP-SW	Total/NA	Water	7199	
440-163622-16	RB-SED	Total/NA	Water	7199	
MB 440-365437/3	Method Blank	Total/NA	Water	7199	
LCS 440-365437/2	Lab Control Sample	Total/NA	Water	7199	
MRL 440-365437/4	Lab Control Sample	Total/NA	Water	7199	

Definitions/Glossary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Access Analytical Services
Project/Site: Prism

TestAmerica Job ID: 440-163622-1

Laboratory: TestAmerica Irvine

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Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

Laboratory: TestAmerica Sacramento

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Colorado	State Program	8	CA00044	08-31-17
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Hawaii	State Program	9	N/A	01-31-17
Illinois	NELAP	5	200060	03-17-17
Kansas	NELAP	7	E-10375	10-31-16 *
Louisiana	NELAP	6	30612	06-30-17
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-17
New Jersey	NELAP	2	CA005	06-30-17
New York	NELAP	2	11666	04-01-17
Oregon	NELAP	10	4040	01-29-17
Pennsylvania	NELAP	3	68-01272	03-31-17
Texas	NELAP	6	T104704399	07-31-17
US Fish & Wildlife	Federal		LE148388-0	10-31-17
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-17
Virginia	NELAP	3	460278	03-14-17
Washington	State Program	10	C581	05-05-17
West Virginia (DW)	State Program	3	9930C	12-31-16
Wyoming	State Program	8	8TMS-L	01-29-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

440-143622



CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING:

Full Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
 Phone: 704/529-6364 • Fax: 704/525-0409

Client Company Name: Prism Labs, Inc.

Robbi Jones

Report To/Contact Name: _____

Reporting Address: _____

TCH-001

Project Name: _____

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: Access Analytical

Address: _____

Phone: _____ Fax (Yes) (No): _____

Email (Y s) (No) Email Address: jones@prismlabs.com

EDD Type: PDF Excel Other

Site Location Name: TCH-002

Site Location Physical Address: Chapel Hill, NC

Purchase Order No./Billing Reference _____

Requested Due Date 1 Day 2 Days 3 Days 4 Days 5 Days

"Working Days" 6-9 Days Standard 10 days

Samples received after 15:00 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

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

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC _____ USACE _____ 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			PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
SW-5	10/27/16	1400	Water	P	1	250mL	NA	X		
SW-4		1415		P	1			X		
SW-3		1430		P	1			X		
SW-2		1450		P	1			X		
SW-1		1510		P	1			X		
DUP-SW				P	1			X		
SED-1		1515	Soil	G	1	402		X		
SED-2		1455		G	1			X		
SED-3		1435		G	1			X		
SED-4		1420		G	1			X		



Feb 7 7:55 PM 17 1551
 29/2.3 JR.74

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature: Patrick Stevens Sampled By (Print Name): Patrick Stevens Affiliation: HVH

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.

Relinquished By: (Signature) [Signature]

Relinquished By: (Signature) _____

Relinquished By: (Signature) _____

Received By: (Signature) Fede X

Received By: (Signature) [Signature]

Received For: Prism Laboratories By: _____

Date: 10/27/16 Military/Hours: 1830

Date: 10/28/16 Date: 10:40

Date: _____

Log-in Group No. _____

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 _____ Other _____ Prism Field Service _____

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

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

PRISM USE ONLY

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

Additional Comments:
 Ship Fed Ex priority to:
 Test America, 17461 Derian Ave. - Suite 100, Irvine, CA 92614
 949.261.1022
 Fed Ex #215-8067-2

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL





Full Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/525-0409

Client Company Name: **Prism Labs, Inc.**

Report To/Contact Name: Robbi Jones

Reporting Address: _____

Phone: _____ Fax (Yes) (No): _____

Email (Y s) (No) Email Address: rfones@prismlabs.com

EDD Type: PDF Excel Other

Site Location Name: TRH-002

Site Location Physical Address: Chapel Hill, NC

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING:

TCH-001

Project Name: _____

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)

*Please ATTACH any project specific reporting (QC LEVEL I III IV) provisions and/or QC Requirements

Invoice To: Access Analytical

Address: _____

Purchase Order No./Billing Reference _____

Requested Due Date 1 Day 2 Days 3 Days 4 Days 5 Days

Working Days 6-9 Days Standard 10 days

Samples received after 15:00 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

Samples INTACT upon arrival? YES NO N/A

Received ON WET ICE? Temp _____

PROPER PRESERVATIVES indicated? _____

Received WITH-IN HOLDING TIMES? _____

CUSTODY SEALS INTACT? _____

VOLATILES rec'd W/OUT HEADSPACE? _____

PROPER CONTAINERS used? _____

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC _____ USACE _____ 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		PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				TYPE SEE BELOW	NO. SIZE				
SED-5	10/27/16	1405	Soil	G	1 40Z	NA	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
DUP-SED				G	1				
HH-6		1210		G	1				
HH-7		1155		G	1				
HH-8		1145		G	1				
RB-SED		1745	Water	P	1 250mL	NA			
								Feb. 2225 2917 1551	
								2.21/2.3 RA.7A	

PRESS DOWN FIRMLY - 3 COPIES

PRISM USE ONLY

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

Additional Comments:
 Ship Fed Ex priority to:
 Test America, 17461
 Derian Ave. - Suite
 100, Irvine, CA 92614
 949.261.1022
 Fed Ex #215-8067-2

Received By: (Signature) Feber
 Received By: (Signature) Ju Bank
 Received For Prism Laboratories By: _____

Date: 10/27/16 1830
 Date: 10/28/16 1840
 Date: _____

Military/Hours: _____
 Log-In Group No. _____

Sampler's Signature: Patrick Stevens Affiliation: HHH

Sampled By (Print Name): Patrick Stevens

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.

Relinquished By: (Signature) _____
 Relinquished By: (Signature) _____
 Relinquished By: (Signature) _____

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

NPDES: - NC - SC NC - SC - SC - SC

GROUNDWATER: - NC - SC - SC - SC

DRINKING WATER: - NC - SC - SC - SC

SOLID WASTE: - NC - SC - SC - SC

RCRA: - NC - SC - SC - SC

CERCLA: - NC - SC - SC - SC

LANDFILL: - NC - SC - SC - SC

OTHER: - NC - SC - SC

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

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



Login Sample Receipt Checklist

Client: Access Analytical Services

Job Number: 440-163622-1

Login Number: 163622

List Source: TestAmerica Irvine

List Number: 1

Creator: Escalante, Maria I

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	Insufficient time to successfully extract within holding time
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	Missing sample times – Client later provided
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

11/29/2016

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

Project: TCH-002

Lab Submittal Date: 11/16/2016
Prism Work Order: 6110312

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:

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.

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Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
IDW-Water	6110312-01	Water	11/14/16	11/16/16
IDW-Soil	6110312-02	Solid	11/14/16	11/16/16

Samples were received in good condition at 1.7 degrees C unless otherwise noted.

Prism Work Order:

Prism ID	Client ID	Parameter	Method	Result	Units
----------	-----------	-----------	--------	--------	-------

There were no detections reported.

Hart & Hickman (Raleigh)
 Attn: Patrick Stevens
 3334 Hillsborough St.
 Raleigh, NC 27607

Project: TCH-002

Sample Matrix: Water

Client Sample ID: IDW-Water
 Prism Sample ID: 6110312-01
 Prism Work Order: 6110312
 Time Collected: 11/14/16 16:05
 Time Submitted: 11/16/16 08:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
-----------	--------	-------	--------------	-----	-----------------	--------	--------------------	---------	----------

TCLP Extraction by EPA 1311

TCLP Extraction	Complete	N/A			1	*1311	11/22/16 8:00	JAB	P6K0504
-----------------	----------	-----	--	--	---	-------	---------------	-----	---------

TCLP Metals

Mercury	BRL	mg/L	0.010	0.000030	1	*7470A	11/22/16 16:03	JAB	P6K0531
Arsenic	BRL	mg/L	0.050	0.012	1	*6010D	11/23/16 18:36	bgm	P6K0532
Barium	BRL	mg/L	5.0	0.0065	1	*6010D	11/23/16 18:36	bgm	P6K0532
Cadmium	BRL	mg/L	0.025	0.00065	1	*6010D	11/23/16 18:36	bgm	P6K0532
Chromium	BRL	mg/L	0.25	0.0038	1	*6010D	11/23/16 18:36	bgm	P6K0532
Lead	BRL	mg/L	0.050	0.0080	1	*6010D	11/23/16 18:36	bgm	P6K0532
Selenium	BRL	mg/L	0.10	0.022	1	*6010D	11/28/16 16:13	bgm	P6K0532
Silver	BRL	mg/L	0.25	0.00050	1	*6010D	11/23/16 18:36	bgm	P6K0532

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Sample Matrix: Solid

Client Sample ID: IDW-Soil
Prism Sample ID: 6110312-02
Prism Work Order: 6110312
Time Collected: 11/14/16 17:00
Time Submitted: 11/16/16 08:35

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
TCLP Extraction by EPA 1311									
TCLP Extraction	Complete	N/A			1	*1311	11/22/16 8:00	JAB	P6K0504
TCLP Metals									
Mercury	BRL	mg/L	0.010	0.000030	1	*7470A	11/22/16 15:52	JAB	P6K0531
Arsenic	BRL	mg/L	0.050	0.012	1	*6010D	11/23/16 18:44	bgm	P6K0532
Barium	BRL	mg/L	5.0	0.0065	1	*6010D	11/23/16 18:44	bgm	P6K0532
Cadmium	BRL	mg/L	0.025	0.00065	1	*6010D	11/23/16 18:44	bgm	P6K0532
Chromium	BRL	mg/L	0.25	0.0038	1	*6010D	11/23/16 18:44	bgm	P6K0532
Lead	BRL	mg/L	0.050	0.0080	1	*6010D	11/23/16 18:44	bgm	P6K0532
Selenium	BRL	mg/L	0.10	0.022	1	*6010D	11/28/16 16:21	bgm	P6K0532
Silver	BRL	mg/L	0.25	0.00050	1	*6010D	11/23/16 18:44	bgm	P6K0532

Hart & Hickman (Raleigh)
Attn: Patrick Stevens
3334 Hillsborough St.
Raleigh, NC 27607

Project: TCH-002

Prism Work Order: 6110312

Time Submitted: 11/16/2016 8:35:00AM

TCLP Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6K0531 - 7470A										
Blank (P6K0531-BLK1)				Prepared & Analyzed: 11/22/16						
Mercury	BRL	0.010	mg/L							
LCS (P6K0531-BS1)				Prepared & Analyzed: 11/22/16						
Mercury	0.00965	0.010	mg/L	0.009375		103	80-120			
Matrix Spike (P6K0531-MS1)				Source: 6110312-02 Prepared & Analyzed: 11/22/16						
Mercury	0.00900	0.010	mg/L	0.009375	BRL	96	80-120			
Matrix Spike Dup (P6K0531-MSD1)				Source: 6110312-02 Prepared & Analyzed: 11/22/16						
Mercury	0.00934	0.010	mg/L	0.009375	BRL	100	80-120	4	20	
Batch P6K0532 - 3010A										
Blank (P6K0532-BLK1)				Prepared: 11/22/16 Analyzed: 11/23/16						
Arsenic	BRL	0.050	mg/L							
Barium	BRL	5.0	mg/L							
Cadmium	BRL	0.025	mg/L							
Chromium	BRL	0.25	mg/L							
Lead	BRL	0.050	mg/L							
Selenium	BRL	0.050	mg/L							
Silver	BRL	0.25	mg/L							
LCS (P6K0532-BS1)				Prepared: 11/22/16 Analyzed: 11/23/16						
Arsenic	0.251	0.050	mg/L	0.2500		100	80-120			
Barium	0.254	5.0	mg/L	0.2500		101	80-120			
Cadmium	0.253	0.025	mg/L	0.2500		101	80-120			
Chromium	0.254	0.25	mg/L	0.2500		102	80-120			
Lead	0.252	0.050	mg/L	0.2500		101	80-120			
Selenium	0.263	0.050	mg/L	0.2500		105	80-120			
Silver	0.0974	0.25	mg/L	0.1000		97	80-120			

Sample Extraction Data

Prep Method: 1311

Lab Number	Batch	Initial	Final	Date/Time
6110312-01	P6K0504	100 g	2000 mL	11/21/16 15:00
6110312-02	P6K0504	100 g	2000 mL	11/21/16 15:00

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
6110312-01	P6K0532	10 mL	50 mL	11/22/16 11:35
6110312-01	P6K0532	10 mL	50 mL	11/22/16 11:35
6110312-02	P6K0532	10 mL	50 mL	11/22/16 11:35
6110312-02	P6K0532	10 mL	50 mL	11/22/16 11:35

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
6110312-01	P6K0531	20 mL	30 mL	11/22/16 10:50
6110312-02	P6K0531	20 mL	30 mL	11/22/16 10:50

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Appendix F
Monitoring Well Construction Records

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

KENNY SARGENT

Well Contractor Name

A - 4226

NC Well Contractor Certification Number

GEOLOGIC EXPLORATION, INC

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

- Agricultural Municipal/Public
 Geothermal (Heating/Cooling Supply) Residential Water Supply (single)
 Industrial/Commercial Residential Water Supply (shared)
 Irrigation

Non-Water Supply Well:

- Monitoring Recovery

Injection Well:

- Aquifer Recharge Groundwater Remediation
 Aquifer Storage and Recovery Salinity Barrier
 Aquifer Test Stormwater Drainage
 Experimental Technology Subsidence Control
 Geothermal (Closed Loop) Tracer
 Geothermal (Heating/Cooling Return) Other (explain under #21 Remarks)

4. Date Well(s) Completed: 11/02/16 Well ID# MW-5

5a. Well Location:

TOWN OF CHAPEL HILL

Facility/Owner Name

Facility ID# (if applicable)

828 MARTIN KING LUTHER JR BLVD CHAPEL HILL 27514

Physical Address, City, and Zip

ORANGE

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35° 55' 33.25" N 79° 03' 12.26" W

6. Is (are) the well(s): Permanent or Temporary

7. Is this a repair to an existing well: Yes or No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 28.0 (ft.)

For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 16.0 (ft.)

If water level is above casing, use "+"

11. Borehole diameter: 6.0 (in.)

12. Well construction method: AIR

(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ Method of test: _____

13b. Disinfection type: _____ Amount: _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0.0 ft.	18.0 ft.	2.0 in.	SCH 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
18.0 ft.	28.0 ft.	2.0 in.	.010	SCH 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0.0 ft.	13.0 ft.	PORTLAND BENTONITE	SLURRY
ft.	ft.		
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
16.0 ft.	28.0 ft.	20-40	FINE SILICA SAND
ft.	ft.		


20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0.0 ft.	1.0 ft.	GRASS/BACKFILL
1.0 ft.	4.0 ft.	BROWN SILT
4.0 ft.	15.0 ft.	BROWN SILTY PWR
15.0 ft.	28.5 ft.	GRAY ROCK
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

BENTONITE SEAL FROM 13.0 TO 16.0 FEET

22. Certification:

 11/17/16
Signature of Certified Well Contractor Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. **For All Wells:** Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. **For Injection Wells:** In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. **For Water Supply & Injection Wells:** In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

KENNY SARGENT

Well Contractor Name

A - 4226

NC Well Contractor Certification Number

GEOLOGIC EXPLORATION, INC

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

- Agricultural Municipal/Public
 Geothermal (Heating/Cooling Supply) Residential Water Supply (single)
 Industrial/Commercial Residential Water Supply (shared)
 Irrigation

Non-Water Supply Well:

- Monitoring Recovery

Injection Well:

- Aquifer Recharge Groundwater Remediation
 Aquifer Storage and Recovery Salinity Barrier
 Aquifer Test Stormwater Drainage
 Experimental Technology Subsidence Control
 Geothermal (Closed Loop) Tracer
 Geothermal (Heating/Cooling Return) Other (explain under #21 Remarks)

4. Date Well(s) Completed: 11/02/16 Well ID# MW-6

5a. Well Location:

TOWN OF CHAPEL HILL

Facility/Owner Name

Facility ID# (if applicable)

828 MARTIN KING LUTHER JR BLVD CHAPEL HILL 27514

Physical Address, City, and Zip

ORANGE

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees: (if well field, one lat/long is sufficient)

35° 55' 33.25" N 79° 03' 12.26" W

6. Is (are) the well(s): Permanent or Temporary

7. Is this a repair to an existing well: Yes or No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 17.5 (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 9.0 (ft.)
If water level is above casing, use "+"

11. Borehole diameter: 8.0 (in.)

12. Well construction method: AUGER

(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ Method of test: _____

13b. Disinfection type: _____ Amount: _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0.0 ft.	7.5 ft.	2.0 in.	SCH 40	PVC*
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
7.5 ft.	17.5 ft.	2.0 in.	.010	SCH 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0.0 ft.	3.0 ft.	PORTLAND BENTONITE	SLURRY
ft.	ft.		
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
5.5 ft.	17.5 ft.	20-40	FINE SILICA SAND
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0.0 ft.	2.0 ft.	GRASS/BACKFILL
2.0 ft.	4.0 ft.	GRAVEL
4.0 ft.	18.0 ft.	BLACK ASH/ROCKS
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

BENTONITE SEAL FROM 3.0 TO 5.5 FEET

***PREPACK SCREEN**

22. Certification:



Signature of Certified Well Contractor

11/17/16

Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. **For All Wells:** Submit this form within 30 days of completion of well construction to the following:

**Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617**

24b. **For Injection Wells:** In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

**Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636**

24c. **For Water Supply & Injection Wells:** In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

KENNY SARGENT

Well Contractor Name

A - 4226

NC Well Contractor Certification Number

GEOLOGIC EXPLORATION, INC

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

- Agricultural Municipal/Public
 Geothermal (Heating/Cooling Supply) Residential Water Supply (single)
 Industrial/Commercial Residential Water Supply (shared)
 Irrigation

Non-Water Supply Well:

- Monitoring Recovery

Injection Well:

- Aquifer Recharge Groundwater Remediation
 Aquifer Storage and Recovery Salinity Barrier
 Aquifer Test Stormwater Drainage
 Experimental Technology Subsidence Control
 Geothermal (Closed Loop) Tracer
 Geothermal (Heating/Cooling Return) Other (explain under #21 Remarks)

4. Date Well(s) Completed: **11/02/16** Well ID# **MW-7**

5a. Well Location:

TOWN OF CHAPEL HILL

Facility/Owner Name

Facility ID# (if applicable)

828 MARTIN KING LUTHER JR BLVD CHAPEL HILL 27514

Physical Address, City, and Zip

ORANGE

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:

(if well field, one lat/long is sufficient)

35° 55' 33.25" N 79° 03' 12.26" W

6. Is (are) the well(s): Permanent or Temporary

7. Is this a repair to an existing well: Yes or No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: **1**

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: **69.5** (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: **58.0** (ft.)
If water level is above casing, use "+ "

11. Borehole diameter: **8.0/6.0** (in.)

12. Well construction method: **AUGER/AIR**
(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) Method of test:

13b. Disinfection type: Amount:

For Internal Use ONLY:

Table with 3 columns: FROM, TO, DESCRIPTION. Rows for water zones.

Table with 5 columns: FROM, TO, DIAMETER, THICKNESS, MATERIAL. Section: 15. OUTER CASING (for multi-cased wells) OR LINER (if applicable).

Table with 5 columns: FROM, TO, DIAMETER, THICKNESS, MATERIAL. Section: 16. INNER CASING OR TUBING (geothermal closed-loop).

Table with 6 columns: FROM, TO, DIAMETER, SLOT SIZE, THICKNESS, MATERIAL. Section: 17. SCREEN.

Table with 4 columns: FROM, TO, MATERIAL, EMPLACEMENT METHOD & AMOUNT. Section: 18. GROUT.

Table with 4 columns: FROM, TO, MATERIAL, EMPLACEMENT METHOD. Section: 19. SAND/GRAVEL PACK (if applicable).

Table with 3 columns: FROM, TO, DESCRIPTION (color, hardness, soil/rock type, grain size, etc.). Section: 20. DRILLING LOG (attach additional sheets if necessary).

21. REMARKS
BENTONITE SEAL FROM 54.0 TO 57.5 FEET
*PREPACK SCREEN

22. Certification:
Signature of Certified Well Contractor: [Signature]
Date: 11/17/16

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

Appendix G

Background Soil Upper Confidence Level Documentation

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.112/14/2016 8:54:59 AM									
5	From File		BG data.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	As											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				7	
15							Number of Missing Observations				0	
16	Minimum				1.4		Mean				1.91	
17	Maximum				2.3		Median				1.9	
18	SD				0.264		Std. Error of Mean				0.0836	
19	Coefficient of Variation				0.138		Skewness				-0.45	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.965		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.185		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				2.063		95% Adjusted-CLT UCL (Chen-1995)				2.035	
31							95% Modified-t UCL (Johnson-1978)				2.061	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				0.285		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.724		Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.202		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.266		Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				54.94		k star (bias corrected MLE)				38.52	
42	Theta hat (MLE)				0.0348		Theta star (bias corrected MLE)				0.0496	
43	nu hat (MLE)				1099		nu star (bias corrected)				770.4	
44	MLE Mean (bias corrected)				1.91		MLE Sd (bias corrected)				0.308	
45							Approximate Chi Square Value (0.05)				707	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				696.5	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))				2.081		95% Adjusted Gamma UCL (use when n<50)				2.113	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.942		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.211		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data appear Lognormal at 5% Significance Level					
56	Data appear Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				0.336		Mean of logged Data				0.638	
60	Maximum of Logged Data				0.833		SD of logged Data				0.145	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				2.09		90% Chebyshev (MVUE) UCL				2.173	
64	95% Chebyshev (MVUE) UCL				2.292		97.5% Chebyshev (MVUE) UCL				2.458	
65	99% Chebyshev (MVUE) UCL				2.782							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data appear to follow a Discernible Distribution at 5% Significance Level											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				2.048		95% Jackknife UCL				2.063	
72	95% Standard Bootstrap UCL				2.036		95% Bootstrap-t UCL				2.051	
73	95% Hall's Bootstrap UCL				2.047		95% Percentile Bootstrap UCL				2.04	
74	95% BCA Bootstrap UCL				2.02							
75	90% Chebyshev(Mean, Sd) UCL				2.161		95% Chebyshev(Mean, Sd) UCL				2.274	
76	97.5% Chebyshev(Mean, Sd) UCL				2.432		99% Chebyshev(Mean, Sd) UCL				2.742	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				2.063							
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
87	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
88												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:13:07 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Barium											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				9	
15							Number of Missing Observations				0	
16	Minimum				36		Mean				51.8	
17	Maximum				76		Median				51	
18	SD				11.03		Std. Error of Mean				3.489	
19	Coefficient of Variation				0.213		Skewness				1.031	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.933		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.157		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				58.2		95% Adjusted-CLT UCL (Chen-1995)				58.75	
31							95% Modified-t UCL (Johnson-1978)				58.39	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				0.258		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.725		Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.138		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.266		Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				26.16		k star (bias corrected MLE)				18.38	
42	Theta hat (MLE)				1.98		Theta star (bias corrected MLE)				2.819	
43	nu hat (MLE)				523.2		nu star (bias corrected)				367.6	
44	MLE Mean (bias corrected)				51.8		MLE Sd (bias corrected)				12.08	
45							Approximate Chi Square Value (0.05)				324.1	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				317	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				58.74		95% Adjusted Gamma UCL (use when n<50)				60.06	
50												

	A	B	C	D	E	F	G	H	I	J	K	L		
51	Lognormal GOF Test													
52	Shapiro Wilk Test Statistic				0.971		Shapiro Wilk Lognormal GOF Test							
53	5% Shapiro Wilk Critical Value				0.842		Data appear Lognormal at 5% Significance Level							
54	Lilliefors Test Statistic				0.141		Lilliefors Lognormal GOF Test							
55	5% Lilliefors Critical Value				0.262		Data appear Lognormal at 5% Significance Level							
56	Data appear Lognormal at 5% Significance Level													
57														
58	Lognormal Statistics													
59	Minimum of Logged Data				3.584		Mean of logged Data				3.928			
60	Maximum of Logged Data				4.331		SD of logged Data				0.205			
61														
62	Assuming Lognormal Distribution													
63	95% H-UCL				59		90% Chebyshev (MVUE) UCL				61.86			
64	95% Chebyshev (MVUE) UCL				66.42		97.5% Chebyshev (MVUE) UCL				72.76			
65	99% Chebyshev (MVUE) UCL				85.21									
66														
67	Nonparametric Distribution Free UCL Statistics													
68	Data appear to follow a Discernible Distribution at 5% Significance Level													
69														
70	Nonparametric Distribution Free UCLs													
71	95% CLT UCL				57.54		95% Jackknife UCL				58.2			
72	95% Standard Bootstrap UCL				57.23		95% Bootstrap-t UCL				60.32			
73	95% Hall's Bootstrap UCL				65.56		95% Percentile Bootstrap UCL				57.1			
74	95% BCA Bootstrap UCL				58									
75	90% Chebyshev(Mean, Sd) UCL				62.27		95% Chebyshev(Mean, Sd) UCL				67.01			
76	97.5% Chebyshev(Mean, Sd) UCL				73.59		99% Chebyshev(Mean, Sd) UCL				86.52			
77														
78	Suggested UCL to Use													
79	95% Student's-t UCL				58.2									
80														
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.													
82	Recommendations are based upon data size, data distribution, and skewness.													
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).													
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.													
85														

	A	B	C	D	E	F	G	H	I	J	K	L	
1	UCL Statistics for Uncensored Full Data Sets												
2													
3	User Selected Options												
4	Date/Time of Computation		ProUCL 5.112/14/2016 9:01:23 AM										
5	From File		BG data.xls										
6	Full Precision		OFF										
7	Confidence Coefficient		95%										
8	Number of Bootstrap Operations		2000										
9													
10													
11	Be												
12													
13	General Statistics												
14	Total Number of Observations				10		Number of Distinct Observations				9		
15									Number of Missing Observations				0
16	Minimum				0.39		Mean				0.548		
17	Maximum				0.99		Median				0.51		
18	SD				0.166		Std. Error of Mean				0.0524		
19	Coefficient of Variation				0.303		Skewness				2.449		
20													
21	Normal GOF Test												
22	Shapiro Wilk Test Statistic				0.705		Shapiro Wilk GOF Test						
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level						
24	Lilliefors Test Statistic				0.319		Lilliefors GOF Test						
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level						
26	Data Not Normal at 5% Significance Level												
27													
28	Assuming Normal Distribution												
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)						
30	95% Student's-t UCL				0.644		95% Adjusted-CLT UCL (Chen-1995)				0.678		
31							95% Modified-t UCL (Johnson-1978)				0.651		
32													
33	Gamma GOF Test												
34	A-D Test Statistic				0.933		Anderson-Darling Gamma GOF Test						
35	5% A-D Critical Value				0.725		Data Not Gamma Distributed at 5% Significance Level						
36	K-S Test Statistic				0.29		Kolmogorov-Smirnov Gamma GOF Test						
37	5% K-S Critical Value				0.266		Data Not Gamma Distributed at 5% Significance Level						
38	Data Not Gamma Distributed at 5% Significance Level												
39													
40	Gamma Statistics												
41	k hat (MLE)				15.94		k star (bias corrected MLE)				11.23		
42	Theta hat (MLE)				0.0344		Theta star (bias corrected MLE)				0.0488		
43	nu hat (MLE)				318.8		nu star (bias corrected)				224.5		
44	MLE Mean (bias corrected)				0.548		MLE Sd (bias corrected)				0.164		
45							Approximate Chi Square Value (0.05)				190.8		
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				185.4		
47													
48	Assuming Gamma Distribution												
49	95% Approximate Gamma UCL (use when n>=50)				0.645		95% Adjusted Gamma UCL (use when n<50)				0.663		
50													

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.82		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.273		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				-0.942		Mean of logged Data				-0.633	
60	Maximum of Logged Data				-0.0101		SD of logged Data				0.25	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				0.643		90% Chebyshev (MVUE) UCL				0.676	
64	95% Chebyshev (MVUE) UCL				0.735		97.5% Chebyshev (MVUE) UCL				0.816	
65	99% Chebyshev (MVUE) UCL				0.977							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				0.634		95% Jackknife UCL				0.644	
72	95% Standard Bootstrap UCL				0.631		95% Bootstrap-t UCL				0.758	
73	95% Hall's Bootstrap UCL				1.053		95% Percentile Bootstrap UCL				0.639	
74	95% BCA Bootstrap UCL				0.678							
75	90% Chebyshev(Mean, Sd) UCL				0.705		95% Chebyshev(Mean, Sd) UCL				0.777	
76	97.5% Chebyshev(Mean, Sd) UCL				0.875		99% Chebyshev(Mean, Sd) UCL				1.07	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				0.644		or 95% Modified-t UCL				0.651	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.112/14/2016 9:04:13 AM									
5	From File		BG data.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Co											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				8	
15							Number of Missing Observations				0	
16	Minimum				6.3		Mean				11	
17	Maximum				27		Median				7.5	
18	SD				6.731		Std. Error of Mean				2.128	
19	Coefficient of Variation				0.612		Skewness				1.947	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.688		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.3		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				14.9		95% Adjusted-CLT UCL (Chen-1995)				15.9	
31							95% Modified-t UCL (Johnson-1978)				15.12	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				1.237		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.729		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.318		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.268		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				4.275		k star (bias corrected MLE)				3.059	
42	Theta hat (MLE)				2.573		Theta star (bias corrected MLE)				3.596	
43	nu hat (MLE)				85.5		nu star (bias corrected)				61.19	
44	MLE Mean (bias corrected)				11		MLE Sd (bias corrected)				6.289	
45							Approximate Chi Square Value (0.05)				44.2	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				41.7	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				15.23		95% Adjusted Gamma UCL (use when n<50)				16.14	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.777		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.308		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				1.841		Mean of logged Data				2.276	
60	Maximum of Logged Data				3.296		SD of logged Data				0.478	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				15.48		90% Chebyshev (MVUE) UCL				15.76	
64	95% Chebyshev (MVUE) UCL				18.01		97.5% Chebyshev (MVUE) UCL				21.13	
65	99% Chebyshev (MVUE) UCL				27.27							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				14.5		95% Jackknife UCL				14.9	
72	95% Standard Bootstrap UCL				14.33		95% Bootstrap-t UCL				25.49	
73	95% Hall's Bootstrap UCL				31.54		95% Percentile Bootstrap UCL				14.59	
74	95% BCA Bootstrap UCL				15.75							
75	90% Chebyshev(Mean, Sd) UCL				17.39		95% Chebyshev(Mean, Sd) UCL				20.28	
76	97.5% Chebyshev(Mean, Sd) UCL				24.29		99% Chebyshev(Mean, Sd) UCL				32.18	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				14.9		or 95% Modified-t UCL				15.12	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:15:42 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Copper											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				6	
15							Number of Missing Observations				0	
16	Minimum				15		Mean				21.1	
17	Maximum				49		Median				18	
18	SD				10.06		Std. Error of Mean				3.181	
19	Coefficient of Variation				0.477		Skewness				2.88	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.564		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.344		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				26.93		95% Adjusted-CLT UCL (Chen-1995)				29.43	
31							95% Modified-t UCL (Johnson-1978)				27.41	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				1.55		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.727		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.322		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.267		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				7.797		k star (bias corrected MLE)				5.524	
42	Theta hat (MLE)				2.706		Theta star (bias corrected MLE)				3.819	
43	nu hat (MLE)				155.9		nu star (bias corrected)				110.5	
44	MLE Mean (bias corrected)				21.1		MLE Sd (bias corrected)				8.977	
45							Approximate Chi Square Value (0.05)				87.23	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				83.64	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				26.73		95% Adjusted Gamma UCL (use when n<50)				27.87	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.684		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.308		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				2.708		Mean of logged Data				2.984	
60	Maximum of Logged Data				3.892		SD of logged Data				0.341	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				26.36		90% Chebyshev (MVUE) UCL				27.62	
64	95% Chebyshev (MVUE) UCL				30.7		97.5% Chebyshev (MVUE) UCL				34.98	
65	99% Chebyshev (MVUE) UCL				43.37							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				26.33		95% Jackknife UCL				26.93	
72	95% Standard Bootstrap UCL				25.91		95% Bootstrap-t UCL				46.68	
73	95% Hall's Bootstrap UCL				50.55		95% Percentile Bootstrap UCL				27.1	
74	95% BCA Bootstrap UCL				29.9							
75	90% Chebyshev(Mean, Sd) UCL				30.64		95% Chebyshev(Mean, Sd) UCL				34.97	
76	97.5% Chebyshev(Mean, Sd) UCL				40.97		99% Chebyshev(Mean, Sd) UCL				52.75	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				26.93		or 95% Modified-t UCL				27.41	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.112/14/2016 2:53:37 PM									
5	From File		BG data.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10	Cr6											
11												
12	General Statistics											
13	Total Number of Observations			10		Number of Distinct Observations			10			
14	Number of Detects			8		Number of Non-Detects			2			
15	Number of Distinct Detects			8		Number of Distinct Non-Detects			2			
16	Minimum Detect			0.21		Minimum Non-Detect			0.12			
17	Maximum Detect			0.88		Maximum Non-Detect			0.13			
18	Variance Detects			0.0614		Percent Non-Detects			20%			
19	Mean Detects			0.655		SD Detects			0.248			
20	Median Detects			0.755		CV Detects			0.378			
21	Skewness Detects			-0.898		Kurtosis Detects			-0.461			
22	Mean of Logged Detects			-0.513		SD of Logged Detects			0.501			
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic			0.866		Shapiro Wilk GOF Test						
26	5% Shapiro Wilk Critical Value			0.818		Detected Data appear Normal at 5% Significance Level						
27	Lilliefors Test Statistic			0.234		Lilliefors GOF Test						
28	5% Lilliefors Critical Value			0.283		Detected Data appear Normal at 5% Significance Level						
29	Detected Data appear Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean		0.548		KM Standard Error of Mean			0.101				
33	KM SD		0.298		95% KM (BCA) UCL			0.705				
34	95% KM (t) UCL		0.733		95% KM (Percentile Bootstrap) UCL			0.706				
35	95% KM (z) UCL		0.714		95% KM Bootstrap t UCL			0.712				
36	90% KM Chebyshev UCL		0.85		95% KM Chebyshev UCL			0.987				
37	97.5% KM Chebyshev UCL		1.177		99% KM Chebyshev UCL			1.55				
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic		0.642		Anderson-Darling GOF Test							
41	5% A-D Critical Value		0.718		Detected data appear Gamma Distributed at 5% Significance Level							
42	K-S Test Statistic		0.246		Kolmogorov-Smirnov GOF							
43	5% K-S Critical Value		0.295		Detected data appear Gamma Distributed at 5% Significance Level							
44	Detected data appear Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)		5.704		k star (bias corrected MLE)			3.649				
48	Theta hat (MLE)		0.115		Theta star (bias corrected MLE)			0.18				
49	nu hat (MLE)		91.27		nu star (bias corrected)			58.38				
50	Mean (detects)		0.655									

	A	B	C	D	E	F	G	H	I	J	K	L
101												
102	DL/2 Statistics											
103	DL/2 Normal						DL/2 Log-Transformed					
104	Mean in Original Scale					0.537	Mean in Log Scale					-0.965
105	SD in Original Scale					0.332	SD in Log Scale					1.051
106	95% t UCL (Assumes normality)					0.729	95% H-Stat UCL					2.034
107	DL/2 is not a recommended method, provided for comparisons and historical reasons											
108												
109	Nonparametric Distribution Free UCL Statistics											
110	Detected Data appear Normal Distributed at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	95% KM (t) UCL					0.733						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.112/14/2016 9:04:42 AM									
5	From File		BG data.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Pb											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				9	
15							Number of Missing Observations				0	
16	Minimum				0.55		Mean				22.76	
17	Maximum				43		Median				25	
18	SD				12.49		Std. Error of Mean				3.949	
19	Coefficient of Variation				0.549		Skewness				-0.582	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.912		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.244		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				29.99		95% Adjusted-CLT UCL (Chen-1995)				28.47	
31							95% Modified-t UCL (Johnson-1978)				29.87	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				1.256		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.741		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.377		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.272		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				1.383		k star (bias corrected MLE)				1.034	
42	Theta hat (MLE)				16.46		Theta star (bias corrected MLE)				22	
43	nu hat (MLE)				27.65		nu star (bias corrected)				20.69	
44	MLE Mean (bias corrected)				22.76		MLE Sd (bias corrected)				22.37	
45							Approximate Chi Square Value (0.05)				11.36	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				10.18	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))				41.44		95% Adjusted Gamma UCL (use when n<50)				46.25	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.676		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.396		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				-0.598		Mean of logged Data				2.721	
60	Maximum of Logged Data				3.761		SD of logged Data				1.328	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				198.7		90% Chebyshev (MVUE) UCL				74.63	
64	95% Chebyshev (MVUE) UCL				93.94		97.5% Chebyshev (MVUE) UCL				120.7	
65	99% Chebyshev (MVUE) UCL				173.4							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data appear to follow a Discernible Distribution at 5% Significance Level											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				29.25		95% Jackknife UCL				29.99	
72	95% Standard Bootstrap UCL				28.91		95% Bootstrap-t UCL				29.18	
73	95% Hall's Bootstrap UCL				28.94		95% Percentile Bootstrap UCL				28.86	
74	95% BCA Bootstrap UCL				28.3							
75	90% Chebyshev(Mean, Sd) UCL				34.6		95% Chebyshev(Mean, Sd) UCL				39.97	
76	97.5% Chebyshev(Mean, Sd) UCL				47.42		99% Chebyshev(Mean, Sd) UCL				62.05	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				29.99							
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
87	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
88												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:16:31 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Manganese											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				7	
15							Number of Missing Observations				0	
16	Minimum				310		Mean				499	
17	Maximum				940		Median				445	
18	SD				185.1		Std. Error of Mean				58.53	
19	Coefficient of Variation				0.371		Skewness				1.88	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.736		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.383		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				606.3		95% Adjusted-CLT UCL (Chen-1995)				632.4	
31							95% Modified-t UCL (Johnson-1978)				612.1	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				1.103		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.725		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.361		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.267		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				10.3		k star (bias corrected MLE)				7.275	
42	Theta hat (MLE)				48.46		Theta star (bias corrected MLE)				68.59	
43	nu hat (MLE)				206		nu star (bias corrected)				145.5	
44	MLE Mean (bias corrected)				499		MLE Sd (bias corrected)				185	
45							Approximate Chi Square Value (0.05)				118.6	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				114.4	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))				612.1		95% Adjusted Gamma UCL (use when n<50)				634.6	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.822		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.341		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				5.737		Mean of logged Data				6.163	
60	Maximum of Logged Data				6.846		SD of logged Data				0.314	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				614.6		90% Chebyshev (MVUE) UCL				645.4	
64	95% Chebyshev (MVUE) UCL				712.9		97.5% Chebyshev (MVUE) UCL				806.6	
65	99% Chebyshev (MVUE) UCL				990.6							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				595.3		95% Jackknife UCL				606.3	
72	95% Standard Bootstrap UCL				591.1		95% Bootstrap-t UCL				845.5	
73	95% Hall's Bootstrap UCL				1367		95% Percentile Bootstrap UCL				599	
74	95% BCA Bootstrap UCL				618							
75	90% Chebyshev(Mean, Sd) UCL				674.6		95% Chebyshev(Mean, Sd) UCL				754.1	
76	97.5% Chebyshev(Mean, Sd) UCL				864.5		99% Chebyshev(Mean, Sd) UCL				1081	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				606.3		or 95% Modified-t UCL				612.1	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.112/14/2016 2:54:12 PM									
5	From File		BG data.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10	Hg											
11												
12	General Statistics											
13	Total Number of Observations				10		Number of Distinct Observations				10	
14	Number of Detects				8		Number of Non-Detects				2	
15	Number of Distinct Detects				8		Number of Distinct Non-Detects				2	
16	Minimum Detect				0.024		Minimum Non-Detect				0.02	
17	Maximum Detect				0.28		Maximum Non-Detect				0.023	
18	Variance Detects				0.00747		Percent Non-Detects				20%	
19	Mean Detects				0.0675		SD Detects				0.0864	
20	Median Detects				0.039		CV Detects				1.28	
21	Skewness Detects				2.757		Kurtosis Detects				7.694	
22	Mean of Logged Detects				-3.072		SD of Logged Detects				0.775	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.527		Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value				0.818		Detected Data Not Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.437		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.283		Detected Data Not Normal at 5% Significance Level					
29	Detected Data Not Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean		0.058		KM Standard Error of Mean				0.0253			
33	KM SD		0.0748		95% KM (BCA) UCL				0.108			
34	95% KM (t) UCL		0.104		95% KM (Percentile Bootstrap) UCL				0.106			
35	95% KM (z) UCL		0.0996		95% KM Bootstrap t UCL				0.296			
36	90% KM Chebyshev UCL		0.134		95% KM Chebyshev UCL				0.168			
37	97.5% KM Chebyshev UCL		0.216		99% KM Chebyshev UCL				0.309			
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic		1.294		Anderson-Darling GOF Test							
41	5% A-D Critical Value		0.729		Detected Data Not Gamma Distributed at 5% Significance Level							
42	K-S Test Statistic		0.367		Kolmogorov-Smirnov GOF							
43	5% K-S Critical Value		0.299		Detected Data Not Gamma Distributed at 5% Significance Level							
44	Detected Data Not Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)		1.475		k star (bias corrected MLE)				1.005			
48	Theta hat (MLE)		0.0458		Theta star (bias corrected MLE)				0.0672			
49	nu hat (MLE)		23.59		nu star (bias corrected)				16.08			
50	Mean (detects)		0.0675									

	A	B	C	D	E	F	G	H	I	J	K	L
101												
102	DL/2 Statistics											
103	DL/2 Normal						DL/2 Log-Transformed					
104	Mean in Original Scale					0.0562	Mean in Log Scale					-3.364
105	SD in Original Scale					0.0799	SD in Log Scale					0.921
106	95% t UCL (Assumes normality)					0.102	95% H-Stat UCL					0.131
107	DL/2 is not a recommended method, provided for comparisons and historical reasons											
108												
109	Nonparametric Distribution Free UCL Statistics											
110	Data do not follow a Discernible Distribution at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	95% KM (Chebyshev) UCL					0.168						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:17:49 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Nickel											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				10	
15							Number of Missing Observations				0	
16	Minimum				4.9		Mean				7.42	
17	Maximum				20		Median				5.7	
18	SD				4.592		Std. Error of Mean				1.452	
19	Coefficient of Variation				0.619		Skewness				2.763	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.588		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.307		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				10.08		95% Adjusted-CLT UCL (Chen-1995)				11.16	
31							95% Modified-t UCL (Johnson-1978)				10.29	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				1.314		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.729		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.292		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.267		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				4.878		k star (bias corrected MLE)				3.481	
42	Theta hat (MLE)				1.521		Theta star (bias corrected MLE)				2.131	
43	nu hat (MLE)				97.56		nu star (bias corrected)				69.63	
44	MLE Mean (bias corrected)				7.42		MLE Sd (bias corrected)				3.977	
45							Approximate Chi Square Value (0.05)				51.42	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				48.71	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				10.05		95% Adjusted Gamma UCL (use when n<50)				10.61	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.728		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.268		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				1.589		Mean of logged Data				1.898	
60	Maximum of Logged Data				2.996		SD of logged Data				0.43	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				9.933		90% Chebyshev (MVUE) UCL				10.25	
64	95% Chebyshev (MVUE) UCL				11.61		97.5% Chebyshev (MVUE) UCL				13.49	
65	99% Chebyshev (MVUE) UCL				17.2							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				9.808		95% Jackknife UCL				10.08	
72	95% Standard Bootstrap UCL				9.671		95% Bootstrap-t UCL				16.28	
73	95% Hall's Bootstrap UCL				17.6		95% Percentile Bootstrap UCL				9.95	
74	95% BCA Bootstrap UCL				10.99							
75	90% Chebyshev(Mean, Sd) UCL				11.78		95% Chebyshev(Mean, Sd) UCL				13.75	
76	97.5% Chebyshev(Mean, Sd) UCL				16.49		99% Chebyshev(Mean, Sd) UCL				21.87	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				10.08		or 95% Modified-t UCL				10.29	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.112/14/2016 2:55:06 PM									
5	From File		BG data.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10	Se											
11												
12	General Statistics											
13	Total Number of Observations				10		Number of Distinct Observations				8	
14	Number of Detects				6		Number of Non-Detects				4	
15	Number of Distinct Detects				5		Number of Distinct Non-Detects				3	
16	Minimum Detect				1.1		Minimum Non-Detect				0.53	
17	Maximum Detect				1.7		Maximum Non-Detect				0.65	
18	Variance Detects				0.0587		Percent Non-Detects				40%	
19	Mean Detects				1.433		SD Detects				0.242	
20	Median Detects				1.5		CV Detects				0.169	
21	Skewness Detects				-0.455		Kurtosis Detects				-1.794	
22	Mean of Logged Detects				0.347		SD of Logged Detects				0.176	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.906		Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value				0.788		Detected Data appear Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.254		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.325		Detected Data appear Normal at 5% Significance Level					
29	Detected Data appear Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean				1.072		KM Standard Error of Mean				0.164	
33	KM SD				0.475		95% KM (BCA) UCL				1.346	
34	95% KM (t) UCL				1.373		95% KM (Percentile Bootstrap) UCL				1.32	
35	95% KM (z) UCL				1.342		95% KM Bootstrap t UCL				1.279	
36	90% KM Chebyshev UCL				1.565		95% KM Chebyshev UCL				1.789	
37	97.5% KM Chebyshev UCL				2.099		99% KM Chebyshev UCL				2.708	
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic				0.404		Anderson-Darling GOF Test					
41	5% A-D Critical Value				0.697		Detected data appear Gamma Distributed at 5% Significance Level					
42	K-S Test Statistic				0.277		Kolmogorov-Smirnov GOF					
43	5% K-S Critical Value				0.332		Detected data appear Gamma Distributed at 5% Significance Level					
44	Detected data appear Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)				40.02		k star (bias corrected MLE)				20.12	
48	Theta hat (MLE)				0.0358		Theta star (bias corrected MLE)				0.0712	
49	nu hat (MLE)				480.2		nu star (bias corrected)				241.4	
50	Mean (detects)				1.433							

	A	B	C	D	E	F	G	H	I	J	K	L
101												
102	DL/2 Statistics											
103	DL/2 Normal						DL/2 Log-Transformed					
104	Mean in Original Scale					0.978	Mean in Log Scale					-0.281
105	SD in Original Scale					0.615	SD in Log Scale					0.823
106	95% t UCL (Assumes normality)					1.335	95% H-Stat UCL					2.255
107	DL/2 is not a recommended method, provided for comparisons and historical reasons											
108												
109	Nonparametric Distribution Free UCL Statistics											
110	Detected Data appear Normal Distributed at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	95% KM (t) UCL					1.373						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:18:14 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Strontium											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				7	
15							Number of Missing Observations				0	
16	Minimum				14		Mean				21.7	
17	Maximum				46		Median				19	
18	SD				9.764		Std. Error of Mean				3.088	
19	Coefficient of Variation				0.45		Skewness				2.01	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.757		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.309		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				27.36		95% Adjusted-CLT UCL (Chen-1995)				28.88	
31							95% Modified-t UCL (Johnson-1978)				27.69	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				0.722		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.727		Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.29		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.267		Data Not Gamma Distributed at 5% Significance Level					
38	Detected data follow Appr. Gamma Distribution at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				7.334		k star (bias corrected MLE)				5.2	
42	Theta hat (MLE)				2.959		Theta star (bias corrected MLE)				4.173	
43	nu hat (MLE)				146.7		nu star (bias corrected)				104	
44	MLE Mean (bias corrected)				21.7		MLE Sd (bias corrected)				9.516	
45							Approximate Chi Square Value (0.05)				81.47	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				78.01	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				27.7		95% Adjusted Gamma UCL (use when n<50)				28.93	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.862		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.268		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level					
56	Data appear Approximate Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				2.639		Mean of logged Data				3.008	
60	Maximum of Logged Data				3.829		SD of logged Data				0.37	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				27.91		90% Chebyshev (MVUE) UCL				29.14	
64	95% Chebyshev (MVUE) UCL				32.6		97.5% Chebyshev (MVUE) UCL				37.39	
65	99% Chebyshev (MVUE) UCL				46.81							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data appear to follow a Discernible Distribution at 5% Significance Level											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				26.78		95% Jackknife UCL				27.36	
72	95% Standard Bootstrap UCL				26.44		95% Bootstrap-t UCL				33.85	
73	95% Hall's Bootstrap UCL				46.85		95% Percentile Bootstrap UCL				26.9	
74	95% BCA Bootstrap UCL				28.6							
75	90% Chebyshev(Mean, Sd) UCL				30.96		95% Chebyshev(Mean, Sd) UCL				35.16	
76	97.5% Chebyshev(Mean, Sd) UCL				40.98		99% Chebyshev(Mean, Sd) UCL				52.42	
77												
78	Suggested UCL to Use											
79	95% Adjusted Gamma UCL				28.93							
80												
81	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
82	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
83												
84	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
85	Recommendations are based upon data size, data distribution, and skewness.											
86	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
88												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:14:44 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Chromium											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				8	
15							Number of Missing Observations				0	
16	Minimum				16		Mean				21.5	
17	Maximum				39		Median				19	
18	SD				6.687		Std. Error of Mean				2.115	
19	Coefficient of Variation				0.311		Skewness				2.324	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.723		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.254		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data appear Normal at 5% Significance Level					
26	Data appear Approximate Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				25.38		95% Adjusted-CLT UCL (Chen-1995)				26.64	
31							95% Modified-t UCL (Johnson-1978)				25.64	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				0.822		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.725		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.249		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.266		Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data follow Appr. Gamma Distribution at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				15		k star (bias corrected MLE)				10.57	
42	Theta hat (MLE)				1.433		Theta star (bias corrected MLE)				2.034	
43	nu hat (MLE)				300.1		nu star (bias corrected)				211.4	
44	MLE Mean (bias corrected)				21.5		MLE Sd (bias corrected)				6.613	
45							Approximate Chi Square Value (0.05)				178.7	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				173.5	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))				25.43		95% Adjusted Gamma UCL (use when n<50)				26.19	
50												

	A	B	C	D	E	F	G	H	I	J	K	L		
51	Lognormal GOF Test													
52	Shapiro Wilk Test Statistic				0.826		Shapiro Wilk Lognormal GOF Test							
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level							
54	Lilliefors Test Statistic				0.237		Lilliefors Lognormal GOF Test							
55	5% Lilliefors Critical Value				0.262		Data appear Lognormal at 5% Significance Level							
56	Data appear Approximate Lognormal at 5% Significance Level													
57														
58	Lognormal Statistics													
59	Minimum of Logged Data				2.773		Mean of logged Data				3.034			
60	Maximum of Logged Data				3.664		SD of logged Data				0.257			
61														
62	Assuming Lognormal Distribution													
63	95% H-UCL				25.37		90% Chebyshev (MVUE) UCL				26.67			
64	95% Chebyshev (MVUE) UCL				29.06		97.5% Chebyshev (MVUE) UCL				32.36			
65	99% Chebyshev (MVUE) UCL				38.85									
66														
67	Nonparametric Distribution Free UCL Statistics													
68	Data appear to follow a Discernible Distribution at 5% Significance Level													
69														
70	Nonparametric Distribution Free UCLs													
71	95% CLT UCL				24.98		95% Jackknife UCL				25.38			
72	95% Standard Bootstrap UCL				24.77		95% Bootstrap-t UCL				29.7			
73	95% Hall's Bootstrap UCL				38.16		95% Percentile Bootstrap UCL				24.9			
74	95% BCA Bootstrap UCL				27									
75	90% Chebyshev(Mean, Sd) UCL				27.84		95% Chebyshev(Mean, Sd) UCL				30.72			
76	97.5% Chebyshev(Mean, Sd) UCL				34.71		99% Chebyshev(Mean, Sd) UCL				42.54			
77														
78	Suggested UCL to Use													
79	95% Student's-t UCL				25.38									
80														
81	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test													
82	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL													
83														
84	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.													
85	Recommendations are based upon data size, data distribution, and skewness.													
86	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).													
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.													
88														

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:18:59 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Vanadium											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				8	
15							Number of Missing Observations				0	
16	Minimum				34		Mean				57.9	
17	Maximum				190		Median				38.5	
18	SD				47.63		Std. Error of Mean				15.06	
19	Coefficient of Variation				0.823		Skewness				2.884	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.548		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.341		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				85.51		95% Adjusted-CLT UCL (Chen-1995)				97.35	
31							95% Modified-t UCL (Johnson-1978)				87.8	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				1.459		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.732		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.285		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.268		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				3.123		k star (bias corrected MLE)				2.253	
42	Theta hat (MLE)				18.54		Theta star (bias corrected MLE)				25.7	
43	nu hat (MLE)				62.46		nu star (bias corrected)				45.06	
44	MLE Mean (bias corrected)				57.9		MLE Sd (bias corrected)				38.58	
45							Approximate Chi Square Value (0.05)				30.66	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				28.61	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				85.09		95% Adjusted Gamma UCL (use when n<50)				91.19	
50												

	A	B	C	D	E	F	G	H	I	J	K	L
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic				0.71		Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic				0.249		Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value				0.262		Data appear Lognormal at 5% Significance Level					
56	Data appear Approximate Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data				3.526		Mean of logged Data				3.89	
60	Maximum of Logged Data				5.247		SD of logged Data				0.527	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				83.6		90% Chebyshev (MVUE) UCL				83.59	
64	95% Chebyshev (MVUE) UCL				96.37		97.5% Chebyshev (MVUE) UCL				114.1	
65	99% Chebyshev (MVUE) UCL				149							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data appear to follow a Discernible Distribution at 5% Significance Level											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				82.68		95% Jackknife UCL				85.51	
72	95% Standard Bootstrap UCL				81.33		95% Bootstrap-t UCL				176.3	
73	95% Hall's Bootstrap UCL				176.6		95% Percentile Bootstrap UCL				85.2	
74	95% BCA Bootstrap UCL				104.3							
75	90% Chebyshev(Mean, Sd) UCL				103.1		95% Chebyshev(Mean, Sd) UCL				123.6	
76	97.5% Chebyshev(Mean, Sd) UCL				152		99% Chebyshev(Mean, Sd) UCL				207.8	
77												
78	Suggested UCL to Use											
79	95% H-UCL				83.6							
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	ProUCL computes and outputs H-statistic based UCLs for historical reasons only.											
87	H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.											
88	It is therefore recommended to avoid the use of H-statistic based 95% UCLs.											
89	Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.											
90												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		ProUCL 5.111/23/2016 2:19:26 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	Zinc											
12												
13	General Statistics											
14	Total Number of Observations				10		Number of Distinct Observations				10	
15							Number of Missing Observations				0	
16	Minimum				40		Mean				66.9	
17	Maximum				230		Median				46.5	
18	SD				58.12		Std. Error of Mean				18.38	
19	Coefficient of Variation				0.869		Skewness				3.01	
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic				0.485		Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value				0.842		Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic				0.414		Lilliefors GOF Test					
25	5% Lilliefors Critical Value				0.262		Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL				100.6		95% Adjusted-CLT UCL (Chen-1995)				115.8	
31							95% Modified-t UCL (Johnson-1978)				103.5	
32												
33	Gamma GOF Test											
34	A-D Test Statistic				2.033		Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value				0.732		Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic				0.412		Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value				0.268		Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)				3.009		k star (bias corrected MLE)				2.173	
42	Theta hat (MLE)				22.23		Theta star (bias corrected MLE)				30.79	
43	nu hat (MLE)				60.18		nu star (bias corrected)				43.46	
44	MLE Mean (bias corrected)				66.9		MLE Sd (bias corrected)				45.38	
45							Approximate Chi Square Value (0.05)				29.34	
46	Adjusted Level of Significance				0.0267		Adjusted Chi Square Value				27.34	
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)				99.09		95% Adjusted Gamma UCL (use when n<50)				106.3	
50												

	A	B	C	D	E	F	G	H	I	J	K	L		
51	Lognormal GOF Test													
52	Shapiro Wilk Test Statistic				0.608		Shapiro Wilk Lognormal GOF Test							
53	5% Shapiro Wilk Critical Value				0.842		Data Not Lognormal at 5% Significance Level							
54	Lilliefors Test Statistic				0.388		Lilliefors Lognormal GOF Test							
55	5% Lilliefors Critical Value				0.262		Data Not Lognormal at 5% Significance Level							
56	Data Not Lognormal at 5% Significance Level													
57														
58	Lognormal Statistics													
59	Minimum of Logged Data				3.689		Mean of logged Data				4.028			
60	Maximum of Logged Data				5.438		SD of logged Data				0.524			
61														
62	Assuming Lognormal Distribution													
63	95% H-UCL				95.46		90% Chebyshev (MVUE) UCL				95.58			
64	95% Chebyshev (MVUE) UCL				110.1		97.5% Chebyshev (MVUE) UCL				130.3			
65	99% Chebyshev (MVUE) UCL				170									
66														
67	Nonparametric Distribution Free UCL Statistics													
68	Data do not follow a Discernible Distribution (0.05)													
69														
70	Nonparametric Distribution Free UCLs													
71	95% CLT UCL				97.13		95% Jackknife UCL				100.6			
72	95% Standard Bootstrap UCL				95.42		95% Bootstrap-t UCL				473			
73	95% Hall's Bootstrap UCL				313.9		95% Percentile Bootstrap UCL				101.2			
74	95% BCA Bootstrap UCL				122									
75	90% Chebyshev(Mean, Sd) UCL				122		95% Chebyshev(Mean, Sd) UCL				147			
76	97.5% Chebyshev(Mean, Sd) UCL				181.7		99% Chebyshev(Mean, Sd) UCL				249.8			
77														
78	Suggested UCL to Use													
79	95% Chebyshev (Mean, Sd) UCL				147									
80														
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.													
82	Recommendations are based upon data size, data distribution, and skewness.													
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).													
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.													
85														

Appendix H

Groundwater Sampling Logs

LOW-FLOW GROUNDWATER SAMPLING RECORD

Stabilization Criteria

Turb +/- 10% (<10 NTUs)
S Cond. +/- 5%
pH +/- 0.1 unit

Job No: TCH-002

Well ID: MW-1

Well Location: Chapel Hill NC

Date: 11/10/16

Facility Name: Chapel Hill Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 40 Depth to Water (ft): 35.48 Well Diameter: 2"

Sampling Personnel: L. Nickels

Type of Pump: Bladder Tubing Material: 1/4" OD Poly Pump/Tubing set at: 38 ft.

Weather Conditions: Sunny, 41°F NOTES: *Turbidity exceeds upper limit of meter calibration

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
920	36.55	NM	+125 ml/min	3.76	16.56	770	6.59	40.7	>1000
925	36.61			4.01	16.54	770	6.57	74.4	7100
930	36.61			4.87	16.58	767	6.68	75.9	7100
935	36.61			5.54	16.70	768	6.73	83.3	7100
940	36.70			6.04	16.87	769	6.72	87.4	7100
945	36.69			5.74	16.89	769	6.78	86.8	7100
950	36.70			5.72	16.96	768	6.73	91.6	817
955	36.69			6.12	16.99	769	6.90	86.9	740
1000	36.72			5.72	16.99	768	6.85	85.9	728
1005	36.72			6.27	17.07	765	6.86	81.5	600
1010	36.74			5.84	17.09	769	6.87	79.5	585
1015	36.74			6.52	16.98	768	6.87	78.6	497

Other Sample Parameters: None

Sampled at: 1045 Parameters taken with: YSI-556 + Hanna Turbidity Meter

Sample Delivered to: Pison by _____ at _____

Field Filtration: Yes No If yes, which sample parameters were field filtered: metals

Sample Parameter Containers (Types, Number of Containers, Preservatives): 2 250-ml plastic bottle with HNO₃ for metals

Stabilization Criteria

DO +/- 0.3 mg/l
Turb. +/- 10% (<10 NTUs)
S. Cond. +/- 3%
ORP +/- 10 mV
pH +/- 0.1 unit

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: TCH-002

Well ID: MW-1

Well Location: Chapel Hill, NC

Date: 11/10/16

Facility Name: Chapel Hill Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 40 Depth to Water (ft): 35.48 Well Diameter: 2"

Sampling Personnel: L. Nickels

Type of Pump: Bladder Tubing Material: 1/4" OD Poly Pump/Tubing set at: 38 ft.

Weather Conditions: Sunny, 49°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1020	36.73		~125ml/min	6.68	16.97	768	6.93	75.5	527
1025	36.73		↓	6.73	16.90	768	6.90	79.7	502
1030	36.70		↓	7.09	18.00	768	6.90	79.8	513
1035	36.67		↓	6.54	17.09	766	6.90	81.3	499
1040	36.67		↓	6.58	17.16	766	6.90	77.0	477
1045	36.67		↓	6.87	17.13	767	6.89	79.0	475

Other Sample Parameters: None

Sampled at: 1045 Parameters taken with: YSC-55C + Hanna Turbidity Meter

Sample Delivered to: Prism by _____ at _____

Field Filtration: Yes No If yes, which sample parameters were field filtered: metals

Sample Parameter Containers (Types, Number of Containers, Preservatives): 2 250-ml plastic bottle with HNO₃ for metals

LOW-FLOW GROUNDWATER SAMPLING RECORD

Stabilization Criteria

Turb. +/- 10% (<10 NTUs)
S. Cond. +/- 5%
pH +/- 0.1 unit

Job No: TZH-002

Well ID: MW-3A

Well Location: Chapel Hill, Nc

Date: 11/9/16

Facility Name: Chapel Hill Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 16 Depth to Water (ft): 5.91 Well Diameter: 2"

Sampling Personnel: L. Nickels

Type of Pump: Peristaltic Tubing Material: 1/4" OD Poly Pump/Tubing set at: 12 ft.

Weather Conditions: Overcast, 57F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
<u>1105</u>	<u>5.98</u>	<u>NM</u>	<u>150 mL/min</u>	<u>3.35</u>	<u>17.73</u>	<u>1217</u>	<u>6.60</u>	<u>256.4</u>	<u>2.82</u>
<u>1110</u>	<u>6.00</u>	<u>↓</u>	<u>↓</u>	<u>2.71</u>	<u>17.81</u>	<u>1220</u>	<u>6.61</u>	<u>267.7</u>	<u>1.90</u>
<u>1115</u>	<u>6.01</u>	<u>↓</u>	<u>↓</u>	<u>2.56</u>	<u>17.95</u>	<u>1225</u>	<u>6.63</u>	<u>286.8</u>	<u>1.59</u>
<u>1120</u>	<u>6.01</u>	<u>↓</u>	<u>↓</u>	<u>2.51</u>	<u>18.05</u>	<u>1230</u>	<u>6.63</u>	<u>287.1</u>	<u>1.43</u>
<u>1125</u>	<u>6.03</u>	<u>↓</u>	<u>↓</u>	<u>2.</u>	<u>18.14</u>	<u>1231</u>	<u>6.63</u>	<u>288.7</u>	<u>1.24</u>

Other Sample Parameters: None

Sampled at: 1125 Parameters taken with: YSI-55C + Hanna Turbidity Meter

Sample Delivered to: Prism by _____ at _____

Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): 1 250-ml Bottle (plastic) with HNO3 for metals

LOW-FLOW GROUNDWATER SAMPLING RECORD

Stabilization Criteria

Turb. +/- 10% (<10 NTUs)
S Cond. +/- 5%
pH +/- 0.1 unit

Job No: TCH-002

Well ID: MW-4A

Well Location: Chapel Hill, Nc

Date: 11/9/16

Facility Name: Chapel Hill Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 19 Depth to Water (ft): 6.72 Well Diameter: 2"

Sampling Personnel: L. Nickels

Type of Pump: Peristaltic Tubing Material: 1/4" OD Poly Pump/Tubing set at: 15 ft.

Weather Conditions: overcast, 52°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
950	6.93	NA	150 mL/min	2.20	16.52	247	5.45	253.5	123
955	7.01			1.51	16.52	245	5.44	263.9	97.0
1000	7.13			1.52	16.51	245	5.44	269.6	68.0
1005	7.22			1.37	16.51	243	5.44	275.2	25.9
1010	7.30			1.41	16.45	242	5.44	279.6	15.3
1015	7.36			1.32	16.55	241	5.44	284.2	21.6
1020	7.44			1.36	16.61	241	5.44	287.5	14.7
1025	7.48			1.42	16.75	240	5.43	290.9	6.99
1030	7.52			1.40	16.84	241	5.43	293.6	5.62
1035	7.57			1.37	16.89	241	5.43	296.8	5.39
1040	7.60			1.41	16.91	241	5.43	300.5	5.50 4.83

Other Sample Parameters: None

Sampled at: 1040 Parameters taken with: YSI-SSC + Hanna Turbidity Meter

Sample Delivered to: Prism by _____ at _____

Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): 1 250mL bottle with HNO3 for metals

Stabilization Criteria
Turb. +/- 10% (<10 NTUs)
S. Cond. +/- 5%
pH +/- 0.1 unit

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: TCH-002
Well ID: MW-5
Well Location: Chapel Hill, NC
Date: 11/9/16

Facility Name: Chapel Hill Police Department
Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____
Total Well Depth (ft): 27.5 Depth to Water (ft): 9.27 Well Diameter: 2"
Sampling Personnel: L Nickels
Type of Pump: Peristaltic Tubing Material: 1/4" OD Poly Pump/Tubing set at: 24 ft.
Weather Conditions: Sunny, 66°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1320	9.48	NM	150 ml/min	0.92	20.73	567	6.97	62.6	10.9
1325	9.54	↓	↓	0.44	20.30	570	6.97	53.5	7.69
1330	9.59			0.32	20.13	569	6.96	44.2	3.85
1335	9.61			0.25	20.09	569	6.96	39.8	4.52
1340	9.59			0.25	20.00	569	6.95	57.3	4.78
1345	9.59			0.27	20.30	569	6.96	39.2	3.76

Other Sample Parameters: None
Sampled at: 1345 Parameters taken with: _____
Sample Delivered to: Pism by _____ at _____
Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____
Sample Parameter Containers (Types, Number of Containers, Preservatives): 1 250-ml plastic bottle with HNO3 for Metals

LOW-FLOW GROUNDWATER SAMPLING RECORD

Stabilization Criteria

Turb +/- 10% (<10 NTUs)
S. Cond. +/- 5%
pH +/- 0.1 unit

Job No: TCH-002

Well ID: MW-6

Well Location: Chapel Hill

Date: 11/9/16

Facility Name: Chapel Hill Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 17.5 Depth to Water (ft): 9.92 Well Diameter: 2"

Sampling Personnel: L. Nickels

Type of Pump: Peristaltic Tubing Material: 1/4" OD Poly Pump/Tubing set at: 14 ft.

Weather Conditions: Overcast, 62°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1225	9.94	NM	150 ml/min	0.65	20.44	618	6.22	29.8	3.96
1230	9.94	↓	↓	0.74	20.56	614	6.21	5.4	3.57
1235	9.95	↓	↓	0.64	20.51	608	6.21 6.15	24.3	3.56
1240	9.95	↓	↓	0.58	20.58	607	6.20	16.1	3.17
1245	9.95	↓	↓	0.61	20.51	607	6.19	12.2	2.54

Other Sample Parameters: None

Sampled at: 1245 Parameters taken with: _____

Sample Delivered to: Prism by _____ at _____

Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): 1 250mL plastic bottle with HNO₃ for metals

LOW-FLOW GROUNDWATER SAMPLING RECORD

Stabilization Criteria

Turb +/- 10% (<10 NTUs)
S. Cond. +/- 5%
pH +/- 0.1 unit
Max Drawdown: 10% static

Job No: TCH-002

Well ID: MW-7

Well Location: Police Department

Date: 11/14/16

Facility Name: TCH-002 Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 69.5 Depth to Water (ft): 47.14 Well Diameter: 2"

Sampling Personnel: P. Stevens

Type of Pump: Geosub SS Tubing Material: Poly Pump/Tubing set at: 66.5' ft.

Weather Conditions: Light Rain, 58°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped ^{PHS}	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1245	48.37	2450	200 ml/min	4.04	14.47	118	5.67	17.7	355.6
1250	48.28		150 ml/min	2.97	13.19	112	5.20	82.7	335.5
1255	48.29			2.64	13.50	113	4.88	90.7	292.7
1300	48.30			2.70	13.72	113	4.45	105.5	204.0
1305	48.30			2.59	13.92	110	4.43	107.9	168.9
1310	48.32			2.39	14.12	110	4.53	102.7	135.7
1315	48.32			2.45	14.43	110	4.60	95.8	156.1
1320	48.33			2.68	14.33	110	4.70	90.7	208.1
1325	48.33			2.40	15.07	111	4.85	81.8	350.4
1330	48.33			2.29	15.35	110	4.96	79.8	274.0
1335	48.34			2.13	15.15	110	5.04	77.0	313.5
1340	48.34			2.15	15.69	111	5.06	71.0	361.0
1345	48.34			2.05	15.56	111	5.08	69.4	

Other Sample Parameters: None

Sampled at: 1335 Parameters taken with: YSI-SS6 + MicroTPE turbidimeter

Sample Delivered to: Prism Labs by Carrion at _____

Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): Metals by 6010 (1x250mL, H₂O₂ preserved)

Stabilization Criteria

Turb. +/- 10% (<10 NTUs)
S. Cond. +/- 5%
pH +/- 0.1 unit
Max Drawdown: 10% static

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: TC14-002

Well ID: mw-7 (cont)

Well Location: _____

Date: 11/14/16

Facility Name: TC14-002 Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 69.5' Depth to Water (ft): 47.14 Well Diameter: 2"

Sampling Personnel: P. Stevens

Type of Pump: Geosub SS Tubing Material: Poly Pump/Tubing set at: 66.5' ft.

Weather Conditions: Light Rainy 58°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1350	48.34			2.12	15.52	113	5.19	65.7	477.9
1355	48.35			2.18	15.50	112	5.21	65.7	407.6
1400	48.35			2.22	15.53	112	5.22	65.5	326.7
1405	48.35			2.17	15.51	112	5.23	65.3	275.6
1410	48.35			2.15	15.51	112	5.23	64.4	327.8
1415	48.35			2.09	15.71	111	5.22	64.6	276.3
1420	48.35			2.00	15.54	112	5.23	62.1	200.6
1430	48.35			2.02	15.37	112	5.24	62.9	154.8
1435	48.56			1.98	15.54	112	5.24	63.7	106.6
1440	48.56			1.83	15.53	112	5.25	63.4	61.25
1445	48.37			1.88	15.61	112	5.26	62.4	40.90
1450	48.37			1.92	15.64	112	5.26	62.0	30.83

Other Sample Parameters: None

Sampled at: 1535 Parameters taken with: YSI-556 & Micro TPI turbidimeter

Sample Delivered to: Prism Labs by Courier at _____

Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): Metals by 6010 (1x250mL, HNO3 preserved)

LOW-FLOW GROUNDWATER SAMPLING RECORD

Stabilization Criteria

Turb. +/- 10% (<10 NTUs)
 S. Cond. +/- 5%
 pH +/- 0.1 unit
 Max Drawdown: 10% static

Job No: TCIT-002

Well ID: mw-7 (cont)

Well Location: woods

Date: 11/14/16

Facility Name: TCIT-002 Police Department

Top of Casing Elevation (ft msl): _____ Casing Material: PVC Volume of Water Per Well Volume: _____

Total Well Depth (ft): 69.5' Depth to Water (ft): 47.14 Well Diameter: 2"

Sampling Personnel: P. Stevens

Type of Pump: Geosubs SS Tubing Material: Poly Pump/Tubing set at: 66.5' ft.

Weather Conditions: Light Rain 58°F NOTES: _____

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1500	48.37		~120 mL/min	1.85	15.67	112	5.27	61.3	27.51
1505	48.37			1.81	15.68	112	5.28	61.3	20.33
1510	48.37			1.80	15.67	112	5.28	61.1	18.50
1515	48.37			1.78	15.67	112	5.28	61.1	13.75
1520	48.37			1.78	15.64	112	5.29	61.1	12.86
1525	48.37			1.79	15.65	112	5.29	61.3	11.59
1530	48.37			1.78	15.65	112	5.28	61.2	9.76
1535	48.37			1.79	15.66	112	5.28	61.2	8.92

Other Sample Parameters: None

Sampled at: 1535 Parameters taken with: TSI-556 & microTPI turbidimeter

Sample Delivered to: Prism @ Labs by Center at _____

Field Filtration: () Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): Metals by 6010 (1x250mL, H2O2 preserved)

Appendix I

IDW Disposal Manifest



A&D Environmental Services

Bill of Lading / Material Manifest

A&D Job No: 380470	Generator ID Number CESQG	Page 1 of 1	Emergency Response Phone 800-255-3924-MIS0007951	Tracking Number 19977
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Generator's Name and Mailing Address Chapel Hill Police Dept. 825 MLK Jr, Drive Chapel Hill, NC 27514 USA 919-847-4241	Generator's site address (if different from mailing address)
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Transporter 1 <input type="checkbox"/> 2 <input type="checkbox"/> Company Name A&D Environmental Services, Inc.	US EPA ID No. NCD986232221
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Transporter 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> Company Name A&D Environmental Services (SC), LLC	US EPA ID No. SCD987598331
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<input checked="" type="checkbox"/> Designated Facility A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	<input type="checkbox"/> Designated Facility A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	<input type="checkbox"/> Designated Facility A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	<input type="checkbox"/> Designated Facility A&D Environmental Services (SC), LLC 1321 White Horse Road, Suite C Greenville, SC 29605 864-234-6055
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HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Non-Regulated Material (IDW-Liquids)	006	DM	2400	P	
	Non-Regulated Material (IDW-Solids)	005	DM	2500	P	
	Non-Regulated Material (IDW-PPE)	001	DM	100	P	

Petroleum Products for Recycle		No.	Type	QTY	Wt/Vol	Profile Number
X	NA1993, Diesel fuel, 3, III ERG# 128					
X	NA1993, Fuel oil (No. 1,2,4,5 or 6), 3, III ERG# 128					
X	UN1203, Gasoline, 3, II ERG# 128					
	USED OIL (Not a USDOT Hazardous Material)					
	Petroleum Contact Water (Not a USDOT Hazardous Material)					

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle							
HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RO, UN2809, Mercury contained in manufactured articles, 8, III ERG# 172	Mercury Containing Articles	
X					RO, UN3432, Polychlorinated biphenyls, solid, 9, II ERG# 171	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III ERG# 154	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III ERG# 154	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III ERG# 154	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 8, II ERG# 138	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, II ERG# 154	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III ERG# 154	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4'	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MVJ/V Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Officer's Printed/Typed Name CURTIS BROOKS	Signature <i>Curtis Brooks</i>	Month 12	Day 14	Year 16
Transporter 1 Printed/Typed Name MATT WRAY	Signature <i>Matt Wray</i>	Month 12	Day 15	Year 16
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

Discrepancy Indication / Additional Information:

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed/Typed Name	Signature	Month	Day	Year
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DESIGNATED FACILITY TO GENERATOR

9000-000 (REV) 03/01