Phase II Baseline Investigation Report
Former Solid Waste Disposal Areas
Consent Agreement 13-04-SW

Sonoco Products Company
1 North Second Street
Hartsville, South Carolina

Submitted to:
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South Carolina Department of Health and Environmental Control
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October 13, 2014

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List of Common Acronyms

BGS	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Constituent of Concern
DQO	Data Quality Objectives
ESA	Environmental Site Assessment
GC/MS	Gas Chromatography/Mass Spectrometry
GIS	Geographic Information System
HASP	Health and Safety Plan
HSA	Hollow Stem Auger
IDW	Investigation Derived Waste
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
MCL	Maximum Contaminant Level
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
NTU	Nephelometric Turbidity Units
OV	Organic Vapor
PAH	Polycyclic Aromatic Hydrocarbon
PPB	Parts per Billion
PPM	Parts per Million
PID	Photoionization Detector
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
DHEC	South Carolina Department of Health and Environmental Control
SOP	Standard Operating Procedure
SSL	Soil Screening Level
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
USGS	United States Geological Survey
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

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Signature Page

This document, entitled "Phase II Baseline Investigation Report," has been prepared for Sonoco Products Company to present findings of the Baseline Investigation conducted at the former solid waste disposal areas adjacent to Patrick Highway in Hartsville, Darlington County, South Carolina. This report has been prepared and reviewed in accordance with accepted quality control practices by the undersigned.

GEL Engineering, LLC
a Member of THE GEL GROUP, INC.

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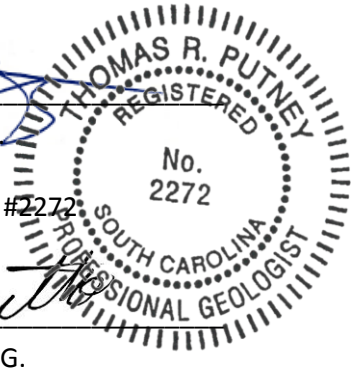

Thomas D.W. Hutto, P.G.
Principal

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Date

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Sonoco Products Company
Hartsville, South Carolina

1.0 EXECUTIVE SUMMARY

The Phase II Baseline Investigation of the former solid waste disposal areas has been conducted in accordance with Consent Agreement 13-04-SW and the DHEC-approved Work Plan. The Consent Agreement pertains to the boiler ash staging area (BASA), former industrial ponds previously owned and operated by Hartsville Print and Dye Works (closed in early 1960s), and other nearby areas related to Sonoco's recycling and paperboard manufacturing facility. The purpose of this baseline investigation is to characterize soil and groundwater within and proximal to the former solid waste disposal area south of the BASA and the former black liquor ponds.

The current and former disposal areas addressed in this report are located on the east side of the Patrick Highway and approximately 2,500 feet east-northeast of the main Sonoco plant. The former solid waste disposal area is located immediately south of the BASA and along the access road leading to the existing permitted landfill, wastewater treatment plant, and spray farm areas. The former black liquor ponds are located between the BASA and the spray farm about 1400 feet east of the BASA. The solid waste disposal area and former black liquor ponds are secured behind a gate and are part of an industrial facility. There is no public access to these areas. To evaluate the former solid waste disposal area and the former black liquor ponds the following samples were collected:

- 13 soil samples from the solid waste disposal area
- 3 soil samples from the black liquor pond fill soils and 4 residual soil samples from test pits in the former black liquor ponds
- 12 groundwater samples

All samples were analyzed for Target Analyte List (TAL) metals and hexavalent chromium (total and dissolved for liquid samples); Target Compound List (TCL) VOCs and SVOCs; and cyanide. Samples from test pits and wells in and near the former black liquor ponds were also analyzed for nitrate, nitrite, sulfate, sulfite, and pH.

A summary of the findings of the baseline investigation is provided below.

Soil Samples – Former Waste Disposal Area (Figure 5)

Soil sample findings indicate that the site soils do not appear to have been significantly affected by site disposal activities.

- Mixtures of paper and wood trash and debris were observed at the surface to depths ranging from 6 feet below land surface in the western portion of the disposal area to 17-18 feet in the eastern portion of the disposal area.
- Arsenic was detected in concentrations comparable to native soil. Four samples (including one field duplicate) exceeded the industrial RSL. Most concentrations are below 6 mg/kg except two at 17.1 to 27.3 mg/kg. These samples were from organic rich wetland soils, which are typically enriched in metals.

- None of the detected Cr VI concentrations exceed the industrial RSL. Cr IV was detected in 8 of the 13 soil samples. Cr VI concentrations in previously sampled background locations (Phase I Investigation) are comparable to those detected in the Phase II investigation.
- No other metal detected in the soil samples exceeds RSLs. Metal concentrations detected in samples in and downgradient of the waste disposal areas are comparable to those detected in Phase I background samples.
- Several SVOCs were detected in the soil samples. Most exceedances of industrial RSLs are limited to shallow soil samples (SB-29 through SB-32) located within the waste disposal area. One PAH concentration in a subsurface sample (18 to 20 feet BGS in SB-25) exceeds the industrial RSL. PAH concentrations in these samples are likely related to the Duropipe, a tar coated paper piping product, which is locally present in the disposal area.
- No VOCS were detected at concentrations exceeding RSLs for residential or industrial soils.

Test Pit Samples – Former Black Liquor Ponds (Figure 5)

The black liquor pond fill soils and residual soil sample data indicate that constituents from the black liquor have not leached significantly into or adversely affected the underlying soil.

- The thickness of the black liquor pond fill soils ranged from 2 to 8 feet as observed in the three test pits.
- Compared to the underlying soil samples the black liquor pond fill soils generally contained higher concentrations of sulfate sulfite, pH, aluminum, calcium, total chromium, iron, magnesium, manganese, sodium, potassium, and vanadium. However none of the concentrations of these constituents in the black liquor pond fill soils or underlying soil exceed applicable residential or industrial RSLs. Only arsenic in one black liquor pond fill soil sample and one residual soil sample exceeds the residential RSL.
- Various PAHs and VOCs were detected in one or more of the black liquor pond fill soil samples and residual soil samples; however, none of the concentrations exceed residential or industrial RSLs.

Groundwater Samples

Site activities have not significantly impacted groundwater quality downgradient from the solid waste disposal area. In the area of the former black liquor ponds, concentrations of some inorganic constituents from the former black liquor ponds are higher in downgradient wells, but none of the concentrations of these or other constituents exceed applicable standards.

Former Solid Waste Disposal Area

- Several metals were detected in unfiltered samples at concentrations that exceed MCLs and/or RSLs. The lower concentrations in the filtered samples indicate that the MCL and RSL exceedances are related to sample turbidity.
- Concentrations of four PAHs exceed tapwater RSLs in the primary and duplicate samples from only one well (MW-14), which is located downgradient of the waste disposal area. One PAH

(benzo (a) pyrene) detected in the primary and duplicate groundwater sample from MW-14 also exceeded its MCL.

- Several VOCs were detected at low concentrations in four of the groundwater samples; none of the concentrations exceed MCLs or tapwater RSLs.

Former Black Liquor ponds

- When compared to upgradient well MW-19, wells downgradient of the former black liquor ponds, exhibit higher concentrations of constituents including aluminum, total chromium, sodium, potassium, vanadium, sulfate, and sulfite. However, none of the detected concentrations exceed applicable MCLs or tapwater RSLs.
- SVOCs were not detected in groundwater from wells upgradient or downgradient of the former black liquor ponds.
- One VOC, methylene chloride, was reported at an estimated concentration in one groundwater sample; however methylene chloride was also detected in the laboratory method blank indicating that the detection results from laboratory interference.

Recommendations

No further assessment of these areas is recommended. The existing industrial use and site security should be maintained.

2.0 INTRODUCTION

Sonoco entered into Consent Agreement 13-04-SW with the South Carolina Department of Health and Environmental Control (DHEC) on July 9, 2013. The consent agreement pertains to a boiler ash staging area (BASA), former industrial ponds previously owned and operated by Hartsville Print and Dye Works, and other nearby areas related to Sonoco's recycling and paperboard manufacturing facility in Hartsville, South Carolina. The Consent Agreement requires Sonoco to submit to the South Carolina Department of Health and Environmental Control ("SCDHEC" or the "Department") Phase I and Phase II Work Plans within 60 and 90 days, respectively, of the execution of the Consent Agreement. The Phase I Work Plan was submitted to the Department on September 6, 2013. The Phase II Baseline Investigation Work Plan was submitted to the Department on November 11, 2013. SCDHEC provided comments to the Work Plan (McLeod to Boyd), on December 17, 2013. GEL's Response to Comments - Phase II Baseline Investigation Work Plan was issued to the Department on January 23, 2014. Sonoco met with the Department on February 20, 2014 to discuss revisions to the Work Plan. In a letter to the Department dated March 10, 2014 Sonoco requested an extension to the deadline for submittal of the Phase II Work Plan to March 31, 2014. The Phase II Baseline Investigation Work Plan Revision 1 was submitted on March 28, 2014, and additional revisions were requested in SCDHEC's comments to the revised Work Plan, dated April 22, 2014 (McLeod to Boyd). In response, Sonoco submitted the Phase II Baseline Investigation Work Plan Addendum 1, which included the installation of an additional soil boring and monitoring well upgradient of the former black liquor ponds.

Sonoco retained GEL Engineering, LLC (GEL) to conduct the Phase II Baseline Investigation of the former solid waste disposal areas, hereafter referred to as the "Site," in accordance with the Consent Agreement. The Work Plan describes the technical approach to assess the former solid waste disposal areas. The Work Plan reviews existing data to identify data gaps and provides a data collection program to address the gaps. The goal of the investigation is to evaluate potential risks associated with the Site. The Work Plan is included as Appendix I. DHEC approved Work Plan Revision 1 and Work Plan Addendum 1 and issued the Monitoring Well Approval on May 8, 2014, also included in Appendix I.

In conjunction with the Work Plan, GEL prepared the *Quality Assurance Project Plan* (QAPP, October 30, 2013) to outline the quality assurance and quality control (QA/QC) methods necessary to achieve data quality objectives (DQOs) required to evaluate the collected data. GEL also prepared a "Site Health and Safety Plan" (SSHP, February 2014) to describe the worker safety procedures employed during site investigation activities.

The purpose of this Phase II Baseline Investigation Report (Report) is to document the field investigation activities and evaluate the analytical data.

3.0 Site Information and History

3.1 Site Location

The Sonoco facility is located on North Second Street in Hartsville, Darlington County, South Carolina. The current and former disposal areas addressed in this report are located on the east side of the Patrick Highway and approximately 2,500 feet east-northeast of the main Sonoco plant. The location of the site is shown on a portion of the Hartsville North United States Geological Survey (USGS) 7.5-minute topographical quadrangle included as Figure 1. The current and former disposal areas addressed in this report are located on the east side of the Patrick Highway and approximately 2,500 feet east-northeast of the main Sonoco plant. The general location of these former disposal areas is shown on Figure 1, and the locations of the current and former solid waste disposal areas on the site are shown on Figure 2.

3.2 Waste Disposal Areas

Consent Agreement 13-04-SW requires submittal of documentation and the Phase II Work Plan to assess other former or current waste disposal areas that are known or reasonably should be known to Sonoco, excluding all currently permitted operations at the facility, and also excluding any areas closed under the consent or guidance of SCDHEC, if there is sufficient documentation and data to support closure without further assessment. Current and former waste disposal areas at Sonoco include the following:

- Solid Waste Landfill
- 17-Acre Pond
- Asbestos Disposal Area
- Former Ash Sluice Ponds
- Former Liquor Trenches and Liquor Ponds
- Former Disposal Area

The locations of these waste disposal areas and information regarding each of these areas are summarized in the Work Plan (Appendix I). As described in the Work Plan, of this list, only the former black liquor ponds and former disposal area require Phase II assessment activities. Information related to these two areas is summarized below.

3.2.1 Former Liquor Trenches and Ponds

There were five trenches roughly 600 feet long that were situated due west of the former upper black liquor pond. These trenches were located in the area of the original permitted solid waste landfill. The southernmost trench was established in 1949 and the other four trenches were added in 1950. These trenches were built to enable seepage of waste black liquor from pulping operations. The trenches self-sealed, rendering them ineffective as seepage trenches; thereafter, the trenches became transport trenches to transfer the waste liquor to the black liquor ponds. These trenches were active from 1949 through 1960 and then used periodically until about 1971. In about 1972 the trenches were completely dug out. This space was then used as a disposal area for plant solid waste until it was filled with soil in early 1975. The solid waste Liquor ponds were closed with SCDHEC approval and capped with 2 feet of soil when additional landfill cells were permitted and constructed to the north and west of the old trenches. The former black liquor trenches and ponds are shown on Figure 2.

The former liquor ponds are monitored as a part of Sonoco's existing NPDES permit. Monitoring wells SO-2 and SO-3 are noted in the NPDES permit as former black liquor pond wells. Groundwater monitoring well SO-2 serves to monitor groundwater under the requirements of both the National Pollutant Discharge Elimination System (NPDES) Permit No. SC003042 and Sonoco's existing industrial solid waste landfill operating under Permit No. 163315-1601. The well was installed in January 1980 and is approximately 34 feet deep with the screen from approximately 14 to 34 feet. It is located southeast and hydraulically downgradient from the existing solid waste landfill.

According to NPDES Permit No. SC003042, well SO-2 serves to monitor groundwater proximate to the former black liquor ponds. It is monitored for the field parameters pH and specific conductance, and the following parameters: dissolved organic carbon, sulfate, nitrate, sodium, and chloride.
In accordance with Permit No. 163315-1601 and DHEC regulation *R.61-107.19 Solid Waste Management: Solid Waste Landfills and Structural Fill (effective date May 23, 2008*), the well is also monitored for the parameters listed in Appendix III of R.61-107.19. These parameters include pH, specific conductance, temperature, chloride, nitrate, sulfate, eight metals, and 18 volatile organic compounds (VOCs).

Since monitoring of Appendix III VOCs began in April 2009, no VOCs have been detected. Since April 2009 lead concentrations have slightly exceeded the SCDHEC Action Level of 0.015 milligrams per liter (mg/L) on three occasions. No other parameters have exceeded established maximum or secondary contaminant levels.

Groundwater monitoring well SO-3 also serves to monitor groundwater proximate to the former black liquor ponds under the requirements of NPDES Permit No. SC003042 and is monitored for pH, specific conductance, dissolved organic carbon, sulfate, nitrate, sodium, and chloride. The well is located approximately 800 feet east of SO-2, and is approximately 39 feet deep. The well has been monitored annually, in accordance with the permit, since April 1998. Based on analytical results, no monitored parameters have exceeded established maximum or secondary contaminant levels during the last 5 years.

3.2.2 Former Disposal Area

The former disposal area is located immediately south of the Boiler Ash Staging Area and along the access road leading to the existing permitted landfill, wastewater treatment plant, and spray farm areas. The latitude/longitude of the former disposal area are 34° 23‘ 28.33“ North and 80° 03‘ 18.87“ West. The former solid waste disposal area is shown on Figure 2.

There are no zoning ordinances in effect in this unincorporated portion of Darlington County. Therefore, no zoning or land-use restrictions encumber the former disposal area. The former disposal area, access road, current landfill, wastewater treatment plant, and spray farm areas are currently fenced and secure.

Surrounding areas to the north and northwest of the former disposal area are considered residential and commercial. The nearest residence to the former disposal area is across Black Creek approximately 640 feet to the south. Black Creek is located approximately 500 feet south of the Site. Sonoco currently owns property to the east of the former disposal area for approximately 1.5 miles, which includes the wastewater treatment plant and spray farm areas. Northeast of the former disposal area beyond the Boiler Ash Staging Area is Sonoco's currently permitted solid waste landfill. The former disposal area was

used prior to the advent of solid waste regulations. It is not known when disposal in this area began. Sonoco stopped using the former disposal area when it received a permit from SCDHEC in March 1975 for the solid waste landfill.

Currently there is one groundwater monitoring well located hydraulically upgradient from the former disposal area. Groundwater monitoring well SO-1 serves to monitor groundwater under the requirements of both the NPDES and Land Application Permit No. SC003042 and the facility's existing industrial solid waste landfill operating under Permit No. 163315-1601. The well was installed in December 1979. It is approximately 24 feet deep, and is screened from approximately 12 to 22 feet. The well is located on the northern edge of the Site. Additionally, groundwater monitoring wells MW-04 through MW-07 were installed upgradient of the former disposal area as part of the Phase I Baseline Investigation.

According to NPDES Permit No. SC003042, well SO-1 serves to monitor groundwater proximate to the former fly ash disposal area. It is monitored for pH, specific conductance, dissolved organic carbon, sulfate, nitrate, sodium, and chloride. In accordance with Permit No. 163315-1601 and SCDHEC regulation *R.61-107.19, Solid Waste Management: Solid Waste Landfills and Structural Fill*, the well is also monitored for the parameters listed in Appendix III of R.61-107.19. These parameters include pH, specific conductance, temperature, chloride, nitrate, sulfate, eight metals, and 18 VOCs. Since monitoring of Appendix III VOCs began in April 2009, groundwater quality in this well has consistently been determined to be acceptable; no VOCs have been detected and no other parameters have exceeded established maximum or secondary contaminant levels. The former disposal area is not part of an existing solid waste permit and it was not closed under the consent or guidance of SCDHEC.

3.3 Black Liquor Characteristics

Sonoco's pulping process and an acetic acid recovery plant have produced a spent sulfite waste liquor (black liquor) known as "raffinate." Spent liquor which was not sold as a source of sodium sulfate or converted to saleable salt cake was disposed in the black liquor trenches and ponds at the site. Analytical data provided by Sonoco lists the following chemical characteristics of the raffinate waste water: pH: 4.6; biological oxygen demand (BOD): 30,000 parts per million (ppm); chemical oxygen demand (COD): 156,000 ppm; Total Dissolved Solids: 136,000 ppm; Kjehldahl nitrogen: 26.8 ppm; nitrate: 4.76 ppm; sulfate: 102.6 ppm; sulfite: 650 ppm; calcium 265 ppm; sodium: 19,600 ppm; zinc: 2.1 ppm; and phenols: 1.16 ppm. The organic portion of the raffinate mainly consists of residual from organic material normally found in trees and paper.

3.4 Solid Waste Characteristics

Based on borings installed for the Phase I and II Baseline Investigations, fill in the solid waste disposal area consists of mixtures of various amounts of wood and paper trash, fiber board, styrofoam spools, and Duropipe, a tar coated paper piping material, which contains polynuclear aromatic hydrocarbons (PAHs). The waste is in a matrix of silty to sandy soil. Waste material observed on the top and edges of the waste boundary include metal, machinery parts, concrete, wood, etc. The thickness of the fill material containing debris ranges from approximately 6 feet in the western portion of the disposal area (soil boring SB-23) to 17-18 feet in the eastern portion of the disposal area (the vicinity of soil borings SB-25 and SB-27).

3.5 Geology

3.5.1 Regional Geology

The Site is located in the Upper Coastal Plain Physiographic Province, which consists primarily of eastward thickening sedimentary deposits. The western limit of the Coastal Plain Province is referred to as the "Fall Line." At the Fall Line, older crystalline rocks (bedrock) of the Piedmont Physiographic Province are overlapped by the younger sedimentary deposits of the Coastal Plain. The Site is located approximately 28 miles east of the Fall Line.

Bedrock occurs at depths between 400 to 450 feet below ground surface (BGS) in the Hartsville area (Siple 1957). The shallow sediments beneath the Hartsville area include Pleistocene- to Holocene-Age terrace deposits that overlie three Upper Cretaceous units that form the Cretaceous Aquifer system in North and South Carolina. From the youngest to the oldest, the units are: the Pee Dee, Black Creek and Tuscaloosa Formations (Park 1979). The Tuscaloosa Formation (locally also referred to as the Middendorf Formation) is the only Cretaceous-Age formation of appreciable thickness beneath the Hartsville area and is characterized by medium- to coarse-grained unconsolidated sands with inconsistent light-gray silty clays that exhibit rapid vertical and lateral lithologic changes (Heron 1958).

3.5.2 Site-Specific Geology

Site-specific geology is based on four soil borings (ranging from 15 to 96 feet deep) and six monitoring wells (ranging from 15 to 34 feet deep) previously installed for the Phase I Baseline Investigation of the BASA, and 10 soil borings (ranging from 7 to 27 feet deep) and six monitoring wells that ranged in depth from 2 to 32 feet, installed for the Phase II investigation. The soil borings were installed using rotosonic drilling equipment that recovered 4-inch diameter continuous cores, or stainless steel hand augers in areas which were inaccessible to the drill rig. Detailed lithologic descriptions were recorded on soil borings by the project geologist and are included in Appendix II.

Descriptions of the deeper cores obtained during the Phase I Baseline investigation, and additional shallow borings installed for the Phase II Baseline Investigation identify a complex site geology of interbedded sand-silt-clay sequences. The lithology generally consists of fine to medium, well graded sand, non-plastic silt, and sand-silt sequences to approximately 29 feet BGS (elevation of approximately 131 ft) where a clay-rich unit is encountered. This clay ranges in thickness from 8 to 10 feet to the south and is approximately 15 feet thick to the north where it was observed in Phase I boring SB-02 at a depth of 35 feet BGS (elevation of approximately 139 ft). Field observations indicate this clay may be a confining unit in the vicinity of the Site. The clay unit is underlain by additional sequences of sand, silt, and clayey sand to a depth of approximately 58 feet BGS (elevation of approximately 102 ft) where another clay unit was observed ranging in thickness from 18 to 28 feet. The variability of the sequences and presence of interbedded sands and clays suggests a fluvial depositional environment. Stratigraphic sequences observed at the Site are generally consistent with those observed approximately 0.75 miles east of the Site at Sonoco's proposed landfill site.

3.6 Hydrogeology

3.6.1 Regional Hydrogeology

The shallow aquifer is comprised of terrace deposits (interbedded sands, silts and clays) that extend from near the land surface to a depth of approximately 50 feet BGS where they overly the Cretaceous units.

These deposits form the shallow water table aquifer system beneath the Hartsville area. Recharge to the shallow aquifer system is primarily from infiltration of precipitation and the aquifer typically discharges to nearby surface water bodies, including the Spring Branch (also known as Kilgore Branch) and Black Creek floodplains in the Hartsville area. The water table is generally a subdued reflection of topography and is encountered at depth in topographically high areas and close to the land surface near lakes and streams.

Groundwater in the deep Cretaceous aquifer system in the Hartsville area occurs primarily under confined conditions. The aquifer system consists of sandy units that are recharged predominantly from the Cretaceous outcrop areas located northwest of Hartsville. In addition, limited recharge to the confined aquifer may occur by local leakage of groundwater from the overlying, unconfined Pleistocene/Holocene shallow aquifer system through confining fine-grained strata. The Cretaceous unit that comprises most of the Cretaceous aquifer system beneath the Hartsville area is the Tuscaloosa Formation, known locally as the Middendorf Aquifer.

3.6.2 Site-Specific Hydrogeology

Comparison of the hydrogeologic data generally supports previous work conducted across the Coastal Plain region in Darlington and surrounding counties by Wollen and Colquhoun (1977), and others, and at the Sonoco facility by McCoy & McCoy Environmental Consultants, Inc. (1991). This work suggests that Cretaceous deposits are overlain by younger sands and clays of fluvial and transgressive-regressive marine sequences. The younger, post-Cretaceous deposits are virtually indistinguishable from the underlying Cretaceous sediments. These sediments form the shallow unconfined and the deep confined aquifers. Demarcation of the aquifer zones is based on the presence of thick, hard, highly plastic, dry fat clay units observed in several soil borings located within the project area.

Hydrogeologic cross-sections A-A' and B-B' constructed from the lithologic descriptions are provided as Figures 3 and 4, respectively. The lines of section are shown on Figure 5. The cross-sections show the presence of a shallow, unconfined aquifer underlain by a clay-rich confining unit, which appears to be continuous across the site. Underlying the confining unit is a semi-confined or confined aquifer underlain by another clay-rich unit which was also observed at a comparable elevation in borings approximately 0.75-miles east of the Site at the proposed Sonoco landfill site.

4.0 Baseline Investigation field Activities

The baseline investigation activities summarized in the following sections establish "baseline" conditions for soil, black liquor pond fill soils, and groundwater within and surrounding the solid waste disposal area and former black liquor ponds.

4.1 Soil Boring and Test Pit Installation and Soil and Black Liquor Sampling

Ten (10) soil borings and three (3) test pits were installed and sampled in accordance with the Work Plan and QAPP between July 14 and July 17, 2014. The samples collected, depths, and analytical parameters are summarized in Table 1, and the locations of the soil borings and test pits are shown on Figure 5. Soil borings SB-23 through SB-27 were installed within the solid waste disposal area, and borings SB-28 through SB-32 were installed along the southern margin of the disposal area. With the exception of soil borings SB-30 through SB-32, continuous soil cores were collected using rotosonic drilling methods by SAEDACCO (SC Well Driller License No. 2092). Soil borings SB-30 through SB-32 were inaccessible to the drill rig and were installed using hand augers by GEL (SC Well Driller License No. 1330). Soil borings SB-33 through SB-35 and three test pits were installed to evaluate the former liquor ponds at the locations shown on Figure 5. Boring logs for the soil borings and test pits are included in Appendix II.

Soil samples were collected from each boring at 2-foot intervals. The 2-foot soil interval directly below the base of observed waste in borings SB-23 through SB-27, and the interval from 0-1 foot BGS in borings SB-28 through SB-32 were submitted for laboratory analysis. Soil borings SB-33 through SB-35 were installed to obtain lithologic information and were not analyzed. Samples of the black liquor pond fill soils from the test pits were collected based on odors and PID readings, and samples of residual soil were collected at least 2 feet below the observed base of the former ponds. Residual soil beneath the black liquor pond fill soils in Test Pit 3 was collected within one foot of the base of the pond due to the presence of groundwater and the limited reach of the back hoe.

Grab samples for analysis of Target Compound List (TCL) VOCs were collected, using laboratory-provided sampling kits, from the base of the selected 2-foot intervals. An aliquot of the remaining portion of each 2-foot sample was placed in a re-sealable plastic bag and field-screened for total organic vapors with a photoionization detector (PID). The remaining soil from the selected intervals was composited for analysis of the remaining parameters. Soil cuttings generated during soil boring installation and soil sampling activities were contained in 55-gallon drums and managed onsite as investigation-derived waste (IDW). Descriptions of the soil samples, borings, and screening results were recorded on soil boring logs, which are included in Appendix III.

A total of 17 soil samples (including 4 field duplicates) and 3 black liquor pond fill soil samples were collected and placed on ice in clean coolers. The samples were transported to GEL Laboratories, LLC (GEL Labs, SC Certification No. 10120001) under proper chain-of-custody procedures. All samples were analyzed for the following parameters:

- TCL VOCs by 8260B;
- TCL SVOCs by 8270D;
- Target Analyte List (TAL) metals by 6010C/6020A;
- Mercury by 7471B;
- Hexavalent Chromium (Cr VI) by 7196A;

Soils from the former black liquor ponds were also analyzed for the following parameters:

- Total cyanide by SW9012A;
- Nitrate, nitrite, and sulfate by SW846 9056A;
- pH by SW9045D
- Sulfite by SM4500;

4.2 Groundwater Monitoring Well Installation and Groundwater Sampling

In accordance with the Work Plan and QAPP, seven (7) permanent and three (3) temporary groundwater monitoring wells were installed between July 14 and July 17, 2014. The locations of the monitoring wells are shown on Figure 5, and the samples, screen intervals and analytical parameters are summarized in Table 1. Based on onsite discussions and the approval of DHEC project manager Tim Hornosky, the locations of proposed wells MW-15 and MW-16 were moved to areas within the waste disposal area that were accessible to the drill rig, and three temporary wells were installed along the southern margin of the waste disposal area with hand augers, because the area was inaccessible to the drill rig. Therefore, the wells installed near the black liquor ponds were re-designated as MW-17 through MW-19, as shown on Figure 5.

MW-13 through MW-16, were installed within the former waste disposal area, temporary wells TW-01 through TW-03 were installed near the southern margin of the waste disposal area, and wells MW-17 through MW-19 were installed near the former black liquor ponds. The permanent monitoring wells were installed using rotosonic drilling methods by SAEDACCO (SC Well Driller License No. 2090). Temporary monitoring wells were installed and abandoned by GEL (SC Well Driller No. 1837). Well construction details for wells installed and/or sampled for the Phase I and Phase II Baseline Investigations are summarized in Table 2.

The permanent monitoring wells were installed in 6-inch diameter boreholes to total depths ranging from 17 to 32 feet BGS. The wells were constructed of 2-inch diameter, flush-threaded Schedule 40 polyvinyl chloride (PVC) well materials. The permanent wells were constructed with 10-foot, 0.010-inch slotted well screens installed in the upper portion of the shallow unconfined aquifer. No. 2 filter sand was emplaced in the annular space of each borehole from the total depth to approximately 2 feet above the well screen. A minimum of 2 feet of bentonite pellets were placed above the filter pack and allowed to hydrate for a minimum of 2 hours to form a well seal. The permanent monitoring wells were grouted from the top of the seal to the ground surface with neat cement and completed at the surface with a lockable protective riser set in a 2-foot by 2-foot concrete well pad. The wells were affixed with a permanent ID placards identifying the well and construction details.

Temporary wells TW-01 through TW-03 were installed to total depths ranging from 3 to 9 feet BGS using stainless steel hand augers. Well TW-01 was constructed of 2-inch diameter, flush-threaded Schedule 40 PVC well casing with a 2-foot, 0.010-inch slotted PVC well screen. No. 2 filter sand was emplaced in the annular space of TW-01 from the total depth to approximately 0.5 feet above the well screen. Approximately 0.5 feet of bentonite pellets were placed above the filter pack to form a well seal. Following installation of borings to 9 feet BGS, 1-inch diameter PVC well casings with 5-foot, 0.10-inch slotted PVC well screens were installed in wells TW-02 and TW-03. The temporary wells were purged and sampled after installation and then abandoned by pulling the well casings and screens from the ground and filling the boring with cement grout to land surface.

Following installation, the permanent wells were developed with a 12-volt submersible pump until development water was relatively clear and free of sediment. The development water was contained in 55-gallon drums and managed onsite as IDW. Monitoring well construction details and water well records are contained in Appendix II.

Groundwater samples were collected from wells MW-13 through MW-19 and TW-01 on July 22-23, 2014. Temporary wells TW-02 and TW-03 were sampled on July 30, 2014, and existing well SO-3 was sampled on September 4, 2014. Prior to sample collection, the water level and total well depths for each permanent monitoring well were measured to determine the volume of standing water inside the well riser and screen. A minimum of three well volumes were purged using a peristaltic pump and new, disposable polyethylene tubing. Temperature, pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured using a multi-parameter water-quality meter and flow-through cell after each well volume was purged, and were recorded on field data sheets. Samples submitted for dissolved (filtered) analysis of metals were filtered in the field with disposable 0.45-micron filters. Monitoring well stabilization and purging were considered complete when, for at least three consecutive measurements, pH remained constant within 0.1 standard units (SU), specific conductance varied by no more than 5%, and turbidity stabilized or was below 10 Nephelometric Turbidity Units (NTUs). The groundwater sampling activities were performed in accordance with the Work Plan and QAPP. The field measurements were recorded on groundwater sampling field data sheets, which are included in Appendix IV.

A total of 12 groundwater samples (including one field duplicate) were collected and placed on ice in clean coolers. The samples were transported to GEL Labs under proper chain-of-custody procedures. All samples were analyzed for the following parameters:

- TCL VOCs by 8260B;
- TCL SVOCs by 8270D;
- Total and dissolved TAL metals by 6010C/6020A;
- Total and dissolved Mercury by 7471B;
- Total and dissolved Hexavalent Chromium (Cr VI) by 7196A;

Groundwater samples from monitoring wells in the vicinity of the black liquor ponds were also analyzed for the following parameters:

- Total cyanide by SW9012A;
- Nitrate, nitrite, and sulfate by SW846 9056A;
- pH by SW9045D
- Sulfite by SM4500;

:

A list of the groundwater samples, depths, locations, and parameters is included in Table 1.

4.3 Investigation Derived Waste

IDW generated during baseline investigation included personal protective equipment (PPE); disposable sampling equipment; soil cuttings generated from soil boring and monitoring well installation activities; decontamination fluids; and development and purge water generated during well installation and groundwater sample collection.

PPE and disposable sampling equipment were collected in garbage bags and placed in Sonoco's solid waste receptacles. Remaining IDW was containerized in SC Department of Transportation (DOT) approved 55-gallon drums and staged in a secure area adjacent to the 17-acre pond at the Sonoco facility pending review of analytical data.

4.4 Site Survey

All soil boring and monitoring well locations were surveyed under the supervision of a Professional Land Surveyor (SC License No. 15513). The horizontal locations were surveyed to the SC State Plane Coordinate System (North American Datum of 1983). Elevations were surveyed to North American Vertical Datum 1988. The survey was performed using a global positioning system (GPS) with differential correction.

5.0 Summary of Baseline Investigation Analytical Results and Findings

The following sections summarize field and analytical data collected during the baseline investigation.

5.1 Soil Sample Results – Waste Disposal Area

A total of 13 soil samples (including 3 field duplicates) from the waste disposal area were analyzed. The soil sample locations are shown on Figure 5, and detected concentrations are summarized in Table 3. The soil sample results are compared to residential and industrial RSLs and SSLs for protection of groundwater. Note that exceedances of SSLs for the protection of groundwater are highlighted on Table 3; however, these are not discussed because groundwater analytical results provide a direct measure of groundwater quality, rendering the SSLs comparisons irrelevant. Copies of the soil sample Certificates of Analysis (COAs) and chain of custody forms are included in Appendix IV. Results with a "J" data qualifier indicate the constituent was detected in the sample; however, the reported concentration is an estimated concentration between the method detection limit and the reporting limit.

Numerous metals were detected; however, the concentrations are within the range of background concentrations in South Carolina Coastal Plain soil (Canova, 1999). Only two metals, hexavalent chromium (Cr VI) and arsenic were detected at concentrations exceeding RSLs for industrial and/or residential soils. Cr VI concentrations exceed only the residential RSL in 6 of the 13 samples collected, while arsenic concentrations exceed the residential RSL in 7 samples, 4 of which also exceed the industrial RSL. The background Cr VI concentrations identified in the Phase I Baseline investigation (0.169 to 1.22 milligrams per kilogram (mg/Kg)) are comparable to the concentrations identified in Phase II sampling (0.377 to 2.57 mg/Kg), with the highest concentration in wetland soils at SB-32 at the east end of the disposal area. The arsenic exceedances are all within the range of naturally occurring background concentrations documented in Coastal Plain soils, with the highest concentrations (17,100 to 27,300 micrograms per kilogram (ug/Kg)) identified in wetland soils (SB-31 and SB-32).

A total of 18 SVOCs, primarily polynuclear aromatic hydrocarbons (PAHs), were detected in the soil samples. However, only benzo(a)anthracene (1 sample), benzo(a)pyrene (5 samples), benzo(b)fluoranthene (1 sample), and dibenzo(a,h)anthracene (1 sample) were detected at concentrations exceed industrial RSLs. The highest concentrations are in the shallow soil sample from location SB-29. PAH concentrations exceeding industrial RSLs were also detected in shallow soil samples SB-04 and SB-06 from the waste disposal area during the Phase I Investigation. The detected concentrations in shallow soil are likely from the tar coated duropipe which is present in the fill in the waste disposal area.

A total of 9 VOCs were detected in the soil samples. None of the concentrations exceed residential or industrial RSLs.

5.2 Black Liquor Pond Test Pit Sample Results

A total of 3 samples of black liquor pond fill soils and 4 samples of the underlying residual soil (including a field duplicate) were collected for analysis from test pits in the former black liquor ponds. As described in the logs contained in Appendix II, the black liquor pond fill soils consists of dark brown to black mixtures of residual black liquor and clayey to silty sand with strong odors. The thickness of the black liquor pond fill soils ranged from 2 to 8 feet in the three test pits. The test pit sample locations are shown on Figure 5, and detected concentrations are summarized in Table 4. The black liquor sample results are compared to the residential and industrial RSLs and the SSLs for protection of groundwater. Note that exceedances

of SSLs for the protection of groundwater are highlighted on Table 4; however, these are not discussed because groundwater analytical results provide a direct measure of groundwater quality, rendering the SSLs comparisons irrelevant. Copies of the COAs and chain of custody forms are included in Appendix IV.

Sulfate was detected in all of the samples and ranged from 411 to 46,400 mg/kg in the black liquor pond fill soil samples and from 3,200 to 14,400 mg/kg in the underlying soil samples. Sulfite was detected in 3 of the 7 samples and ranged from not detected to 2,370 mg/kg in the black liquor pond fill soil samples and from not detected to 23.5 mg/kg in the underlying soil samples. pH ranged from 9.13 to 9.4 standard units (SU) in the black liquor pond fill soil samples and from 5.1 to 9.46 in the underlying soil. No RSLs and SSLs are established for these parameters.

Total cyanide was not detected in any of the samples. Cr VI was detected in four of the samples at "J"-qualified concentrations from 0.203 mg/kg to 0.273 mg/kg. None of the detected concentrations exceed residential or industrial RSLs.

All of the TAL metals were detected in one or more of the samples. Compared to the underlying soil samples the black liquor pond fill soils contained higher concentrations of aluminum, calcium, total chromium, iron, magnesium, manganese, sodium, potassium, and vanadium. Only arsenic (1 black liquor fill soil sample and 1 residual soil sample) exceeds the residential RSL. None of the detected concentrations exceed industrial RSLs. The detected arsenic concentrations are comparable to naturally background levels.

SVOCs were detected in five of the seven samples (two black liquor pond fill soil samples and three residual soil samples including one field duplicate). None of the concentrations exceed residential or industrial RSLs.
Low concentrations of several VOCs were detected in all of the seven samples; however, none of the detected VOCs exceed residential or industrial RSLs.

5.3 Groundwater Sample Results

A total of 12 groundwater samples (including one field duplicate) were analyzed. The monitoring well locations are shown on Figure 5, and detected concentrations are summarized in Table 5. The groundwater sample results are compared to MCLs or tapwater RSLs for constituents that do not have an established MCL. Copies of the COAs and chain of custody forms are included in Appendix V.

Samples from wells near the former black liquor ponds (four of the 12 samples) were analyzed for sulfate, sulfite, pH and cyanide. Sulfate was detected in all four samples at concentrations ranging from 1.32 to 78.5 mg/L. Sulfite was detected in three of the four samples at concentrations ranging from 1.0 to 8.5 mg/L, and pH ranged from 4.5 to 6.23 SU. Cyanide was not detected in any of the samples.

Total and dissolved metals were detected in all 12 samples. Arsenic in one unfiltered sample (TW-03), chromium in two unfiltered samples (TW-01 and TW-02), and lead in two unfiltered samples exceeded their respective MCLs. Filtered samples from these wells did not exceed MCLs. Aluminum (2 unfiltered samples), hexavalent chromium (2 unfiltered samples), and iron (5 unfiltered samples and 3 filtered samples) are the only metals that exceed tapwater RSLs. The absence of elevated metals in filtered sampled (except iron which is not a constituent of significant concern) indicates that the metals are associated with aquifer solids (turbidity) and not reflective of groundwater quality.

Eleven SVOCs, primarily PAHs, were detected. Concentrations exceed MCLs or tapwater RSLs for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene only in the primary and duplicate samples from well MW-14.

The only VOCs detected in the groundwater samples were acetone (4 samples), ethylbenzene (1 sample), methylene chloride (1 sample), styrene (1 sample), and tetracholorethylene (1 sample). None of the concentrations exceed MCLs or tapwater RSLs.

5.4 Water Level Elevations and Groundwater Flow Direction

Water level measurements were collected from the monitoring wells installed for the Phase I and Phase II Baseline Investigations on September 4, 2014, using an electric water level probe. The water levels were measured in feet and referenced to the top of casing (TOC) of each well. The corresponding groundwater elevations ranged from 153.10 feet in MW-13 to 167.44 feet in MW-19. The hydraulic gradient in the vicinity of the solid waste disposal area calculated using wells MW-12 and MW-14, is 0.007 feet/foot, and the groundwater flow direction is to the south-southeast toward Black Creek. The hydraulic gradient in the vicinity of the former black liquor ponds calculated using wells MW-19 and MW-17 is 0.004 feet/foot. The groundwater flow direction is to the south-southeast toward Black Creek in both areas. The groundwater elevations, flow direction, and water level contours for the shallow aquifer are shown on Figure 6.

6.0 Conclusions

The baseline investigation of the former solid waste disposal areas has been conducted in accordance with Consent Agreement 13-04-SW and the DHEC-approved Work Plan. A summary of the findings of the baseline investigation is provided below:

Soil Samples – Former Waste Disposal Area

Soil sample findings indicate that the site soils have not been significantly affected by site disposal activities.

- Mixtures of paper and wood trash and debris were observed at the land surface to depths ranging from 6 feet below land surface in the western portion of the disposal area to 17-18 feet in the eastern portion of the disposal area.
- Arsenic was detected in concentrations comparable to native soil. Four samples (including one field duplicate) exceeded the industrial RSL. Most concentrations are below 6 mg/kg except two at 17.1 to 27.3 mg/kg. These samples were from organic rich wetland soils, which are typically enriched in metals.
- None of the detected Cr VI concentrations exceed the industrial RSL. Cr IV was detected in 8 of the 13 soil samples. Cr VI concentrations in previously sampled background locations (Phase I Investigation) are comparable to those detected in the Phase II investigation.
- No other metal detected in the soil samples exceeds RSLs. Metal concentrations detected in samples in and downgradient of the waste disposal areas are comparable to those detected in Phase I background samples.
- Several SVOCs were detected in the soil samples. The majority of the SVOCs detected are PAHs. Most exceedances of industrial RSLs are limited to shallow soil samples (SB-29 through SB-32) located within the waste disposal area. One PAH concentration in a subsurface sample (18 to 20 feet BGS in SB-25) exceeded the industrial RSL. PAH concentrations in these samples are likely related to the tar-coated Duropipe which is locally present in the disposal area.
- No VOCS were detected at concentrations exceeding RSLs for residential or industrial soils.

Test Pit Samples – Former Black Liquor Ponds

The black liquor pond fill soils and residual soil sample data from the former black liquor ponds indicate that constituents from the black liquor have not leached significantly into or adversely affected the underlying soil.

- The thickness of the black liquor pond fill soils ranged from 2 to 8 feet as observed in the three test pits.
- Compared to the underlying soil samples the black liquor pond fill soils generally contained higher concentrations of sulfate, sulfite, pH, aluminum, calcium, total chromium, iron, magnesium, manganese, sodium, potassium, and vanadium. However none of the concentrations of these constituents in the black liquor pond fill soils or underlying soil exceed applicable residential or industrial RSLs. Only arsenic in one black liquor pond fill soil sample and one residual soil sample exceeds the residential RSL, and these are comparable to native soils.

- Various PAHs and VOCs were detected in one or more of the black liquor pond fill soils samples and residual soil samples; however, none of the concentrations exceed residential or industrial RSLs.

Groundwater Samples

Site activities have not significantly impacted groundwater quality downgradient from the solid waste disposal area. In the area of the black liquor ponds, concentrations of some inorganic constituents identified in the former black liquor ponds are higher in downgradient wells, but none of the concentrations of these or other constituents exceed applicable standards.

Former Solid Waste Disposal Area

- Several metals were detected in unfiltered samples at concentrations that exceed MCLs and/or RSLs. The lower concentrations in the filtered samples indicate that the MCL and RSL exceedances are related to sample turbidity
- Concentrations of four PAHs exceed tapwater RSLs in the primary and duplicate samples from only one well (MW-14), which is located downgradient of the waste disposal area. One PAH (benzo (a) pyrene) was detected in the primary and duplicate groundwater sample from MW-14 also exceeded its MCL.
- Several VOCs were detected at low concentrations in four of the groundwater samples; none of the concentrations exceed MCLs or tapwater RSLs.

Former Black Liquor ponds

- When compared to upgradient well MW-19, wells downgradient of the former black liquor ponds, exhibit higher concentrations of constituents including aluminum, total chromium, sodium, potassium, vanadium, sulfate, and sulfite. However, none of the detected concentrations exceed applicable MCLs or tapwater RSLs.
- SVOCs were not detected in groundwater from wells upgradient or downgradient of the former black liquor ponds.
- One VOC, methylene chloride was reported at an estimated concentration in one groundwater sample; however methylene chloride was also detected in the laboratory method blank indicating that the detection results from laboratory interference.

Recommendations

No further assessment of these areas is recommended. The existing industrial use and site security should be maintained.

7.0 References

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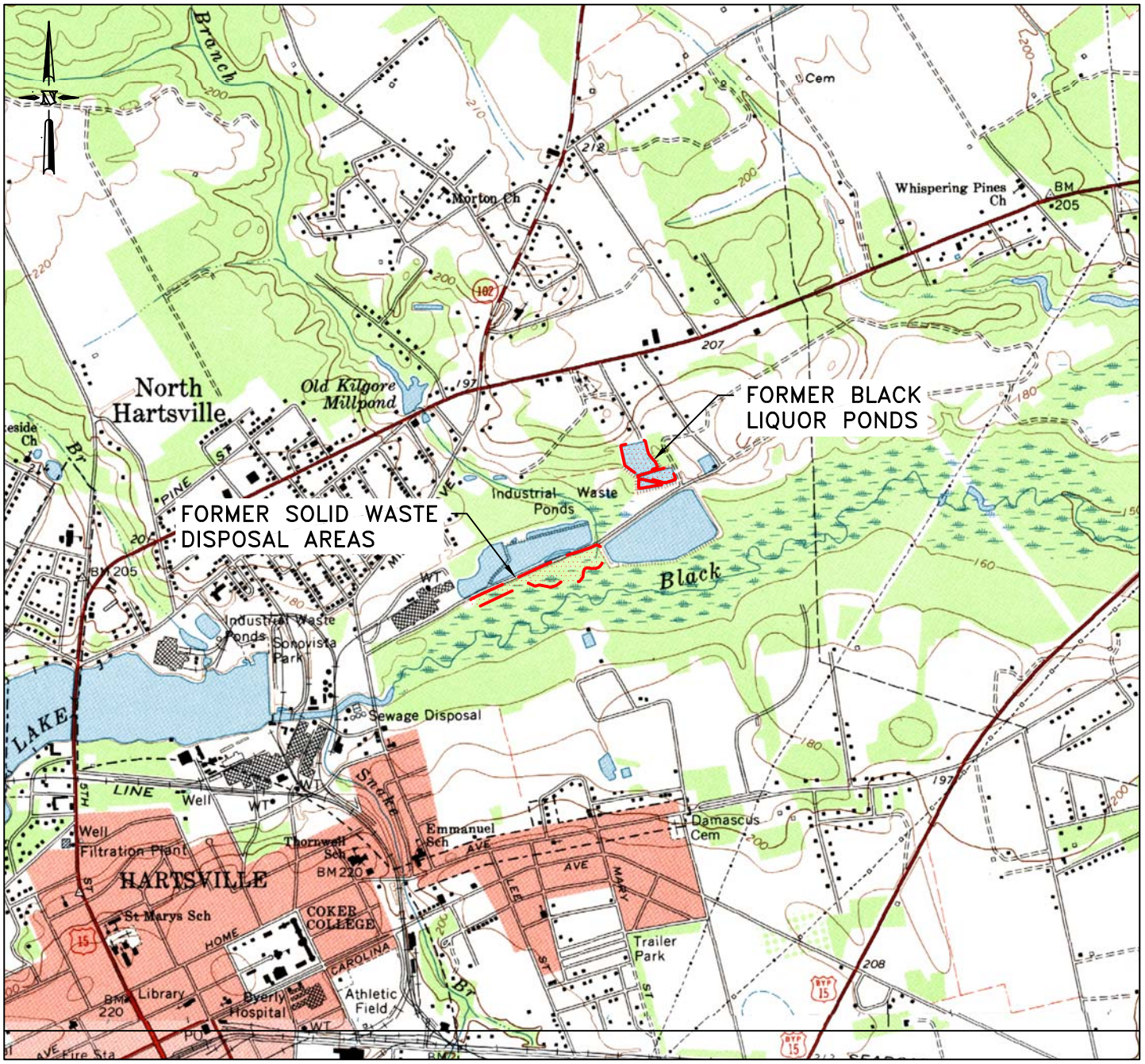
FIGURES



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NATIONAL GEODETIC VERTICAL DATUM OF 1929

HARTSVILLE NORTH
HARTSVILLE SOUTH
1968
7.5-MINUTE SERIES QUADRANGLES

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HARTSVILLE, DARLINGTON COUNTY
SOUTH CAROLINA

SITE LOCATION

PHASE II BASELINE INVESTIGATION

FIGURE 1

Date:	08/13/14	Drawn by:	SKN	Approved by:	REM	Project No:	SONO00514

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FORMER WASTE DISPOSAL AREAS
PHASE II BASELINE INVESTIGATION

DATE:	08/13/2014
DRAWN BY:	SKN
APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	2

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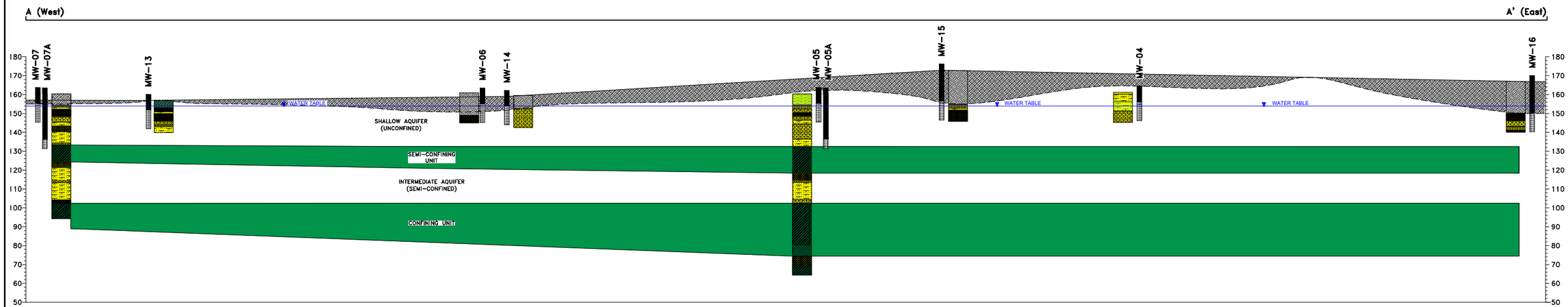

NOTES:

1. Elevation referenced to feet above mean sea level (FT MSL).
2. Vertical exaggeration is approximately 2:1.

APPROXIMATE HORIZONTAL SCALE IN FEET

0' 50' 100' 200'

LEGEND

- SP (Poorly graded SAND)
- SW (Well graded SAND)
- SP-SM (Poorly graded SAND w/ Silt)
- SP-SC (Poorly graded SAND w/ Clay)
- SW-SM (Well graded SAND w/ Silt)
- ML (SILT)
- SC (Clayey SAND)
- CL (Lean CLAY)
- CH (Fat CLAY)
- OL (Organic Soil)
- Fill/Debris

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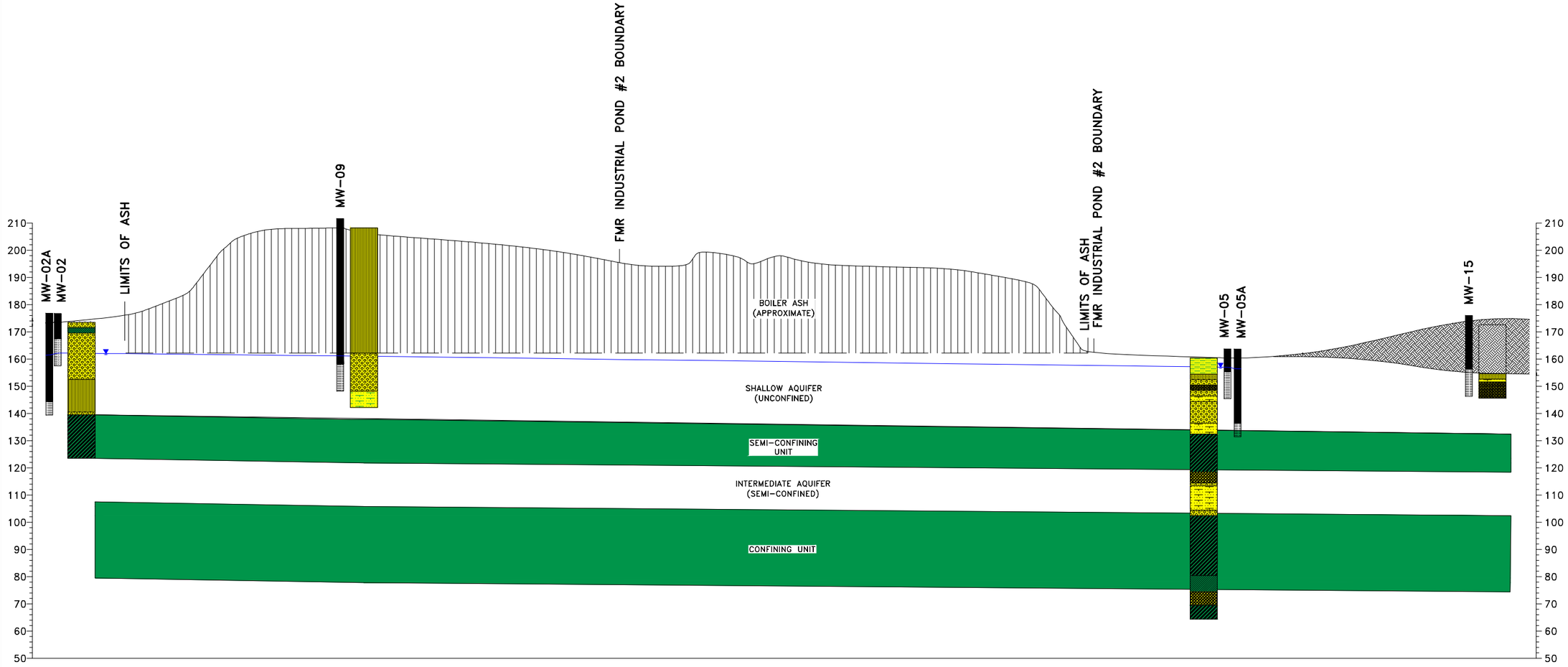
SOUTH CAROLINA

□□□□O□EOLO□IC C□OSS SECTION A □A'
BOILER ASH STAGING AREA
PHASE I BASELINE INVESTIGATION

DATE: 09/25/2014
DRAWN BY: SKN
APPROVED BY: TRP
PROJECT NUMBER: SONO00414
FIGURE: 3

B (North) — B' (South)



NOTES:

1. Elevation referenced to feet above mean sea level (FT MSL).
2. Vertical exaggeration is approximately 2:1.

APPROXIMATE HORIZONTAL SCALE
IN FEET

0' 40' 80' 160'

LEGEND

- SP (Poorly graded SAND)
- SW (Well graded SAND)
- SP-SM (Poorly graded SAND w/ Silt)
- SP-SC (Poorly graded SAND w/ Clay)
- SW-SM (Well graded SAND w/ Silt)
- ML (SILT)
- SC (Clayey SAND)
- CL (Lean CLAY)
- CH (Fat CLAY)
- OL (Organic Soil)
- Fill/Debris

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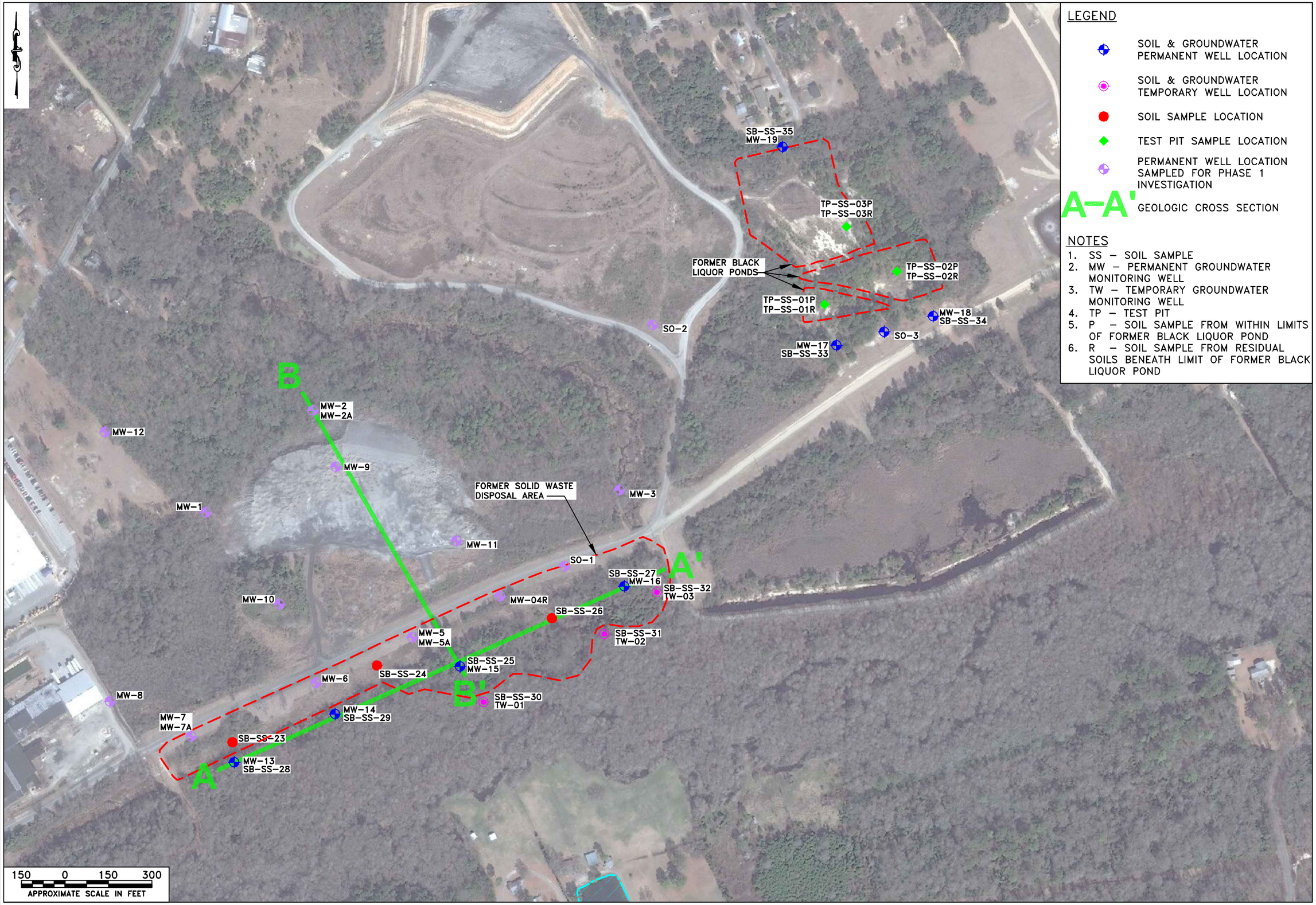
GEOLOGIC CROSS SECTION B - B'
BOILER ASH STAGING AREA
PHASE I BASELINE INVESTIGATION

DATE: 09/25/2014
DRAWN BY: TJP
APPROVED BY: TRP
PROJECT NUMBER: SONO00414
FIGURE: 4



LEGEND

- SOIL & GROUNDWATER PERMANENT WELL LOCATION
- SOIL & GROUNDWATER TEMPORARY WELL LOCATION
- SOIL SAMPLE LOCATION
- TEST PIT SAMPLE LOCATION
- PERMANENT WELL LOCATION SAMPLED FOR PHASE 1 INVESTIGATION
- A–A' GEOLOGIC CROSS SECTION

NOTES

1. SS – SOIL SAMPLE
2. MW – PERMANENT GROUNDWATER MONITORING WELL
3. TW – TEMPORARY GROUNDWATER MONITORING WELL
4. TP – TEST PIT
5. P – SOIL SAMPLE FROM WITHIN LIMITS OF FORMER BLACK LIQUOR POND
6. R – SOIL SAMPLE FROM RESIDUAL SOILS BENEATH LIMIT OF FORMER BLACK LIQUOR POND

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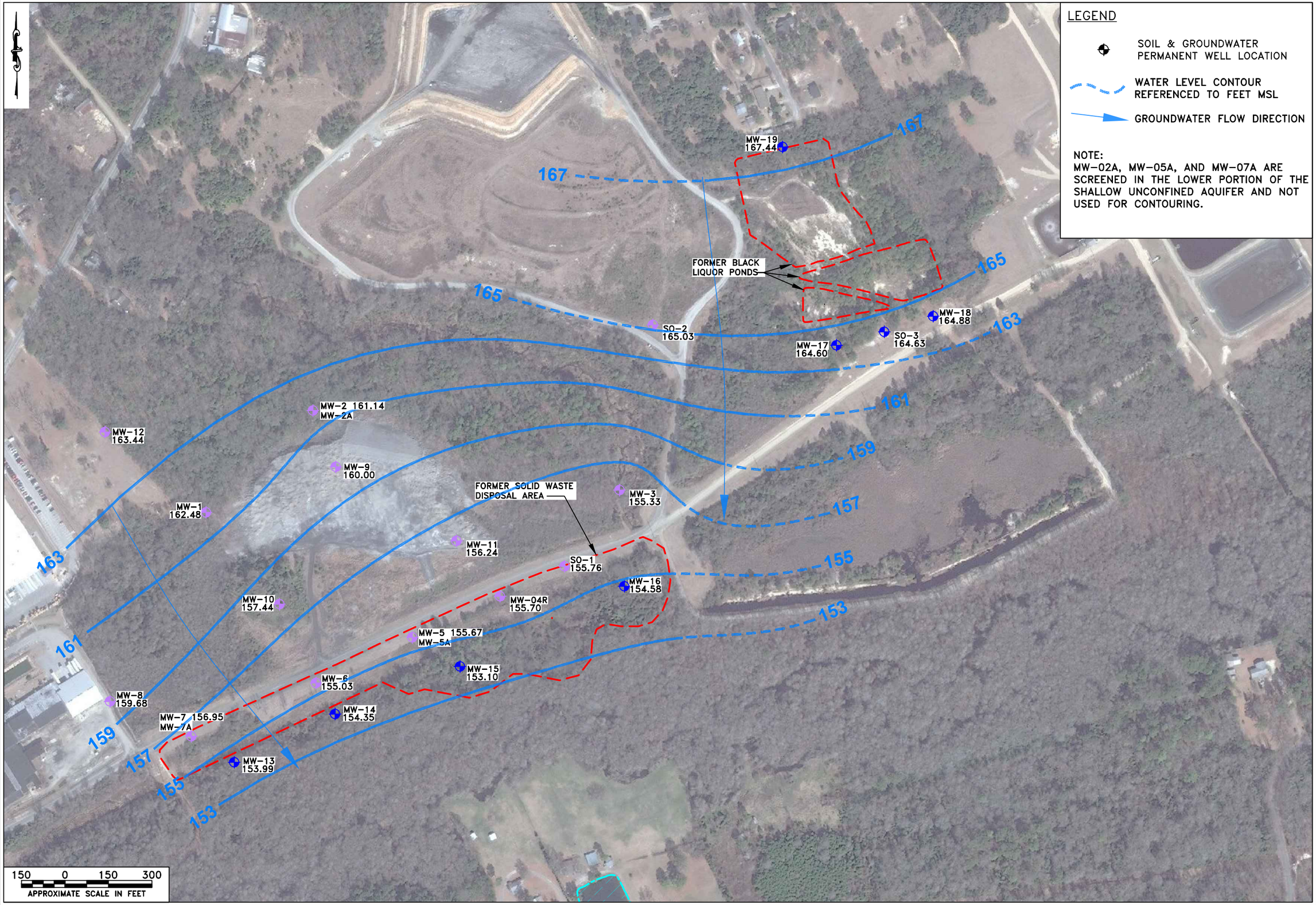
SAMPLE LOCATION MAP
PHASE II BASELINE INVESTIGATION

DATE:	09/25/2014
DRAWN BY:	TJP
APPROVED BY:	TRP
PROJECT NUMBER:	SONO00414
FIGURE:	5

G:\Q-Z\Sisono\sono001140\CAD\ph II report basemap_2014-09.dwg \ Fig 5 sample locations \ 9/26/2014 3:18 PM



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GROUND WATER ELEVATIONS AND FLOW DIRECTION
PHASE II BASELINE INVESTIGATION

DATE:	09/25/2014
DRAWN BY:	TJP
APPROVED BY:	TRP
PROJECT NUMBER:	SONO00414
FIGURE:	6

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TABLES

TABLE 1. SUMMARY OF SAMPLE LOCATIONS AND ANALYTICAL PARAMETERS
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREAS
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

SAMPLE LOCATION	SAMPLE TYPE	SAMPLE ID	Sample Depth (Feet BLS)	LOCATION/RATIONALE	ANALYTICAL PARAMETERS
Disposal Area	Subsurface Soil	SB-SS-23	6.5 - 8.5	Grab soil sample collected from beneath former solid waste disposal area.	TCL VOCs, TCL SVOCs, TAL Metals, Cr6+
		SB-SS-24	8 - 10		
		SB-SS-25	18 - 20		
		SB-SS-26	3 - 5		
		SB-SS-27	17 - 19		
	Surface Soil	SB-SS-28	0-2	Grab surface soil sample collected downgradient of former solid waste disposal area boundary.	TCL VOCs, TCL SVOCs, TAL Metals, Cr6+
		SB-SS-29	0-2		
		SB-SS-30	0-2		
		SB-SS-31	0-2		
		SB-SS-32	0-2		
Former Black Liquor Ponds	Subsurface Soil (Pond Soils and Residual Soils)	TP-SS-01 P	0-2	Subsurface soil samples collected from test pits within the former black liquor ponds("P" suffix) and residual soil beneath the ponds ("R" suffix).	TAL metals, cyanide, Cr6+, TCL VOCs, TCL SVOCs, pH, nitrate, nitrite, sulfate, sulfite.
		TP-SS-01 R	4.5		
		TP-SS-02 P	0-2		
		TP-SS-02 R	5		
		TP-SS-03 P	8		
		TP-SS-03 R	9		
SAMPLE LOCATION	**SAMPLE TYPE**	**SAMPLE ID**	**Screen Interval (Feet BLS)**	**LOCATION/RATIONALE**	**ANALYTICAL PARAMETERS**
Disposal Area	Groundwater	MW-13	7 - 17	Shallow groundwater samples collected within former solid waste disposal area.	TCL VOCs, TCL SVOCs, TAL Metals, Cr6+
		MW-14	7 - 17		
		MW-15	22 - 32		
		MW-16	22 - 32		
		TW-01	1 - 3	Shallow groundwater samples collected downgradient of former solid waste disposal area.	
		TW-02	4 - 9		
		TW-03	4 - 9		
Former Black Liquor Ponds	Groundwater	MW-17	7 - 17	Shallow groundwater sample collected downgradient of former black liquor ponds.	TAL metals, cyanide, Cr6+, TCL VOCs, TCL SVOCs, pH, nitrate, nitrite, sulfate, sulfite.
		MW-18	7 - 17		
		SO-3	Unknown		
		MW-19	17 - 27	Shallow groundwater sample collected upgradient of former black liquor ponds.	

NOTES:

1 - All samples were collected and analyzed in accordance with the Work Plan and QAPP.

2 - Groundwater sample analyses for TAL metals and Cr6+ include total and dissolved fractions.

3 - Quality control/quality assurance samples were collected and analyzed in accordance with the QAPP.

TABLE 2. PERMANENT MONITORING WELL CONSTRUCTION DETAILS
PHASE II BASELINE INVESTIGATION REPORT
SOLID WASTE DISPOSAL AREAS
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

LOCATION	NORTHING (SC State Plane Feet NAD 83 Datum)	EASTING (SC State Plane Feet NAD 83 Datum)	TOTAL DEPTH (Feet BGS)	GROUND SURFACE ELEVATION	TOP OF CASING ELEVATION	SCREEN INTERVAL (FT BGS)		SCREEN INTERVAL (ELEV)		Depth to Water	Groundwater Elevation
MW-01	932,396.25	2,283,881.83	17	169.22	172.33	7	17	162.22	152.22	9.85	162.48
MW-02	932,746.16	2,284,252.58	16	173.51	176.72	6	16	167.51	157.51	15.58	161.14
MW-02A	932,749.86	2,284,247.72	34	173.44	176.83	29	34	144.44	139.44	16.31	160.52
MW-03	932,473.09	2,285,308.79	18	160.04	160.05	8	18	152.04	142.04	4.22	155.83
MW-04R	932,106.47	2,284,896.68	15	161.29	164.34	5	15	156.29	146.29	8.64	155.70
MW-05	931,962.60	2,284,592.06	15	160.45	163.76	5	15	155.45	145.45	8.09	155.67
MW-05A	931,964.67	2,284,595.81	29	160.42	163.61	24	29	136.42	131.42	8.81	154.80
MW-06	931,807.69	2,284,261.83	15	160.33	163.48	1	15	159.33	145.33	8.45	155.03
MW-07	931,623.24	2,283,831.21	15	160.39	163.29	5	15	155.39	145.39	6.34	156.95
MW-07A	931,624.79	2,283,834.71	29.5	160.35	163.43	24.5	29.5	135.85	130.85	8.38	155.05
MW-08	931,743.41	2,283,550.81	16	161.04	160.86	6	16	155.04	145.04	1.18	159.68
MW-09	932,553.30	2,284,329.83	60	208.24	211.60	50	60	158.24	148.24	51.60	160.00
MW-10	932,079.34	2,284,135.44	70	204.67	208.82	60	70	144.67	134.67	51.38	157.44
MW-11	932,297.86	2,284,746.22	56	193.36	196.45	46	56	147.36	137.36	40.21	156.24
MW-12	932,673.74	2,283,533.50	26	178.65	181.84	16	26	162.65	152.65	18.40	163.44
MW-13	931,533.65	2,283,979.20	17	156.89	159.85	7	17	149.89	139.89	5.86	153.99
MW-14	931,700.26	2,284,327.24	17	158.75	162.01	7	17	151.75	141.75	7.66	154.35
MW-15	931,864.04	2,284,758.31	32	173.20	176.69	22	32	151.20	141.20	23.59	153.10
MW-16	932,141.38	2,285,325.41	32	167.40	170.11	22	32	145.40	135.40	15.53	154.58
MW-17	932,972.92	2,286,057.62	17	165.98	169.54	7	17	158.98	148.98	4.94	164.60
MW-18	933,073.34	2,286,391.38	17	169.12	172.12	7	17	162.12	152.12	7.24	164.88
MW-19	933,657.36	2,285,871.67	27	186.95	190.40	17	27	169.95	159.95	22.96	167.44
SO-1	932,210.29	2,285,119.40	24	160.29	162.04	14	24	146.29	136.29	6.28	155.76
SO-2	933,043.26	2,285,423.75	30	169.84	171.43	10	30	159.84	139.84	6.40	165.03
SO-3	933,019.41	2,286,222.29	37	169.23	171.33	Unknown				6.70	164.63

Notes:

Depth to water measurements collected September 4, 2014.

TABLE 3. SUMMARY OF DETECTED CONSTITUENTS IN SOIL SAMPLES
PHASE II BASELINE INVESTIGATION REPORT
FORMER SOLID WASTE DISPOSAL AREAS
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

PARAMETER	FRACTION	UNITS	Sample ID				SB-SS-23		SB-SS-24		SB-SS-25		SB-SS-26		SB-SS-26-D		SB-SS-27		SB-SS-28		SB-SS-28-D		SB-SS-29		SB-SS-30		SB-SS-30-D		SB-SS-31		SB-SS-32	
			Sample Depth (Feet BGS)				6.5-8.5		8-10		18-20		3-5		3-5		17-19		0-2		0-2		0-2		0-2		0-2		0-2		0-2	
			R-RSL	I-RSL	RB-SSL	MCL-SSL	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
Cyanide, Total	G	UG/KG	21,000	130,000	15	2,000	106	U	105	U	151	J	84.8	U	85.8	U	84.9	U	96	U	99.7	U	260		516		2740		4750		1860	
Hexavalent Chromium	G	MG/KG	0.3	6.3	0.00067	NE	0.395	J	0.451		0.132	U	0.121	U	0.377		0.107	U	0.687		0.143	U	0.184	J	0.259	J	2.26		0.504	U	2.57	
Aluminum	METALS	UG/KG	77,000,000	1,100,000,000	30,000,000	NE	4,910,000		1,040,000		2,390,000		7,770,000		8,580,000		350,000		6,180,000		6,010,000		2,920,000		3,420,000		8,460,000		16,300,000		20,100,000	
Antimony	METALS	UG/KG	31,000	470,000	350	270	382	U	426	U	358	U	358	U	361	U	365	U	388	U	612	J	594	J	542	U	20400		14600		930	U
Arsenic	METALS	UG/KG	670	3,000	1.5	290	238	U	244	U	224	U	220	U	211	U	217	U	3580		5460		1260		526	J	2330	J	27300		17100	
Barium	METALS	UG/KG	15,000,000	220,000,000	160000	82,000	6,010		1,370		10,700		8,310		10,600		1,270		58,200		119,000		46,300		17,800		57,400		153,000		127,000	
Beryllium	METALS	UG/KG	160,000	2,300,000	19000	3,200	98.7	J	27.4	J	175		89.8	J	120		21.7	U	575		1150		204		171		470		2290		1490	
Cadmium	METALS	UG/KG	70,000	980,000	690	380	23.8	U	24.4	U	33.2	J	43	J	41.7	J	40.6	J	101	J	157	J	231		106	J	865		4090		744	
Calcium	METALS	UG/KG	NE	NE	NE	NE	91,000		50,600		97,700		99,900		199,000		20,800	J	444,000		735,000		834,000		734,000		1,890,000		5,080,000		806,000	
Chromium	METALS	UG/KG	120,000,000*	1,800,000,000*	NE	180,000,000	5,520		2,900		11,400		10,900		11,000		1,250		6,800		8,370		4,370		28,300		167,000		220,000		44,000	
Cobalt	METALS	UG/KG	23,000	350,000	270	NE	227	J	73.3	U	93.8	J	355		384		65.1	U	1320		2470		859		282	J	1140		9680		4830	
Copper	METALS	UG/KG	3,100,000	47,000,000	28000	46,000	3,250		1,930		2,610		3,780		4,150		2,110		11,100		18,800		42,700		18,500		69,500		206,000		68,300	
Iron	METALS	UG/KG	55,000,000	820,000,000	350000	NE	438,000		475,000		1,300,000		1,010,000		1,100,000		197,000		2,190,000		3,230,000		2,430,000		2,680,000		8,230,000		30,700,000		27,500,000	
Lead	METALS	UG/KG	400,000	800,000	NE	14,000	4,020		2,540		2,680		5,380		5,720		1,560		5,930		7,990		49,500		9,510		40,700		109,000		78,400	
Magnesium	METALS	UG/KG	NE	NE	NE	NE	81,000		46,100		68,100		156,000		164,000		8,240		202,000		296,000		87,300		186,000		372,000		608,000		485,000	
Manganese	METALS	UG/KG	1,800,000	26,000,000	28000	NE	2,820		1,330		4,520		5,440		7,530		1,660		15,200		19,000		39,200		10,600		23,000		63,000		63,500	
Mercury	METALS	UG/KG	9,400	40,000	33	100	14.6		7.42	J	9.48	J	13.6	J	17.8		4.57	U	31.6		27.4		93.1		103		1190		534		297	
Nickel	METALS	UG/KG	1,500,000	22,000,000	26000	NE	837		295	J	529		1240		1400		4170		4140		6380		2600		980		3520		22600		12600	
Potassium	METALS	UG/KG	NE	NE	NE	NE	120,000		84,000		100,000		224,000		254,000		17,400	U	361,000		731,000		117,000		187,000		387,000		873,000		482,000	
Selenium	METALS	UG/KG	390,000	5,800,000	520	260	654	J	403	U	470	J	362	U	348	U	358	U	588	J	1370		371	U	489	U	813	U	2130	J	1910	J
Silver	METALS	UG/KG	390,000	5,800,000	800	NE	116	U	129	U	109	U	108	U	109	U	111	U	118	U	123	U	114	U	164	U	369	J	414	U	282	U
Sodium	METALS	UG/KG	NE	NE	NE	NE	30,500	J	158,000		216,000		25,100	J	31,800	J	23,800	J	79,100		172,000		18,000	U	331,000		617,000		298,000		81,400	J
Thallium	METALS	UG/KG	780	12,000	14	140	71.5	U	73.3	U	67.3	U	65.9	U	63.2	U	65.1	U	237	J	362	J	67.5	U	88.9	U	213	J	992	J	366	J
Vanadium	METALS	UG/KG	390,000	5,800,000	86000	NE	3,310		1,230		1,570		11,700		8,460		680		12,700		18,800		5,920		3,850		18,800		65,700		57,800	
Zinc	METALS	UG/KG	23,000,000	350,000,000	370000	NE	2,060	J	499	J	1,660	J	2,820		3,220		1,330	J	7,350		10,200		73,500		16,100		37,800		319,000		76,600	
Acenaphthene	SVOA	UG/KG	3,500,000	45,000,000	5500	NE	44.7		16	J	274		11.3	U	11.5	U	11.9	U	22.2	J	12.6	U	160	J	83.3	U	140	U	73.2	J	35.8	J
Anthracene	SVOA	UG/KG	17,000,000	230,000,000	58000	NE	43.8		38.3	J	686		11.3	U	11.5	U	14.7	J	48.9		14.7	J	576		83.3	U	606		127	J	121	
Benzo(a)anthracene	SVOA	UG/KG	150	2,900	12	NE	129		142		1970		16.3	J	11.5	U	52.2		246		84.5		3390		167	J	1640		995		762	
Benzo(a)pyrene	SVOA	UG/KG	15	290	4	240	113		140		1630		11.3	U	11.5	U	36.6	J	259		87.9		3480		105	J	1420		1150		841	
Benzo(b)fluoranthene	SVOA	UG/KG	150	2,900	41	NE	184		203		2090		14.7	J	11.5	U	57.7		397		132		5140		169	J	2300		1620		1180	
Benzo(ghi)perylene	SVOA	UG/KG	NE	NE	NE	NE	42.1		59.2		743		11.3	U	11.5	U	11.9	U	98.1		32	J	1430		83.3	U	541		451		366	
Benzo(k)fluoranthene	SVOA	UG/KG	1,500	29,000	400	NE	71.2		75.3		751		11.3	U	11.5	U	19.5	J	132		40.4	J	1920		83.3	U	839		560		394	
bis(2-Ethylhexyl)phthalate	SVOA	UG/KG	38,000	160,000	1300	1400	126	U	134	U	604	U	113	U	115	U	119	U	123	U	126	U	1200	U	3610		1400	U	680	J	290	U
Carbazole	SVOA	UG/KG	NE	NE	NE	NE	24	J	29.4	J	338		11.3	U	11.5	U	11.9	U	38.2	J	12.6	J	516		83.3	U	140	U	87.9	J	93.7	J
Chrysene	SVOA	UG/KG	15,000	290,000	1200	NE	133		152		1900		11.3	U	11.5	U	44.6		269		89.6		3830		128	J	2000		1030		998	
Dibenzo(a,h)anthracene	SVOA	UG/KG	15	290	13	NE	16	J	19.1	J	256		11.3	U	11.5	U	11.9	U	31.2	J	12.6	U	576		83.3	U	270	J	170		133	
Fluoranthene	SVOA	UG/KG	2,300,000	30,000,000	89000	NE	235		212		2710		22.7	J	11.5	U	88		403		131		4680		172	J	895		1290		1010	
Fluorene	SVOA	UG/KG	2,300,000	30,000,000	5400	NE	26.1	J	18.7	J	306		11.3	U	11.5	U	11.9	U	20.9	J	12.6	U	152	J	83.3	U	140	U	63	J	36.7	J
Indeno(1,2,3-cd)pyrene	SVOA	UG/KG	150	2,900	240	NE	52.7		60.6		841		11.3	U	11.5	U	15.9	J	119		35.3	J	1790		83.3	U	718		603		336	
m,p-Cresols	SVOA	UG/KG	NE	NE	NE	NE	126	U	134	U	604	U	113	U	115	U	119	U	123	U	126	U	1200	U	833	U	1400	U	439	U	290	U
Phenanthrene	SVOA	UG/KG	NE	NE	NE	NE	145		128		2440		11.3	U	11.5	U	57.7		181		59.3		2320		86.1	J	732		539		524	
Phenol	SVOA	UG/KG	18,000,000	250,000,000	3300	NE	126	U	134	U	604	U	113	U	115	U	119	U	123	U	126	U	1200	U	833	U	1400	U	439	U	290	U
Pyrene	SVOA	UG/KG	1,700,000	23,000,000	13000	NE	199		204		3550		18.5	J	11.5	U	68.9		400		148		6140		194	J	993		1790		1680	
2-Butanone	VOA	UG/KG	27,000,000	190,000,000	1200	NE	1.53	U	3.49	J	1.76	J	1.14	U	1.17	U	1.49	U	1.58	J	1.68	J	1.38	U	2.25	U	3.68	U	55.3		20.3	
2-Hexanone	VOA	UG/KG	200,000	1,300,000	8.8	NE	1.53	U	1.69	U	1.35	U	1.14	U	1.17	U	1.49	U	1.5	U	1.53	U	1.38	U	2.25	U	3.68	U	7.32	U	5.56	U
4-Methyl-2-pentanone	VOA	UG/KG	5,300,000	56,000,000	280	NE	1.53	U	1.69	U	1.35	U	1.14	U	1.17	U	1.49	U	1.5	U	1.53	U	1.38	U	2.25	U	3.68	U	7.32	U	5.56	U
Acetone	VOA	UG/KG	61,000,000	670,000,000	2900	NE	1.53	U	13.6		6.94		4.85		5.03		2.4	J	6.44		7.76		1.38	U	4.35	J	3.68	U	171		67.7	
Carbon disulfide	VOA	UG/KG	770,000	3,500,000	240	NE	1.53	U	2.03	J	1.35	U	1.14	U	1.17	U	1.49	U	1.5	U	1.53	U	1.38	U	2.25	U	3.68	U	7.32	U	5.56	U
Ethylbenzene	VOA	UG/KG	5,800	25,000	1.7	780	0.305	U	0.338	U	0.576	J	0.228	U	0.234	U	0.298	U	0.3	U	0.305	U	0.275	U	0.45	U	0.735	U	1.46	U	1.11	U
Methylene chloride	VOA	UG/KG	57,000	1,000,000	2.9	1.3	2.88	J	1.69	U	1.35	U	1.14	U	3.28	J	1.49	U	1.5	U	1.53	U	1.38	U	2.25	U	3.68	U	7.32	U	5.56	U
Toluene	VOA	UG/KG	4,900,000	47,000,000	760	690	0.305	U	0.338	U	0.27	U	0.228	U	0.234	U	0.298	U	0.3	U	0.305	U	0.275	U	0.45	U	0.735	U	1.46	U	1.11	U
Xylenes (total)	VOA	UG/KG	580,000	2,500,000	190	9800	0.917	U	1.01	U	0.811	U	0.685	U	0.702	U	0.895	U	0.899	U	0.917	U	0.827	U	1.35	U	2.21	U	4.39	U	3.33	U

NOTES:
1 - Samples collected July 14-17, 2014
2 - "D" suffix indicates field duplicate sample
3 - Regional Screening Levels for residential (R-RSL) and industrial (I-RSL) soil and Soil Screening Levels (SSLs) for protection groundwater from Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites USEPA (May 2014).
4 - "NE" indicates RSL or SSL not established for constituent.
5 - Results in "bold" indicate concentration exceeds laboratory reporting limit.
6 - "U" data qualifier indicates constituent was not detected above method detection limit.
7 - "J" data qualifier indicates constituent was detected above the method detection limit, but concentration does not exceed laboratory reporting limit.
8 - * indicates RSL for Chromium III

= concentration exceeds Maximum Contaminant Level-Based Screening Level (MCL-SSL) or Risk-Based Soil Screening Level (RB-SSL) for protection of groundwater.
= concentration exceeds RSL for residential soil.
= concentration exceeds RSL for industrial soil.

TABLE 4. SUMMARY OF DETECTED CONSTITUENTS IN TEST PIT SAMPLES FROM FORMER BLACK LIQUOR PONDS
PHASE II BASELINE INVESTIGATION REPORT
FORMER SOLID WASTE DISPOSAL AREAS
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

PARAMETER	FRACTION	UNITS					Sample ID	TP-SS-01 P		TP-SS-01 R		TP-SS-02 P		TP-SS-02 R		TP-SS-02R-D		TP-SS-03 P		TP-SS-03 R	
							Sample Depth (Feet BGS)	0-2		4.5		0-2		5		5		8		9	
			R-RSL	I-RSL	RB-SSL	MCL-SSL		Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
Cyanide, Total	G	UG/KG	21,000	130,000	15	2,000		83.3	U	76.1	U	84.4	U	74.8	U	78.9	U	95.7	U	98.3	U
Hexavalent Chromium	G	MG/KG	0.3	6.3	0.00067	NE		0.127	U	0.117	U	0.0998	U	0.273	J	0.259	J	0.272	J	0.203	J
pH	G	SU	NE	NE	NE	NE		**9.13**	H	**9.46**	H	**9.4**	H	**6.33**	H	**6.24**	H	**9.35**	H	**5.1**	H
Sulfate	G	MG/KG	NE	NE	NE	NE		**411**		**3200**		**980**		**3830**		**3760**		**46400**		**14400**	
Sulfite	G	MG/KG	NE	NE	NE	NE		**2370**	H	22.9	HU	**346**	H	23.5	HJ	24.4	HU	28.1	HU	28.6	HU
Aluminum	METALS	UG/KG	77,000,000	1,100,000,000	30,000,000	NE		**13,000,000**		**584,000**		**3,990,000**		**620,000**		**563,000**		**5,260,000**		**8,370,000**	
Antimony	METALS	UG/KG	31,000	470,000	350	270		339	U	347	U	**1150**		331	U	343	U	360	U	363	U
Arsenic	METALS	UG/KG	670	3,000	1.5	290		**1690**		207	U	224	U	209	U	199	U	203	U	724	J
Barium	METALS	UG/KG	15,000,000	220,000,000	160000	82,000		**13,300**		**3,950**		**7,260**		**13,300**		**11,000**		**26,200**		**12,300**	
Beryllium	METALS	UG/KG	160,000	2,300,000	19000	3,200		97.3	J	20.7	U	35.6	J	20.9	U	19.9	U	33.7	J	52.1	J
Cadmium	METALS	UG/KG	70,000	980,000	690	380		29.6	J	62.8	J	22.4	U	32.6	J	38.5	J	27.9	J	23.1	U
Calcium	METALS	UG/KG	NE	NE	NE	NE		**129,000**		9,690	J	**221,000**		**55,300**		**35,200**		**757,000**		**107,000**	
Chromium	METALS	UG/KG	120,000,000*	1,800,000,000*	NE	180,000,000		**7,280**		510	J	**3,180**		**658**		566	J	**3,390**		**5,250**	
Cobalt	METALS	UG/KG	23,000	350,000	270	NE		**1090**		111	J	221	J	173	J	150	J	**288**		**273**	
Copper	METALS	UG/KG	3,100,000	47,000,000	28000	46,000		**4,280**		**3,530**		**1,600**		**2,330**		**2,240**		**2,670**		**2,880**	
Iron	METALS	UG/KG	55,000,000	820,000,000	350000	NE		**6,010,000**		**77,200**		**1,360,000**		**48,300**		**41,100**		**2,100,000**		**855,000**	
Lead	METALS	UG/KG	400,000	800,000	NE	14,000		**9,040**		**3,550**		**3,380**		**1,920**		**1,890**		**1,960**		**2,790**	
Magnesium	METALS	UG/KG	NE	NE	NE	NE		**147,000**		**15,900**		**62,100**		**9,250**		**8,360**		**99,900**		**146,000**	
Manganese	METALS	UG/KG	1,800,000	26,000,000	28000	NE		**28,100**		**1,420**		**14,500**		595	J	550	J	**6,590**		**5,730**	
Mercury	METALS	UG/KG	9,400	40,000	33	100		10	J	4.03	U	8.29	J	3.81	U	4.05	U	10.7	J	4.36	U
Nickel	METALS	UG/KG	1,500,000	22,000,000	26000	NE		**3210**		276	J	**1090**		273	J	235	J	**1600**		**2020**	
Potassium	METALS	UG/KG	NE	NE	NE	NE		**188,000**		17,600	J	**77,000**		16,700	U	15,900	U	**134,000**		**199,000**	
Selenium	METALS	UG/KG	390,000	5,800,000	520	260		365	U	341	U	370	U	345	U	328	U	335	U	382	U
Silver	METALS	UG/KG	390,000	5,800,000	800	NE		111	J	105	U	110	U	100	U	104	U	109	U	110	U
Sodium	METALS	UG/KG	NE	NE	NE	NE		**2,460,000**		**1,720,000**		**2,810,000**		**2,550,000**		**2,050,000**		**26,300,000**		**8,860,000**	
Thallium	METALS	UG/KG	780	12,000	14	140		209	J	62	U	67.2	U	62.8	U	59.6	U	61	U	69.4	U
Vanadium	METALS	UG/KG	390,000	5,800,000	86000	NE		**4,460**		105	U	**2,090**		213	J	359	J	**3,070**		**4,980**	
Zinc	METALS	UG/KG	23,000,000	350,000,000	370000	NE		**4,770**		**11,000**		2,120	J	**6,020**		**5,570**		**4,340**		**4,410**	
Acenaphthene	SVOA	UG/KG	3,500,000	45,000,000	5500	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Anthracene	SVOA	UG/KG	17,000,000	230,000,000	58000	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Benzo(a)anthracene	SVOA	UG/KG	150	2,900	12	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Benzo(a)pyrene	SVOA	UG/KG	15	290	4	240		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Benzo(b)fluoranthene	SVOA	UG/KG	150	2,900	41	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Benzo(ghi)perylene	SVOA	UG/KG	NE	NE	NE	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Benzo(k)fluoranthene	SVOA	UG/KG	1,500	29,000	400	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
bis(2-Ethylhexyl)phthalate	SVOA	UG/KG	38,000	160,000	1300	1400		117	U	107	U	114	U	106	U	106	U	114	U	120	U
Carbazole	SVOA	UG/KG	NE	NE	NE	NE		11.7	U	10.7	U	11.4	U	10.6	U	13.7	J	11.4	U	12	U
Chrysene	SVOA	UG/KG	15,000	290,000	1200	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Dibenzo(a,h)anthracene	SVOA	UG/KG	15	290	13	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Fluoranthene	SVOA	UG/KG	2,300,000	30,000,000	89000	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Fluorene	SVOA	UG/KG	2,300,000	30,000,000	5400	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Indeno(1,2,3-cd)pyrene	SVOA	UG/KG	150	2,900	240	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
m,p-Cresols	SVOA	UG/KG	NE	NE	NE	NE		**890**		**371**		238	J	**370**		**359**		114	U	120	U
Phenanthrene	SVOA	UG/KG	NE	NE	NE	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
Phenol	SVOA	UG/KG	18,000,000	250,000,000	3300	NE		117	U	232	J	228	J	**483**		**487**		114	U	120	U
Pyrene	SVOA	UG/KG	1,700,000	23,000,000	13000	NE		11.7	U	10.7	U	11.4	U	10.6	U	10.6	U	11.4	U	12	U
2-Butanone	VOA	UG/KG	27,000,000	190,000,000	1200	NE		**112**		**26**		**88.1**		**5.72**		**5.22**		**281**		**1000**	
2-Hexanone	VOA	UG/KG	200,000	1,300,000	8.8	NE		**6.02**		1.27	U	1.32	J	1.38	U	1.48	U	1.26	U	1.2	U
4-Methyl-2-pentanone	VOA	UG/KG	5,300,000	56,000,000	280	NE		2.85	J	1.27	U	**14.6**		1.38	U	1.48	U	1.26	U	1.2	U
Acetone	VOA	UG/KG	61,000,000	670,000,000	2900	NE		**478**		**95.6**		**224**		**10.3**		**8.58**		**63.1**		**74.2**	
Carbon disulfide	VOA	UG/KG	770,000	3,500,000	240	NE		**45.4**		**4.93**		**15.8**		2.75	J	2.52	J	**31**		1.2	U
Ethylbenzene	VOA	UG/KG	5,800	25,000	1.7	780		**1.1**		0.41	J	**0.833**		0.298	J	0.295	U	0.252	U	0.548	J
Methylene chloride	VOA	UG/KG	57,000	1,000,000	2.9	1.3		1.74	J	2.75	J	1.22	U	1.38	U	1.85	J	1.53	J	2.32	J
Toluene	VOA	UG/KG	4,900,000	47,000,000	760	690		0.262	J	0.253	U	0.592	J	0.496	J	0.435	J	0.252	U	0.332	J
Xylenes (total)	VOA	UG/KG	580,000	2,500,000	190	9800		0.75	U	0.759	U	0.731	U	0.827	U	0.887	U	0.756	U	1.17	J

NOTES:

1 - Samples collected July 16, 2014

2 -TP- prefix in sample number indicate black liquor pond test pit samples; "-P" suffix indicates sample from former pond, "-R" suffix indicates residual soil beneath former pond.

3 - "D" suffix indicates field duplicate sample

4 - Regional Screening Levels for residential (R-RSL) and industrial (I-RSL) soil and Soil Screening Levels (SSLs) for protection groundwater from Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites USEPA (May 2014).

5 - "NE" indicates RSL or SSL not established for constituent.

6 - Results in "bold" indicate concentration exceeds laboratory reporting limit.

7- "U" data qualifier indicates constituent was not detected above method detection limit.

8 - "J" data qualifier indicates constituent was detected above the method detection limit, but concentration does not exceed laboratory reporting limit.

9 - * indicates RSL for Chromium III

= concentration exceeds Maximum Contaminant Level-Based Screening Level (MCL-SSL) or Risk-Based Soil Screening Level (RB-SSL) for protection of groundwater.

= concentration exceeds RSL for residential soil.

TABLE 5. SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER SAMPLES
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREAS
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

Constituent	Fraction	Units	Tapwater RSL	MCL	FORMER WASTE DISPOSAL AREA																			
					MW-13		MW-13 Dissolved		MW-14		MW-14-D		MW-14 Dissolved		MW-14-D Dissolved		MW-15		MW-15 Dissolved		MW-16		MW-16 Dissolved	
					Result	Qual	Result	Qual	Result	Qual.	Result	Qual	Result	Qual	Result	Qual	Result	Qual.	Result	Qual	Result	Qual	Result	Qual
pH	G	MG/L	NE	NE	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	G	MG/L	NE	NE	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfite	G	MG/L	NE	NE	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Hexavalent Chromium	G	MG/L	0.035	NE	0.00686	J	**0.0143**		**0.0154**		**0.129**		**0.0186**		0.00793	J	0.00473	HJ	0.003	HU	0.00367	J	0.00899	J
Aluminum	METALS	UG/L	20,000	NE	**122**		**59.1**		**390**		**385**		**290**		**289**		**654**		26	J	**59**		15	U
Arsenic	METALS	UG/L	0.052	10	1.7	U	1.7	U	1.7	U	2.12	J	1.7	U	1.7	U	**7.07**		**5.63**		4.39	J	**5.93**	
Barium	METALS	UG/L	3,800	2,000	**28.9**		**27.9**		**28.8**		**28.6**		**29.1**		**29.5**		**70.4**		**67.9**		**5.8**		**5.33**	
Beryllium	METALS	UG/L	25	4	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	METALS	UG/L	9	5	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Calcium	METALS	UG/L	NE	NE	**3,000**		**2,820**		**21,100**		**20,400**		**20,900**		**21,200**		**29,400**		**30,100**		**1,500**		**1,350**	
Chromium	METALS	UG/L	NE	100*	2	U	2	U	**15.3**		**14.4**		**12.6**		**12**		7.4	J	2	U	2	U	2	U
Cobalt	METALS	UG/L	6	NE	**1.22**		**1.12**		0.306	J	0.319	J	0.294	J	0.293	J	0.503	J	0.442	J	0.736	J	0.694	J
Copper	METALS	UG/L	800	1,300	**3.7**		**1.55**		**1.81**		**1.75**		**1.04**		**1.02**		**11.7**		0.683	J	0.994	J	0.35	U
Iron	METALS	UG/L	14,000	NE	**3,830**		**3,410**		**9,420**		**9,510**		**11,100**		**11,200**		**33,200**		**27,500**		**30,500**		**29,300**	
Lead	METALS	UG/L	NE	15	0.5	U	0.5	U	0.706	J	0.684	J	0.5	U	0.5	U	1.71	J	0.5	U	0.5	U	0.5	U
Magnesium	METALS	UG/L	NE	NE	**1,160**		**1,100**		**5,600**		**5,490**		**5,610**		**5,750**		**6,410**		**6,930**		**585**		**562**	
Manganese	METALS	UG/L	430	NE	**43.8**		**38.6**		**213**		**204**		**219**		**224**		**184**		**187**		**23.8**		**21.7**	
Mercury	METALS	UG/L	1	2	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	METALS	UG/L	390	NE	**2.52**		**3.1**		0.913	J	0.878	J	0.752	J	0.793	J	0.877	J	0.969	J	0.5	J	0.5	U
Potassium	METALS	UG/L	NE	NE	**1,590**		**1,560**		**10,200**		**9,770**		**9,910**		**10,200**		**17,900**		**18,900**		**1,180**		**1,140**	
Selenium	METALS	UG/L	100	50	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Sodium	METALS	UG/L	NE	NE	**12,000**		**11,700**		**48,400**		**46,600**		**47,400**		**48,200**		**136,000**		**131,000**		**7,230**		**6,970**	
Thallium	METALS	UG/L	0.2	2	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Vanadium	METALS	UG/L	86	NE	1.14	J	1	U	**5.07**		**5.07**		4.37	J	4.42	J	**13.2**		2.15	J	3.22	J	2.13	J
Zinc	METALS	UG/L	6,000	NE	5.33	J	5.17	J	3.5	U	3.5	U	3.5	U	3.5	U	7.05	J	3.77	J	8.89	J	3.5	U
Anthracene	SVOA	UG/L	1,800	NE	0.283	U	NA		0.483	J	0.433	J	NA		NA		0.294	U	NA		0.297	U	NA	
Benzo(a)anthracene	SVOA	UG/L	0.034	NE	0.283	U	NA		**1.19**		0.923	J	NA		NA		0.294	U	NA		0.297	U	NA	
Benzo(a)pyrene	SVOA	UG/L	0.0034	0.2	0.283	U	NA		0.812	J	0.462	J	NA		NA		0.294	U	NA		0.297	U	NA	
Benzo(b)fluoranthene	SVOA	UG/L	0.034	NE	0.283	U	NA		**1.0**		0.615	J	NA		NA		0.294	U	NA		0.297	U	NA	
Benzo(ghi)perylene	SVOA	UG/L	NE	NE	0.283	U	NA		0.396	J	0.288	U	NA		NA		0.294	U	NA		0.297	U	NA	
Benzo(k)fluoranthene	SVOA	UG/L	0.34	NE	0.283	U	NA		0.367	J	0.288	U	NA		NA		0.294	U	NA		0.297	U	NA	
Carbazole	SVOA	UG/L	NE	NE	0.283	U	NA		0.483	J	0.442	J	NA		NA		0.294	U	NA		0.297	U	NA	
Chrysene	SVOA	UG/L	3	NE	0.283	U	NA		**1.34**		0.837	J	NA		NA		0.294	U	NA		0.297	U	NA	
Fluoranthene	SVOA	UG/L	800	NE	0.519	J	NA		**3.07**		**2.38**		NA		NA		0.294	U	NA		0.297	U	NA	
Phenanthrene	SVOA	UG/L	NE	NE	0.538	J	NA		**1.83**		**1.63**		NA		NA		0.49	J	NA		0.297	U	NA	
Pyrene	SVOA	UG/L	120	NE	0.311	J	NA		**2.47**		**2.11**		NA		NA		0.294	U	NA		0.297	U	NA	
Acetone	VOA	UG/L	14,000	NE	1.5	U	NA		1.5	U	1.5	U	NA		NA		4.78	J	NA		1.5	U	NA	
Ethylbenzene	VOA	UG/L	2	700	0.3	U	NA		0.3	U	0.3	U	NA		NA		**5.1**		NA		0.3	U	NA	
Methylene Chloride	VOA	UG/L	11	5	1	U	NA		1	U	1	U	NA		NA		1	U	NA		1	U	NA	
Styrene	VOA	UG/L	1,200	100	0.3	U	NA		0.3	U	0.3	U	NA		NA		0.46	J	NA		0.3	U	NA	
Tetrachloroethylene	VOA	UG/L	11	5	0.47	J	NA		0.3	U	0.3	U	NA		NA		0.3	U	NA		0.3	U	NA	

Constituent	Fraction	Units	Tapwater RSL	MCL	FORMER WASTE DISPOSAL AREA																			
					TW-01		TW-01 Dissolved		TW-02		TW-02 Dissolved		TW-03		TW-03 Dissolved									
					Result	Qual.	Result	Qua	Result	Qual	Result	Qual.	Result	Qual	Result	Qual.								
pH	G	MG/L	NE	NE	NA		NA		NA		NA		NA		NA									
Sulfate	G	MG/L	NE	NE	NA		NA		NA		NA		NA		NA									
Sulfite	G	MG/L	NE	NE	NA		NA		NA		NA		NA		NA									
Hexavalent Chromium	G	MG/L	0.035	NE	**0.111**	H	0.00899	HJ	0.015	U	0.003	U	0.015	U	0.003	U								
Aluminum	METALS	UG/L	20,000	NE	**55700**		**77.2**		**9020**		**77.2**		**27800**		28.4	J								
Arsenic	METALS	UG/L	0.052	10	**7.51**		1.7	U	**6.06**		2.06	J	**11.4**		**8.06**									
Barium	METALS	UG/L	3,800	2,000	**314**		**63.7**		**44**		**21.8**		**38.5**		**6.26**									
Beryllium	METALS	UG/L	25	4	**2.25**		0.2	U	0.393	J	0.2	U	**0.946**		0.2	U								
Cadmium	METALS	UG/L	9	5	**1.14**		0.11	U	0.157	J	0.11	U	0.267	J	0.11	U								
Calcium	METALS	UG/L	NE	NE	**42,300**		**34,200**		**10,000**		**9,080**		**2,430**		**2,250**									
Chromium	METALS	UG/L	NE	100*	**771**		9.68	J	**107**		2	U	**53.1**		2	U								
Cobalt	METALS	UG/L	6	NE	**5.52**		0.996	J	0.704	J	0.1	U	**1.75**		0.152	J								
Copper	METALS	UG/L	800	1,300	**181**		**1.22**		**21.6**		0.35	U	**56.8**		0.35	U								
Iron	METALS	UG/L	14,000	NE	**47,200**		**5,010**		**14,200**		**9,830**		**34,100**		**26,800**									
Lead	METALS	UG/L	NE	15	**114**		1.44	J	**12.4**		0.5	U	**31.8**		0.5	U								
Magnesium	METALS	UG/L	NE	NE	**16,500**		**14,000**		**2,050**		**1,840**		**2,070**		**1,840**									
Manganese	METALS	UG/L	430	NE	**405**		**258**		**98.2**		**84.7**		**48.8**		**38.3**									
Mercury	METALS	UG/L	1	2	**1.34**		0.067	U	0.067	U	0.067	U	0.172	J	0.067	U								
Nickel	METALS	UG/L	390	NE	**21**		**2.34**		**2.46**		0.5	U	**9.01**		0.5	U								
Potassium	METALS	UG/L	NE	NE	**32,800**		**31,900**		**3,270**		**3,050**		**1,820**		**1,620**									
Selenium	METALS	UG/L	100	50	3.43	J	1.5	U	1.82	J	1.5	U	2.61	J	1.5	U								
Sodium	METALS	UG/L	NE	NE	**291,000**		**287,000**		**17,100**		**17,100**		**9,610**		**9,780**									
Thallium	METALS	UG/L	0.2	2	0.642	J	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U								
Vanadium	METALS	UG/L	86	NE	**73.1**		1	U	**20.7**		1	U	**81.1**		3.58	J								
Zinc	METALS	UG/L	6,000	NE	**114**		3.5	U	**17**		3.5	U	**29.3**		7.75	J								
Anthracene	SVOA	UG/L	1,800	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Benzo(a)anthracene	SVOA	UG/L	0.034	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Benzo(a)pyrene	SVOA	UG/L	0.0034	0.2	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Benzo(b)fluoranthene	SVOA	UG/L	0.034	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Benzo(ghi)perylene	SVOA	UG/L	NE	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Benzo(k)fluoranthene	SVOA	UG/L	0.34	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Carbazole	SVOA	UG/L	NE	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Chrysene	SVOA	UG/L	3	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Fluoranthene	SVOA	UG/L	800	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Phenanthrene	SVOA	UG/L	NE	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Pyrene	SVOA	UG/L	120	NE	0.288	U	NA		0.3	U	NA		0.3	U	NA									
Acetone	VOA	UG/L	14,000	NE	**5.7**		NA		1.5	U	NA		3.18	J	NA									
Ethylbenzene	VOA	UG/L	2	700	0.3	U	NA		0.3	U	NA		0.3	U	NA									
Methylene Chloride	VOA	UG/L	11	5	1	U	NA		1	U	NA		1	U	NA									
Styrene	VOA	UG/L	1,200	100	0.3	U	NA		0.3	U	NA		0.3	U	NA									
Tetrachloroethylene	VOA	UG/L	11	5	0.3	U	NA		0.3	U	NA		0.3	U	NA									

NOTES:

1 - Samples collected by GEL on July 22, 23, and 30, and September 4, 2014.
2 - "D" sample suffix indicates field duplicate.
3 - "Dissolved" metals results are from field filtered samples.
4 - Regional Screening Levels (RSLs) for tapwater and and Maximum Contaminant Levels (MCLs) from Regional Screening Levels for Chemicals at Superfund Sites, USEPA , May 2014 Summary Tables.
5 - "NE" indicates RSL or SSL not established for constituent.
6 - Results in BOLD indicate concentration exceeds laboratory reporting limit.
7 - "U" data qualifier indicates constituent not detected above method detection limit.
8 - "J" data qualifier indicates estimated concentration exceeding method detection limit, but below laboratory reporting limit.
9 - "H" data qualifier indicates analytical holding time was exceeded.
10 - "B" data qualifier indicates target analyte was detected in associated blank
11 - * = MCL for total chromium

Concentration exceeds RSL for Tapwater
Concentration exceeds MCL

TABLE 5. SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER SAMPLES
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREAS
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

Constituent	Fraction	Units	Tapwater RSL	MCL	FORMER BLACK LIQUOR PONDS											
					MW-17		MW-17 Dissolved		MW-18		MW-18 Dissolved		MW-19		MW-19 Dissolved		SO-03		SO-03 Dissolved	
					Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual.	Result	Qual.	Result	Qual.
pH	G	MG/L	NE	NE	**6.23**	H	NA		**5.57**	H	NA		**5.5**	H	NA		**4.15**	H	NA	
Sulfate	G	MG/L	NE	NE	**26.3**		NA		**78.5**		NA		**1.32**		NA		**19.9**		NA	
Sulfite	G	MG/L	NE	NE	**8.5**	H	NA		**7.0**	H	NA		0.5	HU	NA		**1.00**	H	NA	
Hexavalent Chromium	G	MG/L	0.035	NE	0.00793	J	0.00899	J	0.003	U	0.00395	J	0.0058	J	0.00367	J	0.003	U	0.003	U
Aluminum	METALS	UG/L	20,000	NE	**1980**		**737**		**1250**		**295**		**98**		**57.5**		**534**		**320**	
Arsenic	METALS	UG/L	0.052	10	1.7	U	3.23	J	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Barium	METALS	UG/L	3,800	2,000	**36.8**		**32.4**		**34.3**		**32.7**		**35.4**		**33.4**		**27.3**		**26.6**	
Beryllium	METALS	UG/L	25	4	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	METALS	UG/L	9	5	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Calcium	METALS	UG/L	NE	NE	**2,300**		**2,230**		**2,480**		**2,430**		**2,260**		**2,190**		**1,100**		**1,130**	
Chromium	METALS	UG/L	NE	100*	**13.7**		**12.2**		9.56	J	7.05	J	3.4	J	2	U	2.34	J	2.37	J
Cobalt	METALS	UG/L	6	NE	0.373	J	0.312	J	**1.38**		**1.51**		**1.33**		**1.27**		**2.1**		**2.08**	
Copper	METALS	UG/L	800	1,300	**4.43**		**2.35**		**4.23**		**1.5**		**5.18**		**5.06**		0.459	J	0.506	J
Iron	METALS	UG/L	14,000	NE	**1,190**		**977**		**2,450**		**2,120**		**1,440**		**1,300**		**1,730**		**1,760**	
Lead	METALS	UG/L	NE	15	**6.75**		1.35	J	**2.98**		1.13	J	0.571	J	0.5	U	0.5	U	0.5	U
Magnesium	METALS	UG/L	NE	NE	**958**		**915**		**1,000**		**977**		**1,040**		**1,020**		**910**		**890**	
Manganese	METALS	UG/L	430	NE	**23.3**		**22**		**60.2**		**58.7**		**38.6**		**39.5**		**13.4**		**13.4**	
Mercury	METALS	UG/L	1	2	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	METALS	UG/L	390	NE	2	J	1.65	J	**3.27**		**3.26**		**2.25**		**2.88**		1.7	J	**2.51**	
Potassium	METALS	UG/L	NE	NE	**1,400**		**1,350**		**1,360**		**1,310**		**877**		**898**		**628**		**623**	
Selenium	METALS	UG/L	100	50	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Sodium	METALS	UG/L	NE	NE	**69,000**		**66,000**		**78,000**		**63,700**		**5,360**		**5,570**		**5,610**		**5,680**	
Thallium	METALS	UG/L	0.2	2	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Vanadium	METALS	UG/L	86	NE	**32.6**		**30.6**		**7.89**		**5.79**		1	U	1	U	2.12	J	1.82	J
Zinc	METALS	UG/L	6,000	NE	3.5	U	3.5	U	**14.8**		7.6	J	7.6	J	7.25	J	**15**		**13.7**	
Anthracene	SVOA	UG/L	1,800	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Benzo(a)anthracene	SVOA	UG/L	0.034	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Benzo(a)pyrene	SVOA	UG/L	0.0034	0.2	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Benzo(b)fluoranthene	SVOA	UG/L	0.034	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Benzo(ghi)perylene	SVOA	UG/L	NE	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Benzo(k)fluoranthene	SVOA	UG/L	0.34	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
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Chrysene	SVOA	UG/L	3	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Fluoranthene	SVOA	UG/L	800	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Phenanthrene	SVOA	UG/L	NE	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Pyrene	SVOA	UG/L	120	NE	0.286	U	NA		0.286	U	NA		0.294	U	NA		0.3	U	NA	
Acetone	VOA	UG/L	14,000	NE	1.5	U	NA		1.5	U	NA		1.5	U	NA		1.5	U	NA	
Ethylbenzene	VOA	UG/L	2	700	0.3	U	NA		0.3	U	NA		0.3	U	NA		0.3	U	NA	
Methylene Chloride	VOA	UG/L	11	5	1	U	NA		1	U	NA		1	U	NA		1.33	BJ	NA	
Styrene	VOA	UG/L	1,200	100	0.3	U	NA		0.3	U	NA		0.3	U	NA		0.3	U	NA	
Tetrachloroethylene	VOA	UG/L	11	5	0.3	U	NA		0.3	U	NA		0.3	U	NA		0.3	U	NA	

NOTES:

1 - Samples collected by GEL on July 22, 23, and 30, and September 4, 2014.
2 - "D" sample suffix indicates field duplicate.
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11 - * = MCL for total chromium

Concentration exceeds RSL for Tapwater
Concentration exceeds MCL

APPENDIX I

Phase II Baseline Investigation Work Plan and
DHEC Approval Letter

GEL Engineering LLC

Environmental | Engineering | Surveying

Phase II Baseline Investigation Work Plan, Revision 1
Former Solid Waste Disposal Areas
Consent Agreement 13-04-SW

Sonoco Products Company
1 N 2nd Street
Hartsville, South Carolina

Submitted to:
Ms. Beverly McLeod
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Submitted by:
GEL Engineering, LLC
111 Smith Hines Road, Suite J
Greenville, South Carolina 29607

March 28, 2014 (Revision 1)

Phase II Baseline Investigation Work Plan, Revision 1
Former Solid Waste Disposal Areas
Consent Agreement 13-04-SW

Sonoco Products Company
1 North Second Street
Hartsville, South Carolina

Submitted to:
Ms. Beverly McLeod
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina29201

Submitted by:
GEL Engineering, LLC
111 Smith Hines Road, Suite J
Greenville, South Carolina29607

March 28, 2014 (Revision 1)

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LIST OF COMMON ACRONYMS

BGS	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Constituent of Concern
DQO	Data Quality Objectives
ESA	Environmental Site Assessment
GC/MS	Gas Chromatography/Mass Spectrometry
GIS	Geographic Information System
HASP	Health and Safety Plan
HSA	Hollow Stem Auger
IDW	Investigation Derived Waste
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
NTU	Nephelometric Turbidity Units
OV	Organic Vapor
PAH	Polycyclic Aromatic Hydrocarbon
PPB	Parts per Billion
PPM	Parts per Million
PID	Photoionization Detector
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SCDHEC	South Carolina Department of Health and Environmental Control
SOP	Standard Operating Procedure
SSL	Soil Screening Level
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
USGS	United States Geological Survey
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

SIGNATURE PAGE

This document, entitled *Phase II Baseline Investigation Work Plan* has been prepared for Sonoco Products Company to investigate the former waste disposal areas located at Sonoco's facility adjacent to Patrick Highway in Hartsville, Darlington County, South Carolina. This Work Plan has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned.

GEL Engineering, LLC
a Member of THE GEL Group, Inc.

Stephen K. Nix
Project Hydrogeologist

Thomas D.W. Hutto, P.G.
Principal
South Carolina License #912

Robert E. MacPhee
Project Manager

03-28-14
Date

1.0 INTRODUCTION

GEL Engineering, LLC (GEL) has prepared this Phase II Baseline Investigation Work Plan on behalf of Sonoco Products Company (Sonoco). Consent Agreement 13-04-SW, dated July 9, 2013, requires Sonoco to submit to the South Carolina Department of Health and Environmental Control ("SCDHEC" or the "Department") Phase I and Phase II Work Plans within 60 and 90 days, respectively, of the execution of the Consent Agreement. The Phase I Work Plan was submitted to the Department on September 6, 2013. The Phase II Baseline Investigation Work Plan was submitted to the Department on November 11, 2013. SCDHEC provided comments to the Work Plan (McLeod to Boyd), on December 17, 2013. GEL's Response to Comments - Phase II Baseline Investigation Work Plan was issued to the Department on January 23, 2014. Sonoco met with the Department on February 20, 2014 to discuss revisions to the Work Plan. In a letter to the Department dated March 10, 2014 Sonoco requested an extension to the deadline for submittal of the Phase II Work Plan to March 31, 2014. The purpose of this Phase II Baseline Work Plan is to submit documentation and a Work Plan to assess former or current waste disposal areas that are known or reasonably should be known to Sonoco, excluding all currently permitted operations and also excluding any areas closed under the consent or guidance of the Department if there is sufficient documentation and data to support closure without further assessment. This Work Plan discusses certain currently permitted operations and other areas that were closed under the consent or guidance of the Department and describes the technical approach to an investigation and assessment of a former solid waste disposal areas located at Sonoco's facility adjacent to Patrick Highway in Hartsville, Darlington County, South Carolina. The general location of these former disposal areas is shown on a portion of the Hartsville North United States Geological Survey (USGS) 7.5-minute topographical quadrangle included as Figure 1.

1.1 Work Plan Scope

The scope of this Work Plan includes review of existing data for former waste disposal areas at the Sonoco facility and an evaluation of any areas that have not been closed under SCHDEC guidance or consent or are not currently operating under a current SCDHEC permit. From this data review, which is described in Section 2.4, the former disposal areas are identified as requiring assessment. The goal of this assessment is to determine steps required to ensure that the former disposal areas are managed properly and any risks associated with the area are adequately addressed.

Field work activities described in the Work Plan will be performed in accordance with the Health and Safety Plan (HASP) and the Quality Assurance Project Plan (QAPP) prepared in conjunction with this Work Plan. The HASP will specify necessary procedures to ensure safety of Site workers during all investigation activities. A copy of the HASP will be provided under separate cover for informational purposes. The QAPP, Revision 1 describes quality assurance and quality control protocols necessary to achieve Data Quality Objectives (DQOs) dictated by the intended use of collected data. The QAPP, Revision 1 was provided under separate cover on October 30, 2013.

1.2 Work Plan Organization

Section 2 of this Work Plan provides a detailed description and history of the Sonoco facility, including geology and hydrogeology, followed by a regulatory history and timeline of all the former waste disposal areas on the Sonoco facility. Section 3 presents the investigative approach that will be used for

sampling soil and groundwater at the former disposal areas. Soil boring and groundwater monitoring well installation activities are described in Section 3 as are field sampling methods, sample identification, and management of investigation derived wastes (IDW). Section 4 is a discussion of the project organization, followed by Section 5, which is a detailed project schedule.

2.0 FORMER DISPOSAL LOCATIONS AND DESCRIPTIONS

The Sonoco facility is located on North Second Street in Hartsville, Darlington County, South Carolina. The current and former disposal areas addressed in this report are located on the east side of the Patrick Highway and approximately 2,500 feet east-northeast of the main Sonoco plant. The locations of the current and former solid waste disposal areas are shown on Figure 2.

2.1 History of Waste Disposal Areas

Consent Agreement 13-04-SW requires submittal of documentation and the Phase II Work Plan to assess other former or current waste disposal areas that are known or reasonably should be known to Sonoco, excluding all currently permitted operations at the facility and also excluding any areas closed under the consent or guidance of SCDHEC, if there is sufficient documentation and data to support closure without further assessment. The current and former waste disposal areas at Sonoco include the following:

- Solid Waste Landfill
- 17-Acre Pond
- Asbestos Disposal Area
- Former Ash Sluice Ponds
- Former Liquor Trenches and Liquor Ponds
- Former Disposal Area

The locations of these various waste disposal areas are shown on Figure 2. Information regarding each of these areas is summarized in the following sections.

2.1.1 Solid Waste Landfill

Sonoco operates the Solid Waste Landfill in accordance with Industrial Waste Permit No. 163315-1601 issued by the SCDHEC on January 13, 1993. The landfill is located on Sonoco property between Patrick Highway and the wastewater treatment plant. Sonoco established the landfill groundwater detection monitoring system for the landfill in 1992. Groundwater is currently monitored in accordance with the *Closure, Post-Closure Care Groundwater Sampling and Analysis Plan*, dated November 2008.

The purpose of the groundwater detection monitoring system is to provide a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield samples that are representative of shallow groundwater quality in the vicinity of the landfill. The groundwater is monitored for the parameters listed in Appendix III of *R.61-107.19 Solid Waste Management: Solid Waste Landfills and Structural Fill*.

The groundwater detection monitoring system consists of eight shallow monitoring wells which are designated SO-1, SO-2, SO-21, SO-22, SO-23, SO-24, SO-25 and SO-26, and range in depth from approximately 19 to 51 feet below ground surface (BGS). Groundwater is sampled and analyzed semi-annually in accordance with Permit No. 163315-1601. Results of the 2012 monitoring events were presented in the *2012 Annual Groundwater Monitoring Report* dated January 2, 1013. In accordance

with the Consent Agreement, the current solid waste landfill is operated under an existing SCDHEC-issued permit and, therefore, has been excluded for investigation.

2.1.2 17-Acre Pond

The 17-Acre Pond is considered part of Sonoco's wastewater treatment plant which operated under National Pollutant Discharge Elimination System (NPDES) Permit No. SC003042. The location of the 17-Acre Pond is shown in Figure 2. The 17-Acre Pond was constructed in 1949 and used for handling pulp mill and waste liquor until approximately 1972. Currently, the 17-Acre Pond receives leachate from Sonoco's solid waste landfill prior to being pumped to the wastewater treatment plant. It also serves a stormwater management function and collects spring water.

The waste liquor sent to the pond was from pulping operations. The wood being pulped was hardwood timber, and the chemicals used in the pulping process included sodium sulfite and sodium carbonate. The liquor would have dissolved solids content ranging from 6-9% and primarily composed of dissolved components of wood chips. The purpose of the pond was to accumulate the waste liquor and withholding them from discharge to Black Creek except for release during winter months under high flow and low temperature conditions.

Groundwater monitoring wells SO-4 and SO-16 serve to monitor groundwater in the vicinity of the 17-Acre Pond in accordance with NPDES Permit No. SC003042. The monitoring wells are sampled for sulfate, nitrate, sodium, and chloride and field parameters measured at each well include pH, specific conductance, and dissolved oxygen. Monitoring well SO-4 is located southwest of the 17-Acre Pond and well SO-16 is located east of the pond. Total depths for SO-4 and SO-16 are 25 and 85 feet BGS, respectively. The wells have been monitored annually, in accordance with the permit, since April 1988. Based on historical analytical results, monitored parameters have not exceeded applicable maximum or secondary contaminant levels during the last five years[1]. In accordance with the Consent Agreement, the 17-Acre Pond is operated under an existing SCDHEC-issued permit and, therefore, has been excluded from further investigation.

2.1.3 Asbestos Disposal Area

Some asbestos-containing material is buried in a wooded area on the north side of the Spray Farm between the gas line right of way and the powerline right of way. The portion of this area that was used for asbestos disposal is marked with four wooden signs. The material was generated during an asbestos abatement project at the Hartsville Facility in 1987. Correspondence between Sonoco personnel and Department personnel indicate the Department's approval of Sonoco's disposal of the asbestos material at the current location. In a letter dated September 3, 1986 from Mr. Joseph R. Grant, Bureau of Solid & Hazardous Waste Management to Sonoco Products Company, the Department states it will allow Sonoco to dispose of the asbestos-containing material in the manner and at the location requested by Sonoco. Likewise, in a letter from the Department to Sonoco dated September 10, 1986, the Department authorized Sonoco to dispose of the asbestos-containing material at the Sonoco location. Given the Department's approval of Sonoco's disposal of the material, the small amount of buried material and the fact that it is stable and isolated from exposure, no additional investigation of this area

[1] Additional historical data is available, but review would require a file review of data not available electronically.

is proposed in this Work Plan. Copies of the asbestos disposal correspondence are included in Appendix I.

2.1.4 Former Ash Sluice Ponds

Sonoco submitted an Application for Permit to operate the ash sluice ponds July 2, 1971. As part of the application, Sonoco provided to SCDHEC a description of the ash Sluice ponds. The description discusses sluice ponds which operated while the mill was burning coal and fly ash was generated. The location of the former Ash Sluice Pond is shown on Figure 2.

Fly ash was historically generated at Sonoco's two power plants. Sonoco removed coal and bark ash from its boilers by "wet sluicing." The ash-laden water was transferred through two pipelines and a series of lagoons to allow for pH stabilization and settling of solids. At that time, the power plants operated approximately one-half the year on coal and one-half the year on oil or gas. The settling lagoons consisted of a diked area adjacent to Black Creek. The settled solids (fly ash) were bulldozed daily into a pile and periodically removed by brick manufacturers for use in their operations. Discharge from the ponds was to Black Creek via a constructed ditch. The discharge flow was monitored for both water quality and quantity. Monthly reports were made to the USEPA, Region IV and SCDHEC documenting flow, pH, temperature, suspended solids, and BOD in accordance with Outfall 011 of Permit No. SC 074 3BK 2 000468.

Sonoco submitted an Operation and Maintenance Program for the ash sluice pond (Standard Operating Procedure – Fly Ash Collection/Disposal) to SCDHEC on July 27, 1990. The standard operating procedures (SOPs) detailed the waste streams, settling lagoons, pH adjustment, dredge frequency, etc. The source of the sluiced material was noted as being from the No. 3, 4, and 8 boilers and consisted of both bottom and fly ash. Additionally, demineralizer effluent produced from regeneration of resins was piped to the sluice ponds. These materials were pumped through three lines using sluice water from Prestwood Lake. Sluice water was pumped intermittently from the three sources at a combined design rate of 0.450 million gallons per day (MGD) to a series of four settling ponds. These ponds maintained the same water level by connecting culverts at or below the operating water level. Auxiliary overflow culverts were installed in Ponds 1 through 3. The pH was monitored at a flume between Ponds 2 and 3, which was isolated by a discharge baffle in Pond 2. The pH was adjusted to a range of 5 to 8.5 standard units (su) by the addition of soda ash or sulfuric acid by power plant laboratory technicians. Acid was added through a drip system with bulk onsite storage. Soda ash was added to sluice water at the No. 2 power plant. Flow was continuously recorded through a parshall flume at a discharge weir from Pond 4 to Black Creek in accordance with NPDES No. SC0003042, Outfall No. 006. As Sonoco's NPDES permit was renewed and the permit number changed from Permit No. SC 074 3BK 2 000468 to Permit No. SC0003042, Outfall 011 was changed to Outfall 006. Effluent from Outfall 006 was monitored for pH (daily), particulate, and oil and grease (weekly). Dredging spoils were piled adjacent to each pond where embankments were maintained at a minimum of three feet above operating water level and sloped toward the ponds to recover dredged water precipitation. After dewatering, fly ash was hauled by truck to commercial operations, if available, or to an approved stockpile.

Sonoco submitted a letter to SCDHEC requesting the closure of Outfall 006 (NPDES Permit No. SC00003042), on April 1, 1996. The letter details Sonoco's plans to convert to a dry ash handling system by July 1, 1996, thereby eliminating the wastewater stream to the fly ash basins (Outfall 006). Sonoco proposed to drain the basins and fill them with inert material. SCDHEC issued a letter to Sonoco regarding the closure of Outfall 006 on April 29, 1996. The letter agreed with Sonoco's closure plans but stated that before final approval of the closure could be granted, groundwater data must be provided that indicated that the groundwater had not become impacted through the existence of the basins.

Sonoco issued a letter to SCDHEC entitled *Monitoring Well SO-27* on February 5, 1998. The letter stated that monitoring well SO-27 was installed downgradient of the basins and upgradient of Black Creek. A groundwater sample was collected on January 17, 1998 and analyzed for arsenic. The arsenic concentration was less than 5 micrograms per liter (<5.00 μg/L). Based on the data provided, Sonoco requested that the well be closed and the permit conditions satisfied. SCDHEC issued a letter to Sonoco entitled *Elimination of Outfall 006*, dated February 13, 1998. The letter states that the groundwater had not been impacted and that the well could be closed out. Additionally, the letter states that Outfall 006 of the NPDES permit would be eliminated. Therefore, no further assessment of this area is planned in accordance with the terms of the Consent Agreement.

2.1.5 Former Liquor Trenches and Ponds

There were five trenches roughly 600 feet long that were situated due west of the former upper black liquor pond. These trenches were located in the area of the original permitted solid waste landfill. The southernmost trench was established in 1949 and the other four trenches were added in 1950. These trenches were built to enable seepage of waste black liquor from pulping operations. The trenches self-sealed, rendering them ineffective as seepage trenches; thereafter, the trenches became transport trenches to transfer the waste liquor to the black liquor ponds. These trenches were active from 1949 through 1960 and then used periodically until about 1971. In about 1972 the trenches were completely dug out and the soil was used to increase the height of the berms of the 17-Acre Pond. This space was then used as a disposal area for plant solid waste until it was filled with soil in early 1975. The solid waste disposal area was closed with SCDHEC approval and capped with two feet of soil when additional landfill cells were permitted and constructed to the north and west of the old trenches. The former black liquor trenches and ponds are shown on Figure 2.

The former liquor ponds are monitored as a part of Sonoco's existing NPDES permit. Monitoring wells SO-2 and SO-3 are noted in the NPDES permit as former black liquor pond wells. Groundwater monitoring well SO-2 serves to monitor groundwater under the requirements of both the National Pollutant Discharge Elimination System (NPDES) Permit No. SC003042 and Sonoco's existing industrial solid waste landfill operating under Permit No. 163315-1601. The well was installed in January 1980 and is approximately 34 feet deep with screen from approximately 14 to 34 feet. It is located southeast and hydraulically downgradient from the existing solid waste landfill.

According to NPDES Permit No. SC003042, well SO-2 serves to monitor groundwater proximate to the former black liquor ponds. It is monitored for the field parameters pH and specific conductance, and following contaminates of concern: dissolved organic carbon, sulfate, nitrate, sodium, and chloride.

In accordance with Permit No. 163315-1601 and DHEC regulation *R.61-107.19 Solid Waste Management: Solid Waste Landfills and Structural Fill (effective date May 23, 2008*), the well is also monitored for the parameters listed in Appendix III of R.61-107.19. These parameters include the field parameters pH, specific conductance, temperature, chloride, nitrate, sulfate, eight metals, and 18 volatile organic compounds (VOCs).

Since monitoring of Appendix III VOCs began in April 2009, no VOCs have been detected. Since April 2009 lead concentrations have slightly exceeded the SCDHEC Action Level of 0.015 milligrams per liter (mg/L) on three occasions. No other parameters have exceeded established maximum or secondary contaminant levels.

Groundwater monitoring well SO-3 also serves to monitor groundwater proximate to the former black liquor ponds under the requirements of NPDES Permit No. SC003042 and is monitored for the field parameters pH, specific conductance, dissolved organic carbon, sulfate, nitrate, sodium, and chloride. The well is located approximately 800 feet east from SO-2. The well is approximately 39 feet deep. The well has been monitored annually, in accordance with the permit, since April 1998. Based on analytical results, no monitored parameters have exceeded established maximum or secondary contaminant levels during the last five years.[2]

A scope for further assessment of the black liquor ponds is provided in Section 3.0.

2.1.6 Former Disposal Area

The former disposal area is located immediately south of the Boiler Ash Staging Area and along the access road leading to the existing permitted landfill, wastewater treatment plant, and spray farm areas. The latitude/longitude of the former disposal area are 34° 23‘ 28.33“ North and 80° 03‘ 18.87“ West. The former solid waste disposal area is shown on Figure 3.

There are no zoning ordinances in effect in this unincorporated portion of Darlington County. Therefore, no zoning or land-use restrictions encumber the former disposal area. The former disposal area, access road, current landfill, wastewater treatment plant, and spray farm areas are currently fenced and secure.

Surrounding areas to the north and northwest of the former disposal area are considered residential and commercial. The nearest residence to the former disposal area is across Black Creek approximately 640 feet to the south. Black Creek is located approximately 500 feet south of the Site. Sonoco currently owns property to the east of the former disposal area for approximately 1.5 miles, which includes the wastewater treatment plant and spray farm areas. Northeast of the former disposal area beyond the Boiler Ash Staging Area is Sonoco’s currently permitted solid waste landfill. The former disposal area was used prior to the advent of solid waste regulations. It is not known when disposal in this area began. Sonoco stopped using the former disposal area when it received a permit from SCDHEC in March 1975 for the solid waste landfill.

[2] Additional historical data is available, but review would require a file review of data not available electronically.

Currently there is one groundwater monitoring well located hydraulically upgradient from the former disposal area. Groundwater monitoring well SO-1 serves to monitor groundwater under the requirements of both the NPDES and Land Application Permit No. SC003042 and the facility's existing industrial solid waste landfill operating under Permit No. 163315-1601. The well was installed in December 1979. It is approximately 24 feet deep, and screened from approximately 12 to 22 feet. The well is located on the northern edge of the Site. Additionally, groundwater monitoring wells MW-04 through MW-07 have been installed upgradient of the former disposal area as a part of the Phase I Baseline Investigation Work Plan.

According to NPDES Permit No. SC003042, well SO-1 serves to monitor groundwater proximate to the former fly ash disposal area. It is monitored for the field parameters pH, specific conductance, dissolved organic carbon, sulfate, nitrate, sodium, and chloride. In accordance with Permit No. 163315-1601 and SCDHEC regulation *R.61-107.19, Solid Waste Management: Solid Waste Landfills and Structural Fill*, the well is also monitored for the parameters listed in Appendix III of R.61-107.19. These parameters include the field parameters pH, specific conductance, temperature, chloride, nitrate, sulfate, eight metals, and 18 VOCs. Since monitoring of Appendix III VOCs began in April 2009, groundwater quality in this well has consistently been determined to be acceptable; no VOCs have been detected and no other parameters have exceeded established maximum or secondary contaminant levels. The former disposal area is not part of an existing solid waste permit and it was not closed under the consent or guidance of SCDHEC. Thus, this Phase II Work Plan will focus on assessment of this area.

2.2 Geology

2.2.1 Regional Geology

The Sonoco facility is located in the Upper Coastal Plain Physiographic Province, which consists primarily of eastward thickening sedimentary deposits. The western limit of the Coastal Plain Province is referred to as the "Fall Line." At the Fall Line, older crystalline rocks (bedrock) of the Piedmont Physiographic Province dip below the relatively younger sedimentary deposits of the Coastal Plain. The Sonoco facility is located approximately 28 miles east of the Fall Line.

Bedrock occurs at depths between 400 to 450 feet BGS in the Hartsville area (Siple, 1957). The shallow sediments beneath the Hartsville area include Pleistocene to Holocene-Age terrace deposits that overlie three Upper Cretaceous units that form the Cretaceous Aquifer system in North and South Carolina. From the youngest to the oldest, the units are: the Pee Dee, Black Creek and Tuscaloosa Formations (Park, 1979). The Tuscaloosa Formation (locally also referred to as the Middendorf Formation) is the only Cretaceous-Age formation of appreciable thickness beneath the Hartsville area and is characterized by medium to coarse-grained unconsolidated sands with inconsistent light-gray silty clays that exhibit rapid vertical and lateral lithologic changes (Heron, 1958).

2.2.2 Site-Specific Geology

Site-specific geology is based on previous work conducted at the Sonoco facility approximately 0.75 miles east of the Site between November 2012 and June 2013 which included installation of 27 soil borings that ranged in total depth from 15 to 250 feet BGS. The soil borings were installed by hollow-

stem auger, mud rotary, and rotosonic drilling methods and included split-spoon sampling at 5-foot intervals (hollow stem auger and mud rotary) or 4-inch continuous coring (rotosonic).

Detailed lithologic descriptions were recorded on soil boring logs by the project geologist/hydrogeologist. For the soil samples collected using split-spoons, blow counts (N values) were also recorded on the soil boring logs. Soil lithology at the site was described as predominantly fine to medium, moist to wet, poorly- to well-graded sand interbedded with silt and kaolinitic clay across the site. Rotosonic drilling yielded continuous lithologic cores to 247 feet BGS at two soil borings approximately 590 feet apart. Hard, massive clay units ranging in thickness of up to approximately 50 feet were observed in both soil borings, as well as in split-spoon samples collected at two adjacent deep soil borings. Figure 4 is a hydrogeologic cross-section of the proposed landfill site.

Descriptions of the split-spoon soil samples and continuous rotosonic cores appear to show moderately well defined lithologic units; however, closer inspection of the data suggests a complex site geology of interbedded sand-silt-clay sequences. The lithology generally consists of fine to medium, well-graded sand and soft clayey silt to approximately 90 feet BGS where a hard, fat clay of medium plasticity is encountered, ranging in thickness from 7 to 20 feet. This clay layer appears to be a semi-confining to confining unit and appears to extend across to the proposed landfill site. This clay unit is underlain by additional sequences of sand, clayey silt, and clayey sand. A hard, gray to purple clay unit with some silt and a thickness of up to 50 feet occurs along the western project boundary at 100 feet above mean sea level (MSL) and at 90 feet MSL, approximately 290 feet to the east. This unit can also be seen at 90 feet MSL along the southern project boundary approximately 400 feet to the southeast. Underlying this massive clay unit is a third sequence of sand, clayey silt, and clayey sand. Several thin beds (typically 15 feet or less) of hard, fat clays to silty clays were observed throughout this third sequence. The deep soil boring along the eastern project boundary shows similar sequences of sand, silts, and clays. The variability of the sequences and presence of interbedded clays observed in the borings appear more pronounced, possibly suggesting fluvial deposition; however, the presence of the hard, gray to purple clay unit with some silt and a thickness of approximately 40 feet was observed at 100 feet MSL, and may be representative of lower Cretaceous lithology and appears to be a confining unit that is more laterally extensive.

Based on preliminary data from the soil borings and monitoring wells installed as a part of the Phase I Baseline Investigation being conducted north of the solid waste disposal area, the lithology as described above for the proposed landfill area appears to be consistent throughout the project area.

2.3 Hydrogeology

2.3.1 Regional Hydrogeology

The shallow aquifer is comprised of terrace deposits overlying the Cretaceous units that extend from near the land surface to a depth of approximately 50 feet BGS, and are comprised of interbedded sands, silts and clays. These deposits form the shallow water table aquifer system beneath the Hartsville area. Recharge to the shallow aquifer system is primarily from infiltration of precipitation and the aquifer typically discharges to nearby surface water bodies, including the Spring Branch (also known as Kilgore Branch) and Black Creek floodplains in the Hartsville area. The water table is generally a subdued

reflection of topography. It is encountered at depth in topographically high areas and close to the land surface near lakes and streams.

Groundwater in the deep Cretaceous aquifer system in the Hartsville area occurs primarily under confined conditions. The aquifer system consists of sandy units that are recharged predominantly from the Cretaceous outcrop areas, which are located northwest of Hartsville. In addition, recharge to the confined aquifer may occur by local leakage of groundwater from the overlying, unconfined Pleistocene/Holocene shallow aquifer system through confining fine-grained strata. The Cretaceous unit that comprises most of the Cretaceous aquifer system beneath the Hartsville area is the Tuscaloosa Formation, known locally as the Middendorf Aquifer.

2.3.2 Site-Specific Hydrogeology

Site-specific hydrogeology is based on previous work conducted at the Sonoco facility approximately 0.75 miles east of the Site between November 2012 and June 2013. Twenty-six piezometers were installed across the project area and range in total depth from 13 to 246 feet BGS.

Comparison of the hydrogeologic data generally supports previous work conducted across the Coastal Plain region in Darlington and surrounding counties by Wollen and Colquhoun (1977), and others, and at the Sonoco facility by McCoy & McCoy Environmental Consultants, Inc. (1991). This work suggests that Cretaceous deposits are overlain by younger sands and clays of fluvial and transgression-regression marine sequences. The younger, post-Cretaceous deposits are virtually indistinguishable from the underlying Cretaceous sediments. These sediments form the shallow unconfined, intermediate semi-confined, and deep confined aquifers. Demarcation of the aquifer zones is based on the presence of thick, hard fat clay units observed in several deep soil borings located within the project area and water level data collected since December 2012. Lithologic evidence of the mid to lower Cretaceous sediments was not observed in any of the soil borings except one, which was installed to a total depth of 247 feet BGS. A significant change in lithology was observed at approximately 234 feet BGS (-50 feet MSL) in which light gray, fine to coarse, sub-angular, well-graded sand was encountered at the base of the boring.

Review of the lithologic information suggests four marginally distinct hydrogeologic units are present at the Sonoco facility and consist of a zone of perched groundwater, the shallow unconfined aquifer, an intermediate semi-confined aquifer, and the deep confined aquifer. Water level data collected at the Sonoco facility suggests the water table/shallow unconfined aquifer occurs at approximately 165 feet MSL. Perched groundwater conditions have been observed, with groundwater levels measured as high as 209 feet MSL. Figure 4 is a hydrogeologic cross-section of the proposed landfill site.

Water levels measured in the shallow aquifer between December 2012 and August 2013 exhibit an upward trend, as do water levels measured in several of the piezometers monitoring the perched groundwater conditions. Water levels in the intermediate semi-confined and deep confined aquifers, as well as several perched groundwater piezometers, exhibit downward trends. Prior to mid-2013, upward vertical hydraulic gradients were observed between nested wells screened in the shallow, intermediate,

and deep aquifers. Since then above average precipitation has occurred, and the vertical hydraulic gradients appear to have reversed and now exhibit a downward trend.

3.0 BASELINE INVESTIGATION TASKS

This Work Plan is designed to establish baseline conditions at the former disposal areas by sampling and analyzing soil and groundwater within and surrounding these areas. A plan for collecting, analyzing, and evaluating this data is presented in the following sections.

3.1 Field Investigation Activities

GEL submitted the Phase I Baseline Investigation Work Plan, Revision 1 to SCDHEC on October 30, 2013 for review and approval. The Phase I Work Plan detailed baseline investigation tasks for the 14-Acre Boiler Ash Staging Area located immediately north-northwest of the former disposal area across the Spray Farm access road. Field investigation activities proposed in the Phase I Work Plan include soil boring and groundwater monitoring well installation, and soil and groundwater sampling adjacent to (and presumably immediately upgradient of the former disposal area. These activities and analytical results will be compiled and evaluated in conjunction with the baseline investigation activities proposed in this Phase II Work Plan. The location of the 14-Acre Boiler Ash Staging Area and Phase I baseline investigation sample locations that will be evaluated are shown on Figure 5. The boundaries of the former disposal area will be flagged based on review of historical aerial photographs, and a visual reconnaissance of the area. The topographic expression of the edge of the waste was created as the waste was pushed down the embankment. Additionally, test pits/borings are proposed to further delineate the boundaries of the former disposal area. The black liquor ponds will be further assessed through the installation of two additional soil borings/monitoring wells and test pits within the ponds.

3.1.1 Soil Boring/Test Pit Installation and Soil Sampling Activities (Former Disposal Area)

Approximately five soil borings/test pits (SB-23—SB-27) will be installed within the boundaries of the former disposal area for the purposes of visually characterizing waste (if present), determining the depth and limits to which waste was placed, and collecting soil samples from beneath the base of the disposal area. Soil borings SB-28—SB-32 will be installed immediately downgradient of the former disposal area for the purpose of collecting surface soil samples to assess potential impacts from runoff from waste piled above ground. Due to the potential for limited access in some areas, the soil borings will be installed using rotosonic drilling methods, direct-push techniques (DPT), hollow stem augers, or hand augers based on site conditions and accessibility at the time of the investigation. The site is currently vegetated and stable. Our goal will be to minimize damage to the existing soil and vegetative cover during the assessment. Due to the potential to encounter waste within the boundaries of the former disposal areas, test pits may be dug in lieu of soil borings SB-23—SB-27. Test pits will be installed using a backhoe or excavator. All soil borings will be installed in accordance with *R.61-71, South Carolina Well Standards* (SCDHEC 2002) and under the supervision of a certified environmental well driller licensed in South Carolina. The approximate locations of the soil borings and test pits are shown on Figure 6.

Soil samples will be collected from the base of any observed waste approximately 2 feet into residual soil at soil borings/test pits SB-23—SB-27. Grab samples for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) will be collected in laboratory-provided sample bottles from the base of the sampling interval. A portion of each sample will be placed in a re-sealable plastic bag and field-screened for organic vapors with a photoionization detector (PID). The remaining soil from each sample

interval will be composited for analysis of TCL semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) metals, mercury, cyanide, and hexavalent chromium. Descriptions of the soil samples and field screening results will be recorded on soil boring logs by the GEL staff geologist. All soil sampling activities will be performed in accordance with *SESDPROC-300-R2, Soil Sampling* (USEPA 2011) and the QAPP.

Soil borings SB-28—SB-32 will be installed outside the southern limits of the waste disposal area. Soil borings SB-04 – SB-07 and groundwater monitoring wells MW-04 – MW-07 installed during the Phase I assessment will be used to evaluate the limits of waste along the northern boundary of the former disposal area. Soil borings SB-28—SB-32 will be installed to total depths of approximately 2 feet BGS. Soil samples will be collected from the ground surface to approximately 2 feet BGS to assess potential impacts from runoff from waste piled above ground. Grab samples for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) will be collected in laboratory-provided sample bottles from the base of the sampling interval. A portion of each sample will be placed in a re-sealable plastic bag and field-screened for organic vapors with a PID. The remaining soil from each sample interval will be composited for analysis of TCL semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) metals, mercury, cyanide, and hexavalent chromium. Descriptions of the soil samples and field screening results will be recorded on soil boring logs by the GEL staff geologist. All soil sampling activities will be performed in accordance with *SESDPROC-300-R2, Soil Sampling* and the QAPP.

Where possible, disposable sampling equipment will be used to minimize field cleaning, decontamination, and IDW. Non-disposable sampling equipment will be cleaned in accordance with *SESDPROC-205-R2, Field Equipment Cleaning and Decontamination* (USEPA 2011). All QA/QC activities will be performed in accordance with the QAPP. All soil borings will be installed and abandoned in accordance with *R. 61-71, South Carolina Well Standards*. IDW will be managed in accordance with *SESDPROC-202-R2, Management of Investigation Derived Waste* (USEPA 2010) and as specified in Section 3.4 of this Work Plan.

Up to 11 samples (including field duplicates) will be submitted to GEL Laboratories, LLC (GEL Labs), South Carolina Certification #10120001. The samples will be analyzed by the following USEPA Solid Waste (SW) 846 Methods: TAL metals, mercury, and cyanide (6020B/7471B/9012B, respectively); hexavalent chromium (7196A); TCL VOCs (8260B); and TCL SVOCs (8270D). All samples will be analyzed in accordance with the appropriate Method and the QAPP. The rationale for each sample location and a summary of the analytical parameters for each sample is included on Table 1. Table 2 contains a list of analytical methods, holding times, containers, and preservatives.

3.1.2 Soil Boring/Test Pit Installation and Soil Sampling Activities (Former Black Liquor Ponds)

Two soil borings (SB-33 and SB-34) will be installed downgradient of the former black liquor ponds for the purpose of installing groundwater monitoring wells and to evaluate subsurface lithology. Additionally, three test pits (TP-1, TP-2 and TP-3) will be excavated, one test pit in each of the three former ponds, for the purposes of visually characterizing the contents of the former ponds, and collecting soil samples for laboratory analysis from within the former ponds and from beneath the base

of each pond in residual soils. The approximate locations of the soil borings and test pits are shown on Figure 7.

The soil borings will be installed using rotosonic drilling methods or hollow stem augers based on site conditions and accessibility at the time of the investigation. All soil borings will be installed in accordance with *R.61-71, South Carolina Well Standards* (SCDHEC 2002) and under the supervision of a certified environmental well driller licensed in South Carolina. Soil samples will be collected at two foot intervals and classified for lithologic description. A portion of each sample will be placed in a re-sealable plastic bag and field-screened for organic vapors with a photoionization detector (PID). Descriptions of the soil samples and field screening results will be recorded on soil boring logs by the GEL staff geologist. All soil sampling activities will be performed in accordance with *SESDPROC-300-R2, Soil Sampling* (USEPA 2011) and the QAPP. No laboratory analysis of soil samples is proposed since the soil borings will be installed downgradient of the former ponds.

Three tests pits will be excavated to evaluate the contents of the ponds using either a backhoe or track hoe. Soil samples from the ponds will be collected at two foot intervals and classified for lithologic description. A portion of each sample will be placed in a re-sealable plastic bag and field-screened for organic vapors with a photoionization detector (PID). Two soil samples will be collected for laboratory analysis from each test pit, one from the soils which visually exhibit black liquor content (if any), as well as based on odor and PID readings. An additional sample from each test pit will be collected from the residual soils two feet below the base of the ponds. Descriptions of the soil samples and field screening results will be recorded on soil boring logs by the GEL staff geologist. All soil sampling activities will be performed in accordance with *SESDPROC-300-R2, Soil Sampling* (USEPA 2011) and the QAPP.

Where possible, disposable sampling equipment will be used to minimize field cleaning, decontamination, and IDW. Non-disposable sampling equipment will be cleaned in accordance with *SESDPROC-205-R2, Field Equipment Cleaning and Decontamination* (USEPA 2011). All QA/QC activities will be performed in accordance with the QAPP. All soil borings will be installed and abandoned in accordance with *R. 61-71, South Carolina Well Standards*. IDW will be managed in accordance with *SESDPROC-202-R2, Management of Investigation Derived Waste* (USEPA 2010) and as specified in Section 3.4 of this Work Plan.

Up to 7 soil samples from the black liquor ponds (including one field duplicate) will be submitted to GEL Laboratories, LLC (GEL Labs), South Carolina Certification #10120001. The samples will be analyzed by the following USEPA Solid Waste (SW) 846 Methods: TAL metals, mercury, and cyanide (6020B/7471B/9012B, respectively); hexavalent chromium (7196A); TCL VOCs (8260B); and TCL SVOCs (8270D), pH (SW9045D), nitrate (9056A), nitrite (9056A), sulfate (9056A), sulfites (SM4500), and sodium (6010). All samples will be analyzed in accordance with the appropriate Method and the QAPP. The rationale for each sample location and a summary of the analytical parameters for each sample is included on Table 1. Table 2 contains a list of analytical methods, holding times, containers, and preservatives.

3.1.3 Groundwater Monitoring Well Installation and Groundwater Sampling Activities (Former Disposal Area

Five groundwater monitoring wells (MW-13—MW-17) will be installed in the apparent downgradient direction from the former disposal area for purposes of measuring water level depths, calculating groundwater flow data, and collecting groundwater samples from the shallow aquifer. These downgradient wells will complement the upgradient wells being installed as part of the assessment of the 14-Acre Boiler Ash Staging Area. The monitoring wells will be installed outside the boundaries of the former disposal area in locations adjacent to soil borings SB-28—SB-32. Due to the potential for limited access in some areas, the monitoring wells will be installed using rotosonic drilling methods or hollow-stem augers. All monitoring wells will be installed in accordance with *R.61-71, South Carolina Well Standards* and under the supervision of a certified environmental well driller licensed in South Carolina. The approximate locations of the monitoring wells with respect to Site features are shown on Figure 8.

Shallow monitoring wells (MW-13 – MW-17) will be installed to total depths of approximately 15 feet BGS or 8 feet below the water table. The monitoring wells will be installed in 6-inch diameter boreholes. Each monitoring well will be constructed of 2-inch, flush-threaded, Schedule 40 polyvinyl chloride (PVC) well riser and a 10-foot, 0.010-inch machine-slotted well screen. No. 2 filter sand will be emplaced in the annular space of the borehole from the total depth to approximately 2 feet above the well screen. A minimum of 2 feet of sodium bentonite pellets will be placed above the filter sand and hydrated for a minimum of 1 hour, or to the manufactures specifications whichever is longer, to form a proper well seal. The monitoring wells will be grouted with neat cement from the top of the seal to the ground surface with a tremie pipe. The monitoring wells will be completed at the ground surface with a lockable protective riser set in a 2-foot by 2-foot concrete well pad. Each monitoring well will be affixed with a permanent placard identifying the well and construction details. Following installation, the monitoring wells will be developed with a submersible pump until the purge water is relatively clear and free of sediment.

Prior to groundwater sample collection, the water level and total well depth at each monitoring well will be measured in accordance with *SESDPROC-105-R2, Groundwater Level and Well Depth Measurement* (USEPA 2013) to determine the volume of standing water inside the well riser and screen. A minimum of three well volumes will be purged using a peristaltic or submersible pump with new, disposable polyethylene tubing. Field measurements of temperature, pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity will be collected using a multi-parameter water quality meter and flow-through cell. The field measurements will be recorded on groundwater sampling field data sheets. Monitoring well stabilization and purging will be considered complete when, for at least three consecutive measurements, pH remains constant within 0.1 Standard Unit (SU), specific conductance varies no more than 5 percent, and turbidity has stabilized or is below 10 Nephelometric Turbidity Units (NTUs). All groundwater sampling activities will be performed in accordance with *SESDPROC-301-R3, Groundwater Sampling* (March 2013).

Care will be taken during monitoring well installation and groundwater sampling activities to minimize influence of turbidity in groundwater samples. However, it is anticipated that the monitoring wells will be screened in geologic formations consisting predominantly of silts and clays and that these matrices

may yield turbid samples regardless of properly installed and sampled monitoring wells (Nielsen 1995). Therefore, groundwater samples for analysis of total and dissolved TAL metals, mercury, cyanide, and hexavalent chromium will be collected. The samples collected for dissolved analysis will be filtered with a 0.45-micron disposable filter in the field within 15 minutes of sample collection and prior to adding preservative as specified in *40 CFR Part 136 Table II, Required Containers, Preservation Techniques, and Holding Times* (USEPA 2012).

Where possible, disposable sampling equipment will be used to minimize field cleaning, decontamination, and IDW. Non-disposable sampling equipment will be cleaned in accordance with *SESDPROC-205-R2, Field Equipment Cleaning and Decontamination*. All QA/QC activities will be performed in accordance with the QAPP. IDW will be managed in accordance with *SESDPROC-202-R2, Management of Investigation Derived Waste* and as specified in Section 3.4 of this Work Plan.

Up to 6 groundwater samples (including field duplicates) will be submitted to GEL Labs. The samples will be analyzed for the following USEPA SW846 Methods: total and dissolved TAL metals, mercury, and cyanide (6020B/7471B/9012B, respectively); total and dissolved hexavalent chromium (7196A); TCL VOCs (8260B) and TCL SVOCs (8270D). All samples will be analyzed in accordance with the appropriate Method and the QAPP. The rationale for each sample location and a summary of the analytical parameters for each sample is included on Table 1. Table 2 contains a list of analytical methods, holding times, containers, and preservatives.

3.1.4 Groundwater Monitoring Well Installation and Groundwater Sampling Activities (Former Black Liquor Ponds)

Two groundwater monitoring wells (MW-18 and MW-19) will be installed in the apparent downgradient direction from the former black liquor ponds for purposes of measuring water level depths, calculating groundwater flow data, and collecting groundwater samples from the shallow aquifer. The monitoring wells will be installed using rotosonic drilling methods or hollow-stem augers. All monitoring wells will be installed in accordance with *R.61-71, South Carolina Well Standards* and under the supervision of a certified environmental well driller licensed in South Carolina. The approximate locations of the monitoring wells with respect to Site features are shown on Figure 9.

Shallow monitoring wells (MW-18 and MW-19) will be installed to total depths of approximately 15 feet BGS or 8 feet below the water table. The monitoring wells will be installed and sampled as discussed in Section 3.1.3.

Two groundwater samples will be submitted to GEL Labs. The samples will be analyzed for the following USEPA SW846 Methods: total and dissolved TAL metals, mercury, and cyanide (6020B/7471B/9012B, respectively); total and dissolved hexavalent chromium (7196A); TCL VOCs (8260B); and TCL SVOCs (8270D), pH (SW9045D), nitrate (9056A), nitrite (9056A), sulfate (9056A), sulfites (SM4500), and sodium (6010). All samples will be analyzed in accordance with the appropriate Method and the QAPP. The rationale for each sample location and a summary of the analytical parameters for each sample is included on Table 1. Table 2 contains a list of analytical methods, holding times, containers, and preservatives.

3.2 Wetlands Survey

3.2.1 Freshwater Wetlands Delineation

In order to provide access to the soil boring and monitoring well locations, access roads around the former disposal area will need to be constructed using heavy equipment and may require some low lying areas to be filled. To avoid encroachment of potentially federally regulated wetlands during future drilling operations and to evaluate if wetland issues may be a determining factor in potential investigative and remedial project approaches, Sabine & Waters will conduct a wetlands areas survey prior to initiating the project. The survey will include delineation for an area of approximately 60 acres that encompasses the former disposal area and immediately surrounding area, including creeks and streams.

The services rendered under this task will include the delineation of freshwater area wetland boundaries in the project area. All freshwater wetlands will still need to be delineated, verified, and surveyed. Once a plat is generated showing the project area with all wetlands located and labeled, the U.S. Corps of Engineers (USACE) will make a jurisdictional determination and issue a letter accordingly. Sonoco has already initiated this task in order to expedite the project.

Freshwater wetlands will be defined using the November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. This technique uses a multi-parameter approach, which under normal circumstances requires positive evidence of three criteria:

- Hydrophytic vegetation
- Hydric soils
- Wetland hydrology

Areas exhibiting the above three wetland characteristics will be considered freshwater wetlands and will be indicated as such by the placement of colored, sequentially numbered flagging tape along the upland/wetland boundary for USACE verification.

Upon completion of flagging, a field map will be prepared depicting the approximate location of flagged wetland boundaries. This map will be approximate and subject to change by the USACE. This field map will be submitted with supporting documentation to the USACE as a field representation of wetland area locations. This field map is an approximation of wetland size and location, and “hard” planning should not be conducted on the former disposal area until written wetland verification from the USACE is received.

Depending on the findings of this preliminary assessment, further wetland-type environmental services may be necessary.

3.2.2 Freshwater Wetlands Verification

The flagged wetland area boundaries will need to be verified by the USACE. With the recent change in the field manual along with additional requirements for site information, including but not limited to

high altitude aerial photographs, soil surveys, national wetland inventory maps, USGS maps, multi-page data sheets for each wetland and adjacent upland data point, former disposal area photographs documenting the upland and wetland data point locations, a description of local former disposal area conditions on the day of the site visit, sketches of all aquatic resources on aerial photographs, etc., the document preparation has become much more burdensome. If the former disposal area contains non-jurisdictional ditches, the USACE now requires a drawing submittal identifying the approximate location, lengths and ditch dimensions of these non-jurisdictional features. The required documentation will be completed and submitted for verification to the USACE. This process will require a former disposal area visit with the USACE's representative to verify the jurisdictional status and boundaries of the flagged wetlands. After USACE verification of the wetland line, a metes and bounds survey will need to be conducted and a plat generated, including all new USACE requirements for plats, depicting all wetlands within the project area boundaries with appropriate labeling. The project area will need to have a closed boundary with coordinates on the corners. The surveyed wetland line must be tied to a defined corner for reference. GEL will conduct the survey after USACE verifies the wetland line. Upon the receipt of a surveyed wetland plat, the USACE will review the plat and if deemed complete, they will issue a final letter of verification.

3.3 Former Disposal Area Survey

The soil boring and monitoring well locations will be surveyed by a professional land surveyor licensed in South Carolina following sample collection activities. The horizontal locations and vertical elevations will be referenced to the South Carolina State Plane coordinate system and Mean Seal Level (MSL), respectively. The survey will be performed with a global positioning system (GPS) with differential correction in accordance with *SESDPROC-110-R3, Global Positioning System* (USEPA 2011). Additionally, the locations of prominent Site features (e.g., ash deposits, berms, culverts, streams, swales, etc.) will be surveyed for location for generation of a more detailed Site base map.

3.4 Investigation Derived Wastes

Types of IDW generated during baseline investigation activities will include, but are not limited to the following:

- Personal Protective Equipment (PPE) consisting of disposable coveralls, gloves, booties, respirator canisters, splash suites, etc.
- Disposable equipment consisting of plastic ground and equipment covers, aluminum foil, soil and waste samplers, tubing, broken or unused sample bottles, sample bottle boxes, tape, etc.
- Soil cuttings from drilling or hand augering.
- Groundwater obtained through well development or well purging.
- Decontamination fluids consisting of detergents and wash water.
- Packing and shipping materials.

IDW will be managed in accordance with *SESDPROC-202-R2, Management of Investigation Derived Waste*. IDW will be disposed of at the appropriate permitted facility based on the analytical results used for characterization.

3.5 Data Validation and Evaluation

Upon completion of field activities and receipt of laboratory analysis, data will be validated and evaluated in accordance with the QAPP.

3.6 Baseline Risk Assessment

Following data validation of the final analytical results, soil sample results will be compared to the RSLs for industrial soil and the protection of groundwater soil screening levels (SSLs) presented in the *RSL Summary Table* (USEPA 2013). Groundwater sample results will be compared to the maximum contaminant levels (MCLs) contained in *R.61-58.5, Maximum Contaminant Levels in Drinking Water* (SCDHEC 2009). If MCLs are not specified in R.61-58.8, the groundwater sample results will be compared to the RSLs for tapwater presented in the *RSL Summary Table*.

Results of the Baseline Risk Assessment will be evaluated along with the results of the Receptor Survey to provide a basis for further assessment and evaluation of risk.

3.7 Baseline Investigation Report

At the completion of field activities and upon receipt of laboratory data, a comprehensive report will be prepared. The report will evaluate risk to human health and the environment as described above, document field activities, provide findings and results of the investigation, and offer conclusions and recommendations outlining data gaps and a path forward. The report will include, but not be limited to, certificates of analysis showing analytical methods and procedures used, tabulated summaries of data, and pertinent maps, diagrams and cross sections. The report will be submitted in accordance with the schedule set forth in this Work Plan, and will be certified by a Professional Geologist licensed in the State of South Carolina.

4.0 PROJECT ORGANIZATION

Individuals responsible for implementing this program, along with their organizational affiliations, are provided below.

- Mr. Tim Hornosky serves as the SCDHEC Project Manager and is responsible for reviewing and approving documents to assure compliance with SCDHEC requirements.
- Mr. Cliff Chamblee will serve as the Sonoco project manager and is responsible for providing safe access to the site and coordinating all activities with Sonoco Personnel as required.
- Mr. Robert MacPhee of GEL serves as the consulting Project Manager and is responsible for implementing the technical and administrative tasks of the project. His responsibilities include project scope development, schedule and maintaining communication with the project team. Mr. MacPhee has the authority and ability to commit team and project resources.
- Mr. Thomas Hutto, P.G. of GEL serves as GEL's project principle-in-charge and will serve as senior technical advisor and reviewer.
- Mr. Thomas Putney, P.G. will serve as QA Manager and will be responsible for planning, documenting, coordinating and assessing the effectiveness of the quality assurance of the organization.
- Mr. Andrew Eyer, P.G. will serve as the GEL technical advisor for GEL. His duties will include scope development and technical review.
- Mr. Robert Pullano of GEL Laboratories, LLC (GEL Labs) serves as the Laboratory QA Officer and is responsible for the quality assurance of sample analyses conducted at GEL Labs.
- Mr. Stephen Nix of GEL serves as the Field Team Leader and Sampling Coordinator. Mr. Nix will coordinate field team efforts and communicate findings to the GEL Project Manager.

All drilling activities will be performed by GEL or an approved subcontractor. All sample collection activities will be performed by GEL. Analytical laboratory support for the project will be provided by:

- Mr. Jake Crook
  Project Manager
  GEL Laboratories, LLC
  2040 Savage Road
  P.O. Box 30712
  Charleston, SC 29407
  (843) 556-8171
  jake.crook@gel.com

A detailed organization chart is provided in the QAPP.

5.0 PROJECT SCHEDULE

A tentative project schedule (Figure 10) has been prepared showing the duration of various tasks that will be initiated upon approval of this Work Plan and the QAPP. The task deadlines correspond to those specified in the Consent Agreement. The project schedule will be revised with actual dates upon final approval of the Work Plan and QAPP. The schedule assumes that the USACOE can verify the wetlands within the designated time frame, no adverse weather conditions persist during the assessment phase, no changes to the scope are required, and SCDHEC's reviews are received as scheduled. The schedule takes into account holidays.

6.0 REFERENCES

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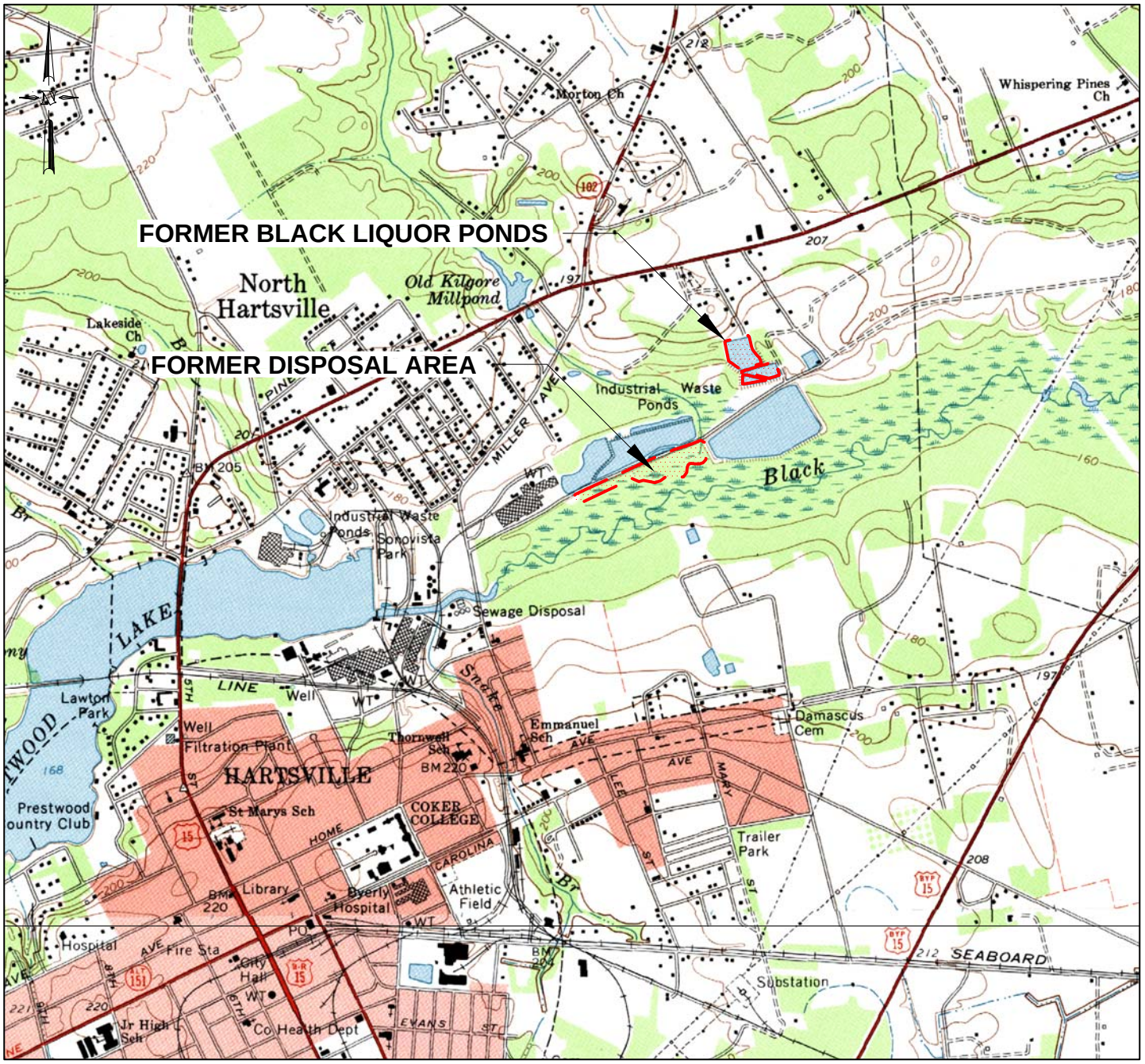
FIGURES



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NATIONAL GEODETIC VERTICAL DATUM OF 1929

HARTSVILLE NORTH
HARTSVILLE SOUTH
1968
7.5-MINUTE SERIES QUADRANGLES

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FORMER DISPOSAL AREA LOCATIONS

PHASE II BASELINE INVESTIGATION

FIGURE **1**

Date:	03/28/2014	Drawn by:	EEW	Approved by:	REM	Project No:	SONO00413

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ASBESTOS DISPOSAL PILE
DIGESTER BASIN
SPRAY FARM
AERATION BASIN
SOLID WASTE LANDFILL CELL 'G'
FMR. LIQUOR PONDS
FMR. LIQUOR TRENCHES
SETTLING BASINS
SO-2
SO-3
FMR. INDUSTRIAL POND NO. 2
FMR. 14-ACRE BOILER ASH STAGING AREA
SO-16
SO-1
SO-4
17-ACRE POND
FMR. INDUSTRIAL POND NO. 1
FMR. OPEN BURNING PILE
FMR. DUROPIPE & PLASTICS PILE
1
2
3
4
FMR. SLUICE PONDS

0 250 500 750
SCALE IN FEET

LEGEND

SO-4 EXISTING MONITORING WELL LOCATION

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FORMER SITE WIDE WASTE DISPOSAL AREAS

PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE: 03/28/2014
DRAWN BY: SKN
APPROVED BY: REM
PROJECT NUMBER: SONO00413
FIGURE: **2**

SPRING BRANCH

LANDFILL/SPRAY FAF

FMR. OPEN BURNING PILE

FMR. DUROPIPE & PLASTICS PILE

FMR. SOLID WASTE DISPOSAL AREA

BLACK CREEK

SECURE GATE ACCESS

0 100 200 300

SCALE IN FEET

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FORMER SOLID WASTE DISPOSAL AREA PLAN

PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE: 03/28/2014
DRAWN BY: SKN
APPROVED BY: REM
PROJECT NUMBER: SONO00413
FIGURE: 3

NOTES:

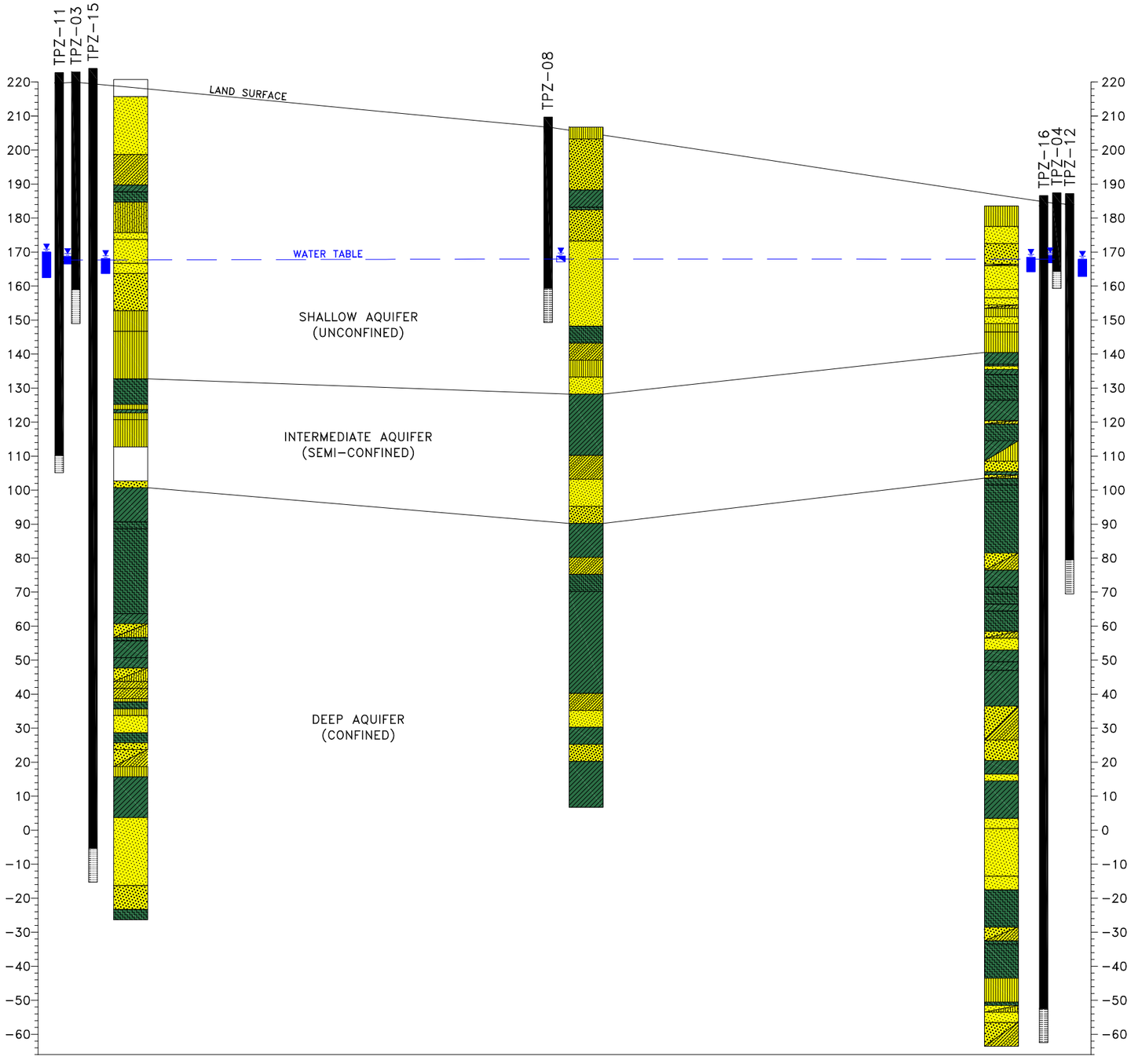
1. Elevation referenced to feet above mean sea level (FT MSL).
2. Vertical exaggeration equals approximately 2:1.

APPROXIMATE HORIZONTAL SCALE IN FEET

35 0 35 70

LEGEND

- ML (Low Plasticity SILT)
- CH (High Plasticity Fat CLAY)
- CL (Medium Plasticity Lean CLAY)
- SC (Clayey SAND)
- SM (Silty SAND)
- SP (Poorly Graded SAND)
- SW (Well Graded SAND)
- No Recovery
- Range in Groundwater Elevation Since Piezometer's Installation



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HYDROGEOLOGIC CROSS SECTION
PROPOSED CLASS III LANDFILL

PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE: 12/16/2013
DRAWN BY: SKN
APPROVED BY: REM
PROJECT NUMBER: SONO00413
FIGURE: 4

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PHASE I BASELINE INVESTIGATION SAMPLE LOCATION MAP

PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE:	03/28/2014
DRAWN BY:	SKN
APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	5

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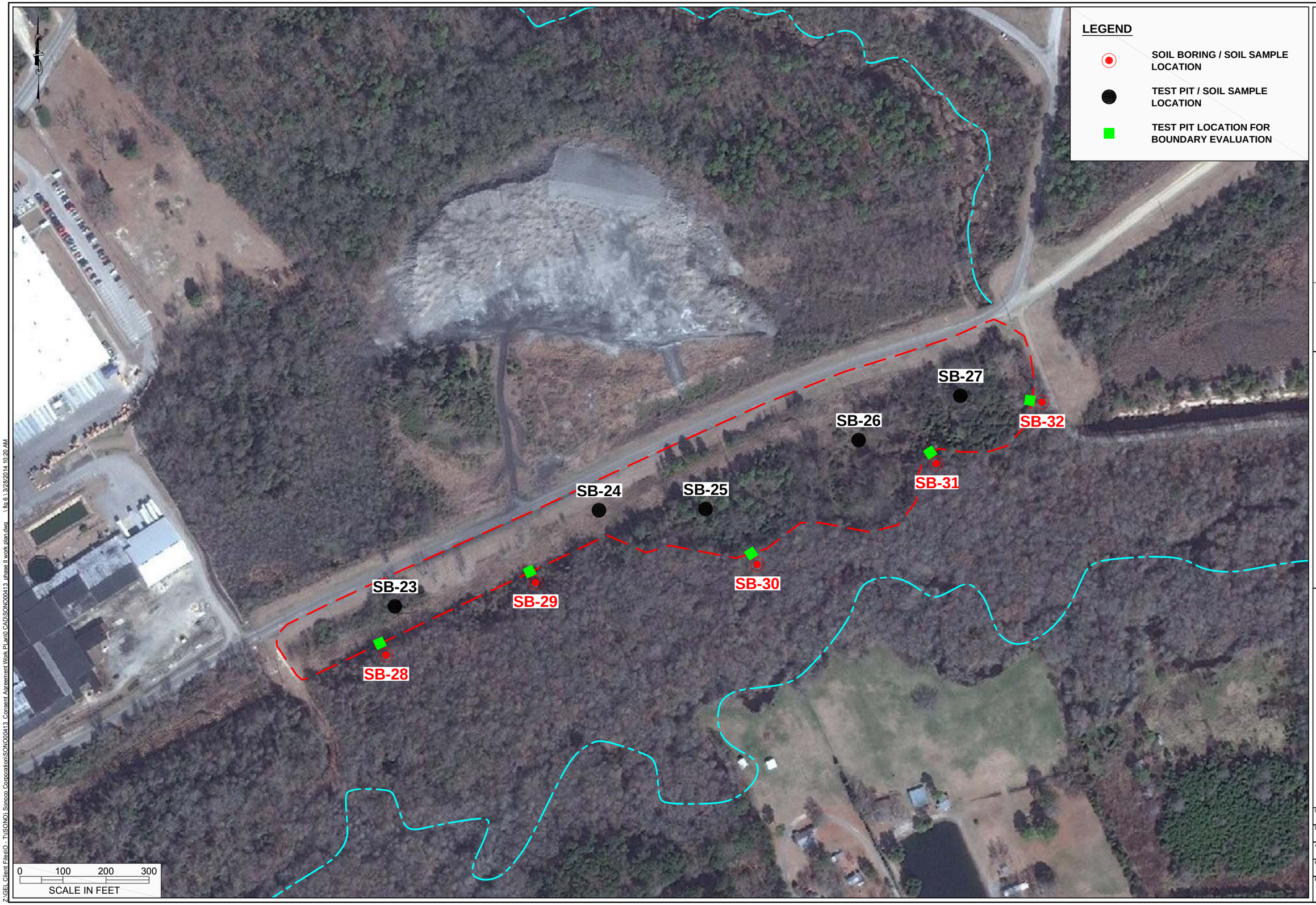

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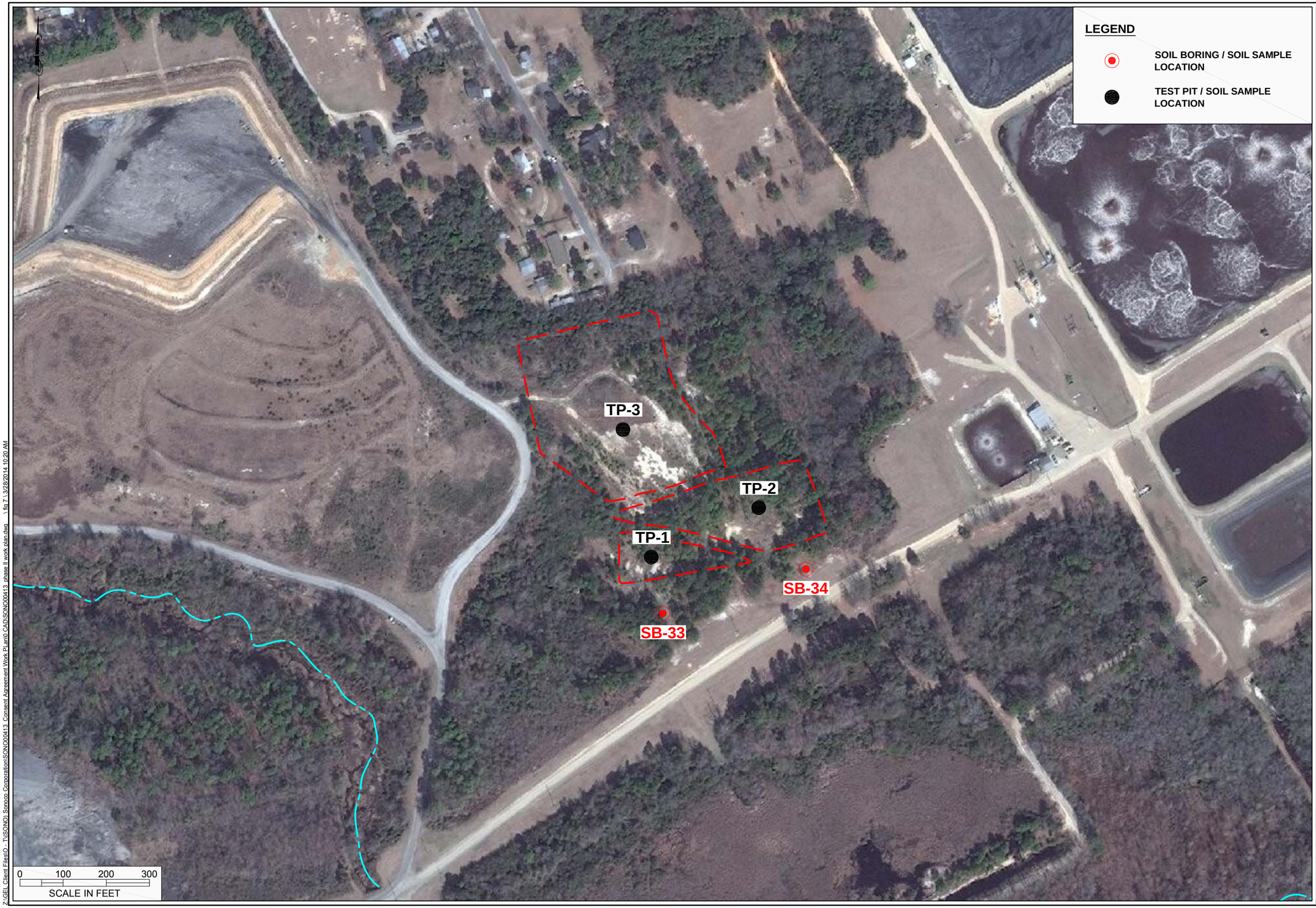
PROPOSED SOIL BORING/TEST PIT SAMPLE LOCATION MAP

(FORMER WASTE DISPOSAL AREA)
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE:	03/28/2014
DRAWN BY:	SKN
APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	6



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PROPOSED SOIL BORING/TEST PIT SAMPLE LOCATION MAP
(FORMER BLACK LIQUOR PONDS)
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE:	03/28/2014
DRAWN BY:	SKN
APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	7

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PROPOSED GROUNDWATER SAMPLE LOCATION MAP
(FORMER WASTE DISPOSAL AREA)
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

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APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	8

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PROPOSED GROUNDWATER SAMPLE LOCATION MAP
(FORMER BLACK LIQUOR PONDS)
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE: 03/28/2014
DRAWN BY: SKN
APPROVED BY: REM
PROJECT NUMBER: SONO00413
FIGURE: **9**

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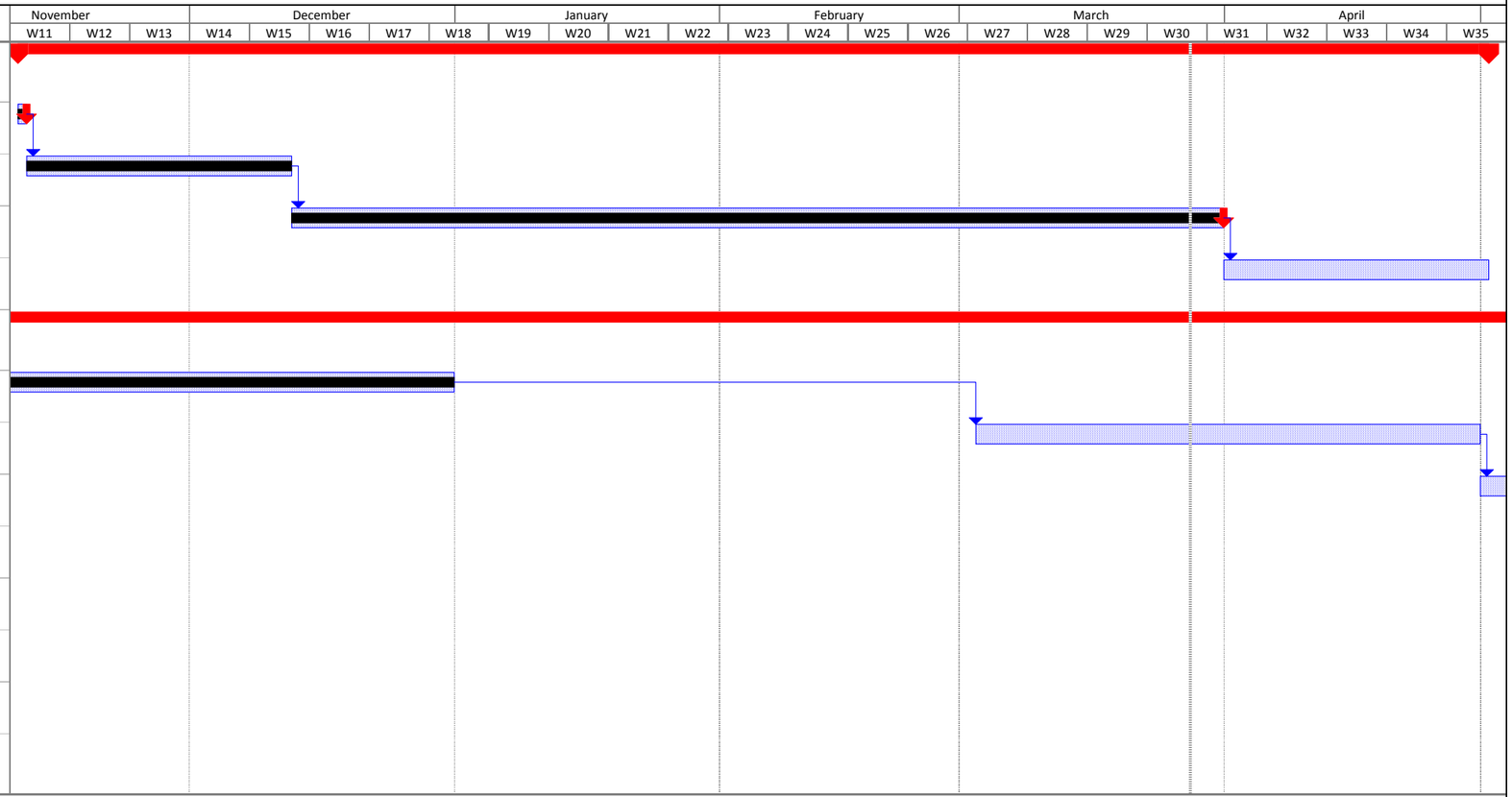
FIGURE 10 - PROJECT SCHEDULE
PHASE II BASELINE INVESTIGATION WORK PLAN
FORMER SOLID WASTE DISPOSAL AREA
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

ID	Task Name	Duration	Start	Finish
1	**Phase II Baseline Investigation Work Plan**	**124 days**	**11/11/13**	**5/1/14**
2	Submit to SCDHEC	1 day	11/11/13	11/11/13
3	SCDHEC Issues Comments	23 days	11/12/13	12/12/13
4	Submit Revised Work Plan	77 days	12/13/13	3/31/14
5	SCDHEC Approves Revised Work Plan	23 days	4/1/14	5/1/14
6	**Phase I Baseline Investigation Activities**	**269 days**	**10/1/13**	**10/10/14**
7	Preliminary Wetlands Delineation	66 days	10/1/13	12/31/13
8	Wetlands Verification/Jurisdictional Determination	43 days	3/3/14	4/30/14
9	Prepare Site Access	11 days	5/1/14	5/15/14
10	Soil Boring/Test Pits/Groundwater Monitoring Well Installation	45 days	5/19/14	7/18/14
11	Soil Sampling and Analysis	45 days	5/19/14	7/18/14
12	Groundwater Sampling and Analysis	45 days	5/19/14	7/18/14
13	Prepare Phase II Baseline Investigation Report	60 days	7/21/14	10/10/14
14	**Submit Phase II Baseline Investigation Report to SCDHEC**	1 day	10/13/14	10/13/14



LEGEND

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

FIGURE 10 - PROJECT SCHEDULE
PHASE II BASELINE INVESTIGATION WORK PLAN
FORMER SOLID WASTE DISPOSAL AREA
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

ID	Task Name	Duration	Start	Finish
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2	Submit to SCDHEC	1 day	11/11/13	11/11/13
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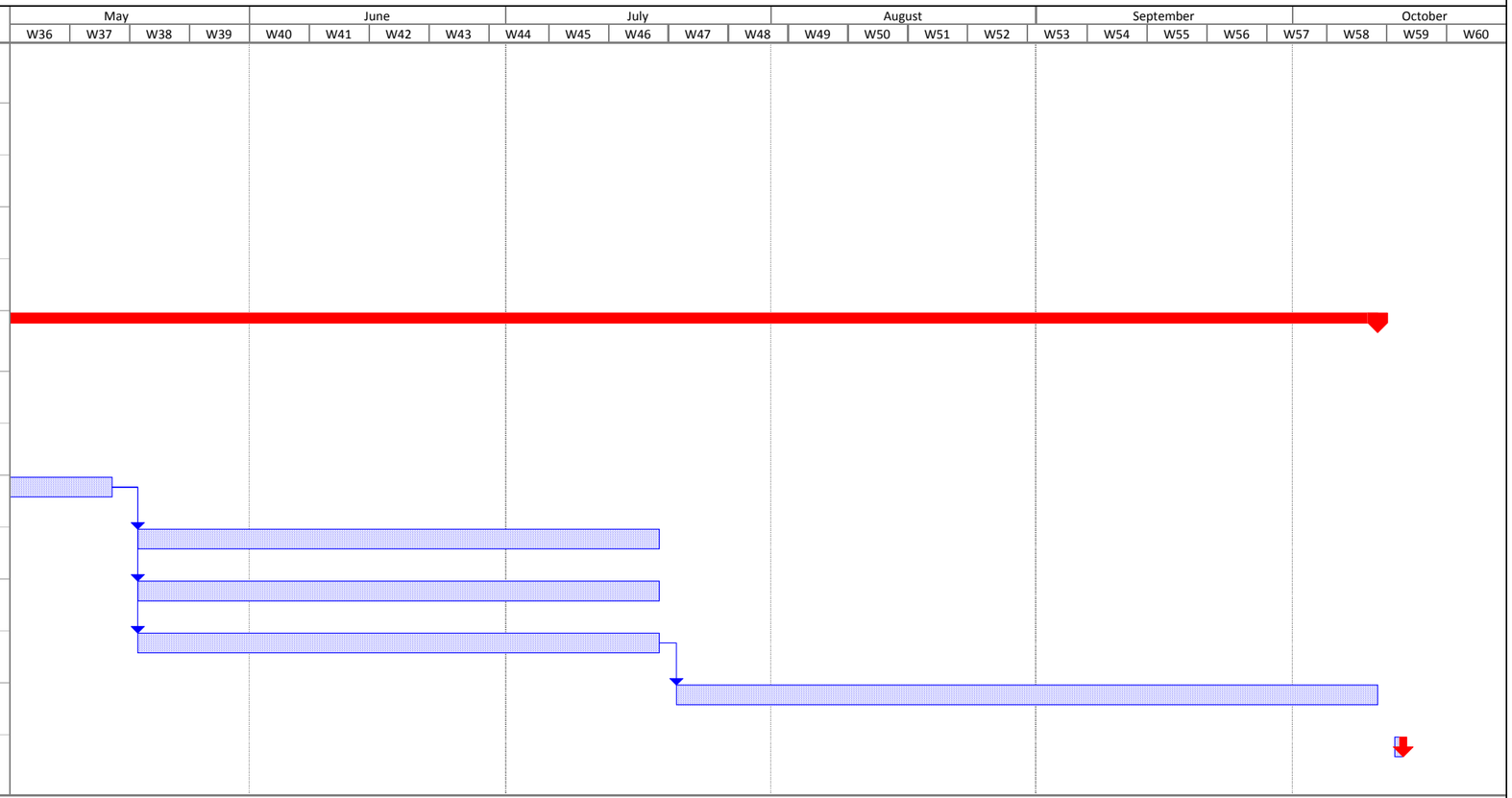
13	Prepare Phase II Baseline Investigation Report	60 days	7/21/14	10/10/14
14	**Submit Phase II Baseline Investigation Report to SCDHEC**	1 day	10/13/14	10/13/14



LEGEND

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

TABLES

TABLE 1. SUMMARY OF SAMPLES AND ANALYTICAL PARAMETERS
PHASE II BASELINE INVESTIGATION WORK PLAN, REVISION 1
FORMER SOLID WASTE DISPOSAL AREA
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

SAMPLE LOCATION	SAMPLE TYPE	SAMPLE ID	LOCATION/RATIONALE	ANALYTICAL PARAMETERS
Disposal Area	**Soil**	SB-SS-04	Upgradient of former solid waste disposal areas.	Phase I Baseline Investigation Sample Location
		SB-SS-06		
		SB-SS-06		
		SB-SS-07		
Disposal Area	**Subsurface Soil**	SB-SS-23	Grab soil sample collected from beneath former solid waste disposal area.	TCL VOCs & SVOCs, TAL Metals & Cr6+
		SB-SS-24		
		SB-SS-25		
		SB-SS-26		
		SB-SS-27		
Disposal Area	**Surface Soil**	SB-SS-28	Grab surface soil sample collected downgradient of former solid waste disposal area boundary.	TCL VOCs & SVOCs, TAL Metals & Cr6+
		SB-SS-29		
		SB-SS-30		
		SB-SS-31		
		SB-SS-32		
Black Liquor Pond	**Subsurface Soil (Pond Soils and Residual Soils)**	TP-SS-01P	Grab soil samples collected from within the former black liquor ponds followed by a sampled of the residual soils beneath the pond.	TAL metals, mercury, and cyanide, hexavalent chromium, TCL VOCs, and TCL SVOCs, pH, nitrate, nitrite, sulfate, sulfites, and sodium.
		TP-SS-02		
		TP-SS-03P		
		TP-SS-04		
		TP-SS-05P		
		TP-SS-06		

NOTES:

1 - All samples will be collected and analyzed in accordance with the Work Plan and QAPP.

2 - Soil samples SB-SS-04 - SB-SS-07 will be collected and analyzed in accordance with the Phase I Baseline Investigation Work Plan (Revision 1), 14-Acre Boiler Ash Staging Area and QAPP, Revision 1 (GEL, October 30, 2013).

3 - All quality control/quality assurance samples will be collected and analyzed in accordance with the QAPP.

4 - Samples designatd with a "P" are soils from the black liquor pond.

5 - Soils designated with an "R" are from the residual soils beneath the black liquor pond.

TABLE 1. SUMMARY OF SAMPLES AND ANALYTICAL PARAMETERS
PHASE II BASELINE INVESTIGATION WORK PLAN, REVISION 1
FORMER SOLID WASTE DISPOSAL AREA
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

SAMPLE LOCATION	SAMPLE TYPE	SAMPLE ID	LOCATION/RATIONALE	ANALYTICAL PARAMETERS
Disposal Area	**Groundwater**	MW-04	Upgradient of former solid waste disposal area.	Phase I Baseline Investigation Sample Location
		MW-05		
		MW-06		
		MW-07		
		SO-1		
		MW-13	Shallow groundwater sample collected downgradient of former solid waste disposal area boundary.	TCL VOCs & SVOCs, TAL Metals & Cr6+
		MW-14		
		MW-15		
		MW-16		
		MW-17		
Former Black Liquor Ponds	**Groundwater**	MW-18	Shallow groundwater sample collected downgradient of former black liquor ponds.	TAL metals, mercury, and cyanide, hexavalent chromium, TCL VOCs, and TCL SVOCs, pH, nitrate, nitrite, sulfate, sulfites, and sodium
		MW-19		
		SO-3		

NOTES:

1 - All samples will be collected and analyzed in accordance with the Work Plan and QAPP.

2 - Groundwater samples MW-04 - MW-07 and SO-1 will be collected and analyzed in accordance with the Phase I Baseline Investigation Work Plan (Revision 1), 14-Acre Boiler Ash Staging Area and QAPP, Revision 1 (GEL, October 30, 2013).

3 - Groundwater sample analyses for TAL metals and Cr6+ will include both total and dissolved fractions.

4 - All quality control/quality assurance samples will be collected and analyzed in accordance with the QAPP.

TABLE 2. ANALYTICAL METHODS, HOLDING TIMES, CONTAINERS, AND PRESERVATION REQUIREMENTS
PHASE II BASELINE INVESTIGATION WORK PLAN, REVISION 1
FORMER SOLID WASTE DISPOSAL AREA
CONSENT AGREEMENT 13-04-SW
SONOCO PRODUCTS COMPANY

ANALYSIS	METHOD	HOLDING TIME	CONTAINER			COMMENTS
			TYPE	VOLUME	PRESERVATION	
Soil						
TAL Metals	6020A	6 months	Glass w/ PTFE-lined lid	8 oz	≤6 °C	
Mercury	7470A	28/ 7 days	Glass w/ PTFE-lined lid	8 oz	≤6 °C	Sample holding time is 28 days and 7 additional days after extraction.
Cyanide	9010C	14 days	Glass w/ PTFE-lined lid	8 oz	≤6 °C	
Hexavalent Chromium	7196A	28/ 7 days	Glass w/ PTFE-lined lid	8 oz	≤6 °C	Sample holding time is 28 days and 7 additional days after extraction.
TCL VOCs	8260B	14 days	Glass	o2Si kit	≤6 °C	GEL has chosen not to preserve samples in the field per the USEPA method due to matrix interferrences with some soil types. Samples must be either preserved or frozen by the laboratory within 48 hours of sample collection.
TCL SVOCs	8270D	14/ 40 days	Glass w/ PTFE-lined lid	8 oz	≤6 °C	Sample holding time is 14 days and 40 days after extraction.
Nitrate	9056A	48 hours	Poly, Glass	4 oz	≤6 °C	
Nitrite	9056A	28 days	Poly, Glass	4 oz	≤6 °C	
Sulfate	9056A	28 days	Poly, Glass	4 oz	≤6 °C	
Sulfite	SM4500	24 hours	Poly, Glass	4 oz	≤6 °C	
Sodium	6010	6 months	Glass w/ PTFE-	8 oz	≤6 °C	
Groundwater						
TAL Metals	6020A	6 months	PFTE	500 mL	≤6 °C; HNO_3 to pH <2	
Mercury	7470A	28 days	PFTE	500 mL	≤6 °C; HNO_3 to pH <2	
Cyanide	9010C	14 days	PFTE	500 mL	≤6 °C; NaOH to pH >12	
Hexavalent Chromium	7196A	24 hours	Poly, Glass	500 mL	≤6 °C	
TCL VOCs	8260B	14 days	Glass vial w/ septum cap	40 mL (3)	≤6 °C; HCl to pH <2	Samples should not be preserved if compound list includes 2-Chloroethylvinyl ether, styrene, or vinyl chloride. Holding time for non-preserved samples is 7 days.
TCL SVOCs	8270D	7/ 40 days	Glass (amber) w/ PTFE-lined cap	1,000 mL (2)	≤6 °C	Sample holding time is 7 days and 40 days after extraction.
Nitrate	9056A	48	Poly, Glass	250 mL	≤6 °C	
Nitrite	9056A	28 days	Poly, Glass	100 mL	≤6 °C, H2SO4 to PH ≤2.0	
Sulfate	9056A	28 days	Poly, Glass	300 mL	≤6 °C	
Sulfite	SM4500	15-min	Poly, Glass	100 mL	≤6 °C	
Sodium	6010	6-months	Glass w/ PTFE-lined lid	500 mL	≤6 °C	

NOTES:

1 - Holding times and container type, volume, and preservative based on "Table II. Required Containers, Preservation Techniques,a nd Holding Times" (USEPA May 2012).

APPENDIX I

Asbestos Disposal Documentation

RWK-LCM 8-26-86

LI

TA/DAA

I decided that this is yours + not mine. If you disagree let me know.

S's - Call Jim Kelley + Bob Bellflower + see what their opinions are. If they think it's O.K. go ahead + write up a one time approval w/ conditions. LCM

SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, SOUTH CAROLINA 29550 U.S.A.

803 383-7000

August 20, 1986

Vance Gaucheron 383-7591

Mr. Jack Kendall
Division of Facility Engineering
Bureau of Solid and Hazardous Wastes Management
S. C. Department of Health and Environmental Control
2600 Bull Street
Columbia, S. C. 29201

Dear Mr. Kendall:

RE: Sonoco Products Company
IWP-119 Darlington County

I spoke with you last week concerning the possibility of burying asbestos insulated tanks from a production line that ceased operation about three years ago. We propose to dispose of these tanks -- two nine feet diameter X twenty feet high and two nine feet diameter X twenty-eight feet high -- adjacent to a relocated landfill site on company property. This site is over twenty feet above water table and has restricted access. Attached is an aerial photo showing this relocated landfill (in yellow) and our current landfill site (in blue). Approximately forty yards west of the relocated site is a natural gas pipeline (in pink). The area between this pipeline and the relocated site offers no future use or possible development. The land topography of that location (in green) would lend itself ideally for this proposed disposal. We would excavate, align the tanks end to end, and cover with a minimum of six inches of dirt. One tank would be filled with glove bags used in stripping asbestos from associated piping from the same demolition project. Tanks would have to be filled w/ sand.

4 items

These tanks were used in our old Duropipe operation. They are coated with pitch (asphalt) from the process and have no salvage value. (Foundries will not accept any scrap metal used in pitch processing operations.)

By utilizing this location we would be saving volume in our current landfill. We would also not interrupt the day-to-day operations at that site. In addition, any future demolition work where major structures are involved, could also be located here, with prior approval. Asbestos generated during minor maintenance and repair work would still be disposed of in our existing landfill.

I would appreciate your discussing this proposal with Mr. Bob Betterton and notifying me of your decision as soon as possible. If you have any questions or would like to inspect the site, please call me at 383-7706. Mr. Jim Kelly has seen the relocated landfill site and may also be able to provide you with further information.

Sincerely,

383-7706

Peter H. Gruene
Director of Environmental Activities

PHG/jrb

Attachment

CC: Mr. Bob Betterton
Bureau of Air Quality Control
S.C. Department of Health and
Environmental Control
2600 Bull Street
Columbia, S. C. 29201

Dr. W. R. Blakeney - Sonoco (K04)

Mr. B. M. Reaves - Sonoco (E20)

Mr. T. C. Pilon - Sonoco (003)

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Robert S. Jackson, M.D.

September 3, 1986

Rec'd
9/5/86
JWW

Mr. Vance Gardner
Sonoco Products Company
Main Office
Hartsville, SC 29550

RE: Onsite Disposal of Scrap Tanks
Darlington County

Dear Mr. Gardner:

We will allow disposal of your empty tanks onsite provided you carry out this project using the following guidelines:

1. The tanks when buied must be filled with debris and earth. The reasoning behind this is to prevent the tanks from functioning as tanks and to deny their use as access points to the subsurface.

2. The alternative solution would be cutting the tanks into small pieces and by doing so rendering the tanks incapable of holding fluids or functioning as a subsurface access points.

3. Notify Jim Kelley (662-3522) of the projects initiation and termination.

4. This disposal must not have any adverse effects upon the site.

5. No free liquids will be landfilled at this site.

6. This project will be completed in a timely and efficient manner.

7. This approval will last for the duration of the tank disposal project and will not apply to any other aspect of waste management at Sonoco Products Company.

If you have any questions concerning this project, please do not hesitate contact this office.

Sincerely,

Joseph R. Grant
Sampling & Analysis Unit
Bureau of Solid & Hazardous
Waste Management

JRG:elf

cc: Jim Kelley

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Robert S. Jackson, M.D.

September 10, 1986

Mr. Pete McAllister
Applied Construction Inc.
Post Office Box 1650
Hartsville, South Carolina 29550

Re: 2,800 SF, Asbestos #1 & 2 Treating & Drying Tanks, Duro Pipe Bldg., Hartsville,SC

Dear Mr. McAllister:

This will acknowledge receipt of your notification of intent to remove asbestos materials. The information provided appears to be in accordance with NESHAP notification requirements.

NESHAP requires reporting the start and completion dates of all asbestos removals. The dates provided by you represent the range of time during which this Department may perform an inspection. All asbestos removal operations must be inspected. To schedule an inspection of the removal and disposal, please contact the Department's District Air Section Manager, Don Smith, (803) 662-3522.

This letter shall also authorize you to dispose of the waste at the Sonoco Landfill-IWP-119. . You must, however, obtain prior approval from the landfill operator and inform him of the requirement that the material must be covered upon disposal with a suitable soil cover or with refuse which receives a daily soil cover. There shall be no leakage or spillage during transport. Disposal must not take place on weekends without prior arrangements with the landfill supervisor and the District Solid Waste Consultant. Additional information concerning the use of landfills for disposal of asbestos can be obtained by calling the Bureau of Solid and Hazardous Waste at 734-5200. For further information about asbestos removal, you may contact me at 734-4750.

Sincerely,

Robert J. Betterton

Robert J. Betterton, NESHAP Manager
Air Compliance & Management Division
Bureau of Air Quality Control

RJB: MJW:bjm

cc: RKinney, Bur. of Solid & Hazardous Waste Mge., w/attach.
WLybrand, S. C. Dept. of Labor, w/attach.
DSmith, Pee Dee and Solid Waste Cons. (Circulate), w/attach.
Sonoco Products Co., w/attach.

APPENDIX II

SCDHEC Form 3736 – Monitoring Well Application

Monitoring Well Application

1. Proposed Location of Monitoring Well(s):

   Street Address: **Patrick Highway**

   City (including Zip): **Hartsville, 29550**

   County: **Darlington**

   Please attach Scaled Map or Plat

2. Well Owner's Information:

   Name (Last then First): **Chamblee, Cliff**

   Company: **Sonoco Products Company**

   Complete Address: **1 N 2nd Street**
   Hartsville, SC 29550

   Telephone Number: **(843) 202-6970**

3. Property Owner's Information:

   ☑ Check if same as Well Owner

   Name (Last then First):

   Company:

   Address:

   Telephone Number:

4. Proposed Drilling Date: **05/19/2014**

5. Intended Purpose of Well(s):

   Pre-Purchase ☐

   Investigation ☑

   NOTE: If this request is for an existing DHEC project, please enter the Program area and ID number below.

   Program Area: **Solid Waste Management**
   Project or Site ID #: **Consent Agreement 13-04-SW**

6. Proposed number of monitoring wells: **7**

7. Proposed parameters to be analyzed (check all that apply), please specify analytical method beside check box:

VOCs	☑
BTEX	☐
MtBE	☐
Naphthalene	☐
PAHs	☐
Metals	☑
Nitrates	☐
Base, Neutral & Acid Ex.	☑
Pesticides/Herbicides	☐
Phenols	☐
Radionuclides	☐
PCBs	☐
Other (specify below)	☐

8. Proposed construction details (complete and attach proposed monitoring well schematics):

SONO00413_phase II work plan.dwg \ Appendix II \ 3/28/2014 10:22 AM

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SONOCO PRODUCTS COMPANY
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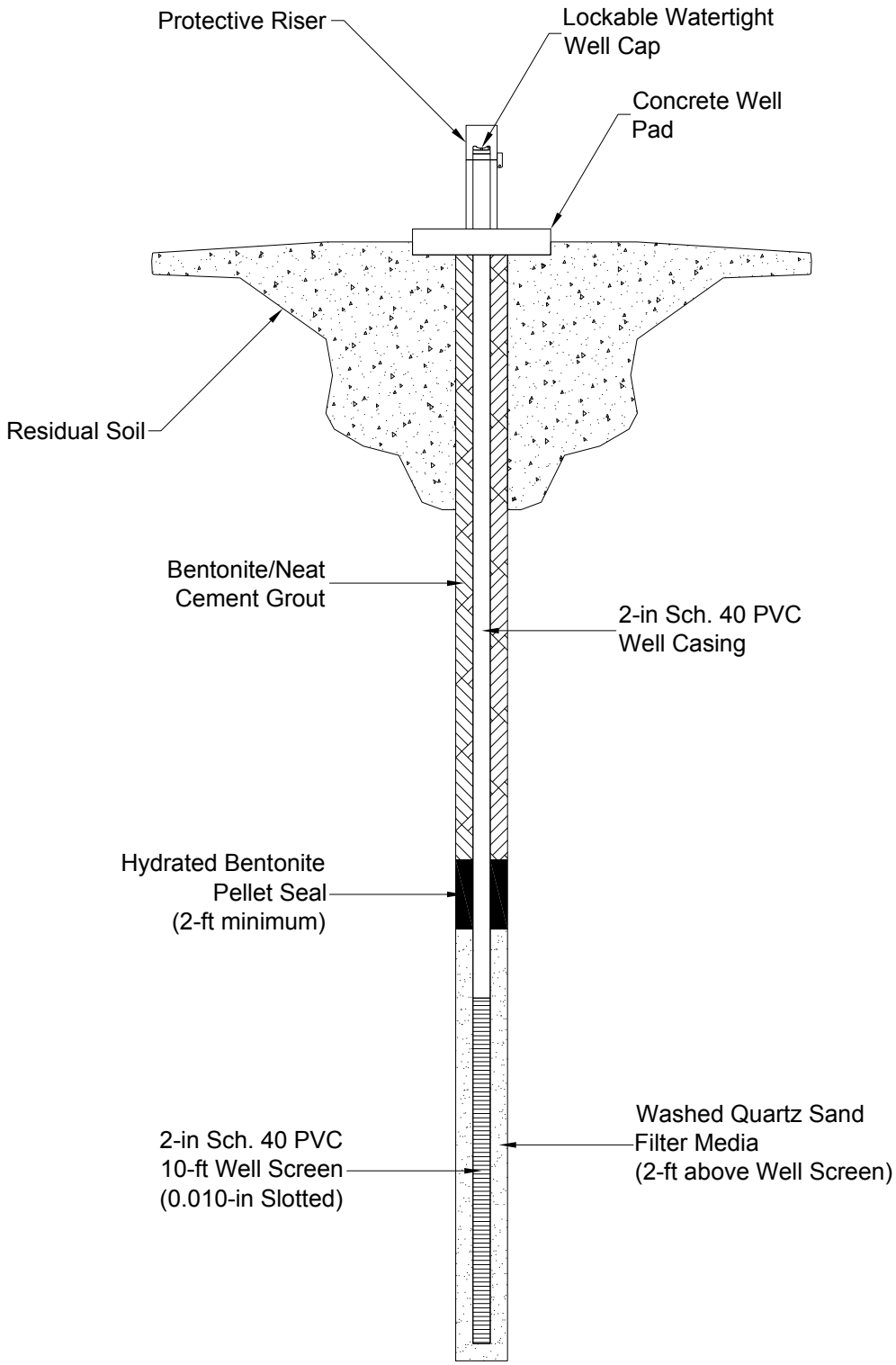
HARTSVILLE, DARLINGTON COUNTY
SOUTH CAROLINA

PROPOSED MONITORING WELL LOCATION MAP

PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREAS

Date:	Drawn by:	Approved by:	Project No:
09/16/2013	SKN	REM	SONO00413

FIGURE
1



NOT TO SCALE

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SOUTH CAROLINA

PERMANENT GROUNDWATER MONITORING WELL
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREAS

FIGURE 2

Date:	Drawn by:	Approved by:	Project No:
09/06/2013	SKN	REM	SONO00413

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111 Smith Hines Road, Suite J
Greenville, SC 29607

P 864.676.2202 F 864.676.2209

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May 6, 2014

Mr. Tim Hornosky
Division of Compliance and Enforcement
SCDHEC/BLWM
2600 Bull Street
Columbia, South Carolina 29201

Re: Phase II Baseline Investigation Work Plan – Addendum 1
Solid Waste Disposal Areas
Consent Agreement 13-04-SW
Sonoco Products Company

Dear Mr. Hornosky:

GEL is in receipt of you *Review of Phase II Baseline Investigation Work Plan, Revision 1, Former Waste Disposal Area (March 31, 2014, dated April 17, 2014)*. The document requests that an upgradient groundwater monitoring point be installed to determine groundwater flow direction and to evaluate groundwater between the ponds and potential receptors. The letter also requests a more complete copy of the 1981 report titled "Groundwater Investigation and Remedial Measures Evaluation."

GEL will install an additional soil boring (SB-35) and monitoring well (MW-20) upgradient from the former black liquor ponds at the locations shown on the attached Figure 7 and Figure 9. The actual location of the well may vary depending on site access and conditions in the field at the time of drilling. The well will be installed and sampled per the procedures and methods described in the Work Plan.

Due to the historical nature of the 1981 "Groundwater Investigation and Remedial Measures Evaluation", a more complete copy could not be found. If one is located during the course of the assessment a copy will be forwarded to you.

If you have any questions regarding the above addendum please contact Robert E. MacPhee at 864-676-2202 or Robert.MacPhee@gel.com.

Sincerely,

Robert E. MacPhee
Project Manager

Thomas D.W. Hutto, P.G.
Principal
South Carolina License #912

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PROPOSED SOIL BORING/TEST PIT SAMPLE LOCATION MAP
(FORMER BLACK LIQUOR PONDS)
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE:	03/28/2014
DRAWN BY:	SKN
APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	7

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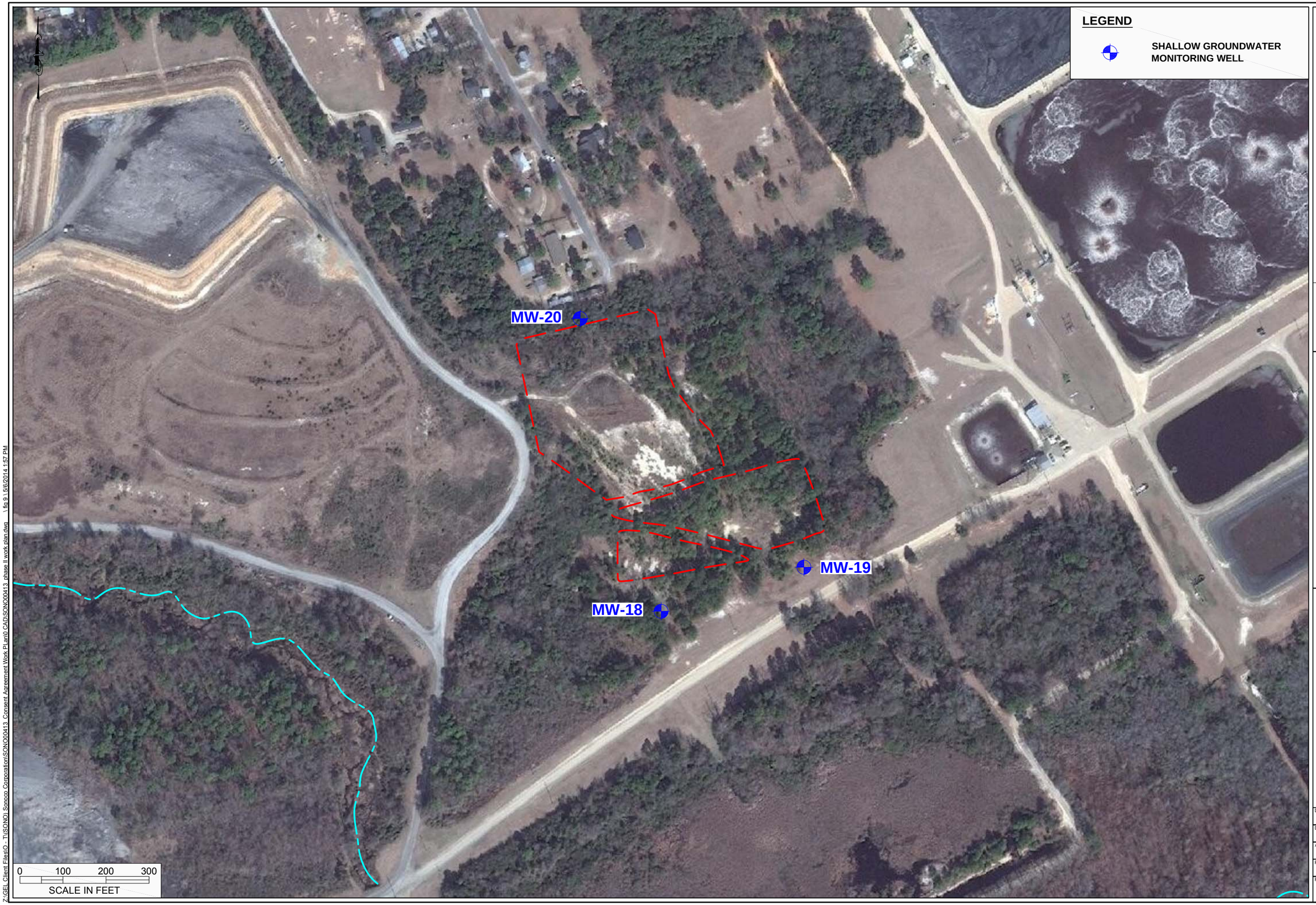

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SOUTH CAROLINA

PROPOSED GROUNDWATER SAMPLE LOCATION MAP
(FORMER BLACK LIQUOR PONDS)
PHASE II BASELINE INVESTIGATION
FORMER SOLID WASTE DISPOSAL AREA

DATE:	03/28/2014
DRAWN BY:	SKN
APPROVED BY:	REM
PROJECT NUMBER:	SONO00413
FIGURE:	9

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D H E C
PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

CERTIFIED MAIL

May 8, 2014

John P. Boyd
Haynsworth Sinkler Boyd, P.A.
P.O. Box 11889
Columbia, South Carolina 29211-1889

RE: Consent Agreement # 13-04-SW
Approval of Phase II Baseline Investigation Work Plan, Revision 1, Former Solid Waste Disposal Areas, dated March 28, 2014 as amended by Phase II Baseline Investigation Work Plan, Addendum 1, dated May 6, 2014

Dear Mr. Boyd:

The South Carolina Department of Health and Environmental Control (Department) has reviewed the above referenced revised work plan including the addendum dated May 6, 2014. The Addendum satisfies the Department's April 17, 2014 comments to the revised work plan by proposing an additional soil boring and monitoring well north of the former liquor ponds.

The Department hereby approves the work plan as amended. Monitoring Well Approval # MW-09636 is enclosed. This monitoring well approval is for installation of eight (8) monitoring wells in order to accommodate the addition of monitoring well MW- 20 as indicated by the addendum. The Department appreciates Sonoco's timely response in submitting the addendum, and presumes that the schedule presented in the March 28, 2014 Phase II Baseline Investigation Work Plan, Revision 1 remains in effect.

Sincerely,

Tim Hornosky, P.G.
State Remediation Section
Bureau of Land & Waste Management
South Carolina Department of Health and Environmental Control

cc: Beverly McLeod, Compliance and Enforcement Section
Stephen Glenn, 1 N. Second St., Hartsville, SC 29550
GEL Engineering, LLC, 111 Smith Hines Rd., Greenville, SC 29607
Marty Lindler, SCDHEC, BLWM, SW Compliance Manager
Buck Graham, SCDHEC Pee Dee EQC (Florence)
Jacquelyn S. Dickman, Esq., SCDHEC, Office of General Counsel
Etta W. Linen, Esq., SCDHEC, Office of General Counsel
Stan Clark, SCDHEC, BLWM, Assistant Bureau Chief
BLWM File # 21605

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval

Date of Issuance: **May 8, 2014** **Approval #: MW-09636**

Approval is hereby granted to: **Sonoco Products Company**
Hartsville, South Carolina 29550

Facility: **Sonoco Products Company**
County: **Darlington**

This approval is for the installation of eight (8) monitoring wells. The monitoring wells are to be installed in the locations illustrated and per the construction standards proposed in the Phase II Baseline Investigation Work Plan, Revision 1, dated March 28, 2014, as amended by Addendum 1, dated May 6, 2014. These monitoring wells are to be installed following all applicable requirements of R.61-71.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and/or abandoned by a South Carolina licensed well driller per R.61-71.D.1.

2. All wells shall be properly developed per R.61-71.H.2.d. A Water Well Record Form (form DHEC 1903) or other form provided or approved by the Department shall be completed and submitted within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f.

3. All analytical data and water levels obtained from each monitoring well shall be submitted to the author of this approval within 30 days of receipt of laboratory results unless another schedule has been approved by the Department, as required by R.61-71.H.1.d.

4. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

5. If any of the information provided to the Department changes, including the proposed drilling date, the Author shall be notified as least twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards, dated April 26, 2002.

Tim Hornosky, P.G.
State Remediation Section
Division of Site Assessment, Remediation & Revitalization
Bureau of Land and Waste Management

Appendix II

Soil Boring Logs, Monitoring Well Construction Diagrams and Water Well Records

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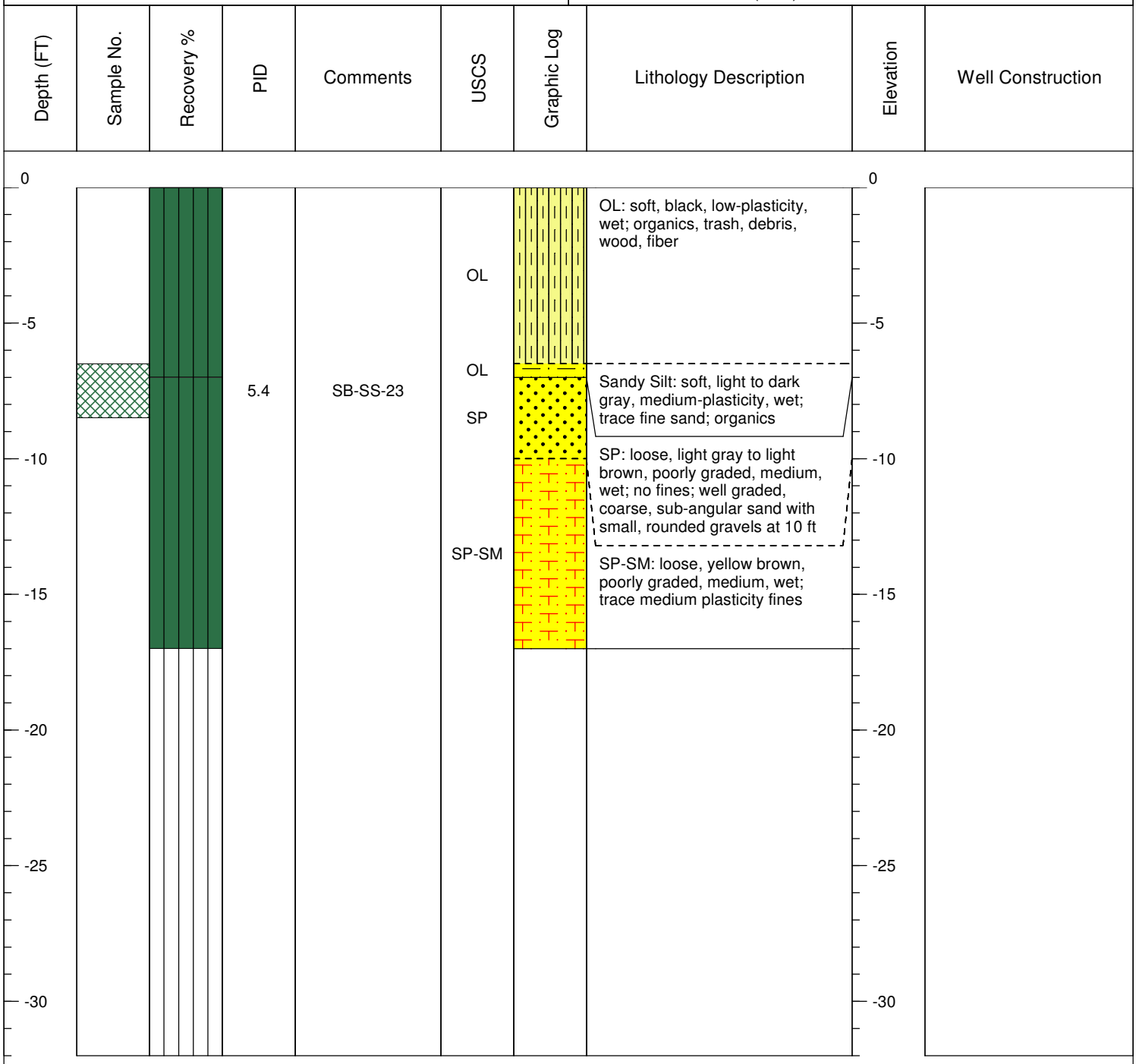
SOIL BORING / MONITORING WELL ID:

SB-23

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/15/14 COMPLETED: 7/15/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 157.56
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 931,602.239
DRILLING METHOD: Rotosonic	EASTING: 2,283,973.616
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): NA



NOTES: Monitoring well not installed.

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SOIL BORING / MONITORING WELL ID:

SB-24

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/15/14 COMPLETED: 7/15/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 931,864.449
DRILLING METHOD: Rotosonic	EASTING: 2,284,472.902
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): NA

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0								0	
-5					OL		SILT: soft, black, low-plasticity, wet; organics, trash, debris, wood, fiber, styrofoam spools	-5	
-10			12.2	SB-SS-24	OL		SILT w/ sand: soft, dark to light brown, low-plasticity, wet; trace fine to medium sand; organics	-10	
					SW		SAND: loose, light brown, well-graded, fine to medium, wet; small, well rounded gravels at 14 ft		
-15					SW-SC		SAND w/ clay: loose, light brown to white, well-graded, fine to medium, wet; trace medium to high plasticity fines	-15	
-20								-20	
-25								-25	
-30								-30	

NOTES: Monitoring well not installed.

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SOIL BORING / MONITORING WELL ID:

SB-25 / MW-15

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/15/14 COMPLETED: 7/15/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 173.20
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 931,864.044
DRILLING METHOD: Rotosonic	EASTING: 2,284,758.306
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 22.84 FT TOC

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0							SAND w/ silt: loose, light brown to orange and gray, well graded, fine to medium, moist; trash, debris, fiber board, paper, styrofoam spools	0	
-5								-5	
-10					SW-SM			-10	Neat Cement Grout; 2-in PVC Well Casing
-15								-15	Hydrated Bentonite Seal
-20			1.5	SB-SS-25	OL		SILT w/ sand: soft, black to dark gray, low plasticity, wet; organics	-20	
					SW-SM		SAND w/ silt: loose, dark gray, well graded, fine to medium, wet		
-25					SP		SAND: loose, light brown to gray, poorly graded, medium, wet; small, sub-rounded gravels at 27 ft	-25	#2 Filter Sand; 2-in by 10-ft, #10 Slotted Well Screen
-30								-30	

NOTES: TOC Elevation = 176.69

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SOIL BORING / MONITORING WELL ID:

SB-26

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/15/14 COMPLETED: 7/15/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 932,022.428
DRILLING METHOD: Rotosonic	EASTING: 2,285,078.874
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): NA

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0								0	
-5			1.0	SB-SS-26	SW-SM		SAND w/ silt: loose, brown, well graded, fine to medium, dry; trace non-plastic fines; trace small, rounded gravels; organics at 3 ft	-5	
					ML		SILT w/ sand: soft, light gray, medium plasticity, wet; trace fine sand; trace clay		
-10					SW		SAND: loose, light brown to light yellow, well graded, fine to medium, wet; trace small, rounded gravel; trace non-plastic fines with depth	-10	
-15								-15	
-20								-20	
-25								-25	
-30								-30	

NOTES: Monitoring well not installed.

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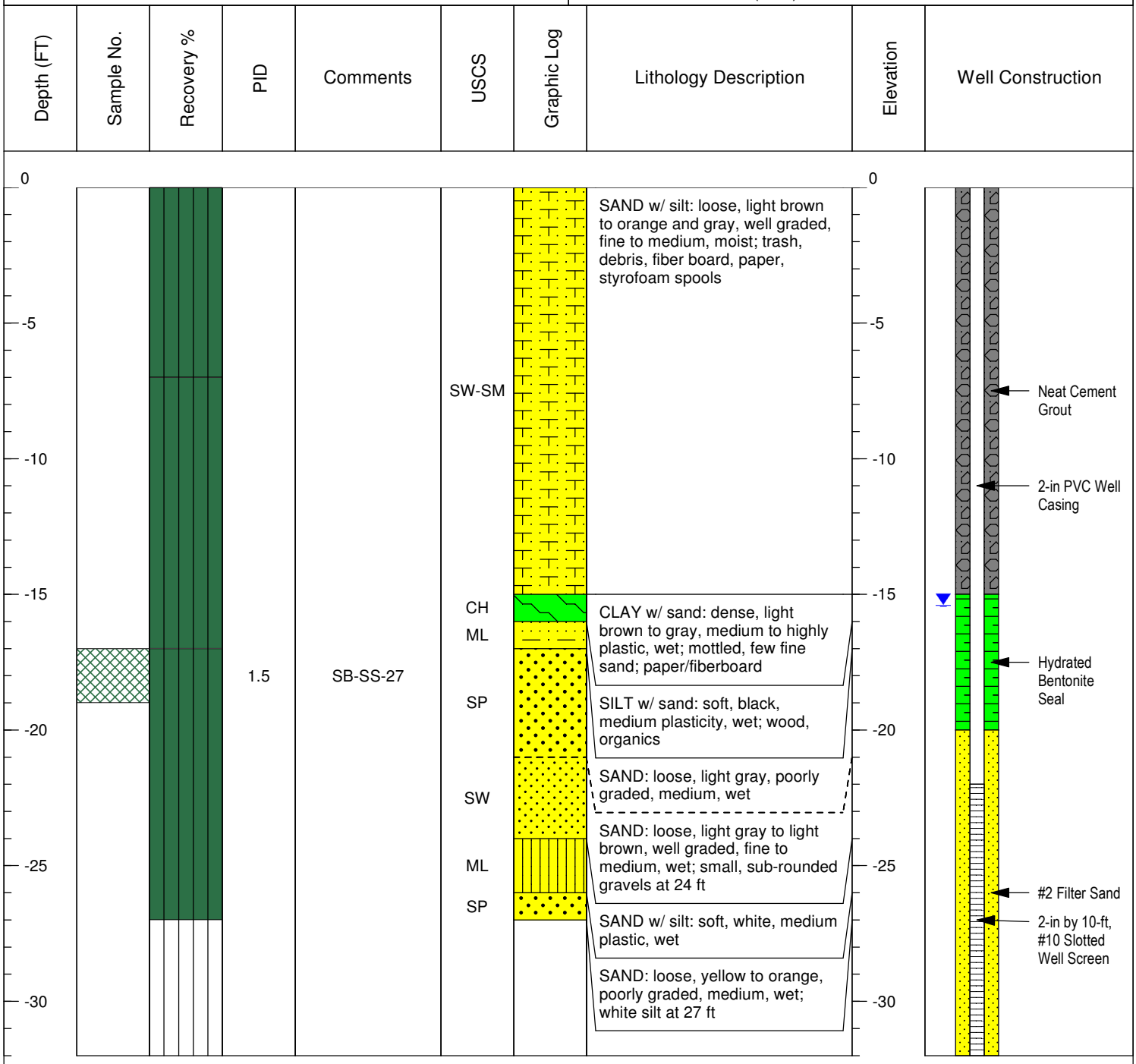
SOIL BORING / MONITORING WELL ID:

SB-27 / MW-16

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/14/14 COMPLETED: 7/14/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 167.40
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 932,141.38
DRILLING METHOD: Rotosonic	EASTING: 2,285,325.413
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 15.21 FT TOC



NOTES: TOC Elevation = 170.11

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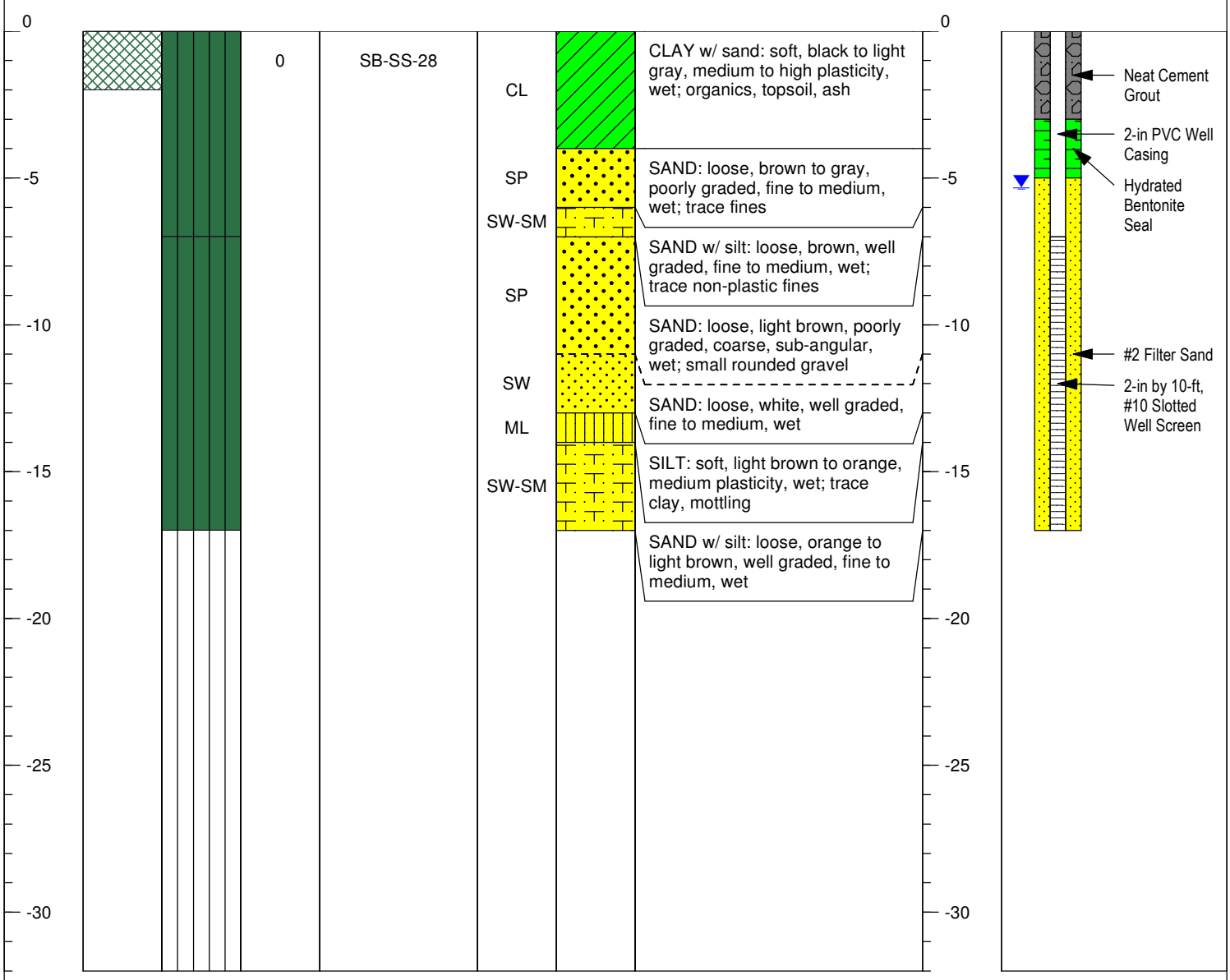
SOIL BORING / MONITORING WELL ID:

SB-28 / MW-13

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/14/14 COMPLETED: 7/14/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 156.89
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 931,533.648
DRILLING METHOD: Rotosonic	EASTING: 2,283,979.195
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 5.15 FT TOC



NOTES: TOC Elevation = 159.85

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SOIL BORING / MONITORING WELL ID:

SB-29 / MW-14

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/14/14 COMPLETED: 7/14/14	BOREHOLE DIAMETER: 4-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 158.75
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 931,700.264
DRILLING METHOD: Rotosonic	EASTING: 2,284,327.238
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 7.06 FT TOC

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			0	SB-SS-29	SP		SAND w/ silt: loose, dark brown, poorly graded, fine, moist	0	Neat Cement Grout
-5					SW		SAND: loose, light brown, well graded, fine to medium, dry; small rounded gravel at base, fiber board from 2.5-7 ft	-5	2-in PVC Well Casing; Hydrated Bentonite Seal
-10					SW		SAND: loose, light gray, well graded, fine to medium, wet; small, rounded gravel, trace fines at 16.5 ft	-10	#2 Filter Sand; 2-in by 10-ft, #10 Slotted Well Screen
-15								-15	
-20								-20	
-25								-25	
-30								-30	

NOTES: TOC Elevation = 162.01

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SOIL BORING / MONITORING WELL ID:

SB-30 / TW-01

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/17/14 COMPLETED: 7/17/14	BOREHOLE DIAMETER: 3-in
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: W. Keyes CERT. NO.:	NORTHING: 931,734.417
DRILLING METHOD: Hand Auger	EASTING: 2,284,840.417
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 1 FT BLS

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			0.1	SB-SS-30	OL		SILT: soft, black, low plasticity, wet; organics, wetland	0	Hydrated Bentonite Seal; 2-in PVC Well Casing; #2 Filter Sand; 2-in by 2-ft, #10 Slotted Well Screen
-5								-5	
-10								-10	
-15								-15	
-20								-20	
-25								-25	
-30								-30	

NOTES: Temporary well; abandoned following sampling

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SOIL BORING / MONITORING WELL ID:

SB-31 / TW-02

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/17/14 COMPLETED: 7/17/14	BOREHOLE DIAMETER: 3-in
DRILLING COMPANY: GEL Engineering, LLC	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: R. Gardner CERT. NO.:	NORTHING: 931,966.535
DRILLING METHOD: Hand Auger	EASTING: 2,285,259.389
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 1 FT BLS

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			1.3	SB-SS-31	OL		SILT w/ sand: loose, black, low-plasticity, wet; trace fine sand; organics, wetland	0	1-in PVC Well Casing
-5								-5	
-10					SW		SAND: loose, light brown, well sorted, fine to medium, wet	-10	1-in by 5-ft, #10 Slotted Well Screen
-15								-15	
-20								-20	
-25								-25	
-30								-30	

NOTES: Temporary monitoring well; abandoned following sampling

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SOIL BORING / MONITORING WELL ID:

SB-32 / TW-03

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/17/14 COMPLETED: 7/17/14	BOREHOLE DIAMETER: 3-in
DRILLING COMPANY: GEL Engineering, LLC	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: R. Gardner CERT. NO.:	NORTHING: 932,107.175
DRILLING METHOD: Hand Auger	EASTING: 2,285,506.389
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 1 FT BLS

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			1.6	SB-SS-32	OL		SILT w/ sand: loose, black, low-plasticity, wet; trace fine sand; organics, wetland	0	1-in PVC Well Casing
-5								-5	
					SW		SAND: loose, light brown, well sorted, fine to medium, wet		1-in by 5-ft, #10 Slotted Well Screen
-10								-10	
-15								-15	
-20								-20	
-25								-25	
-30								-30	

NOTES: Temporary monitoring well; abandoned following sampling

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SOIL BORING / MONITORING WELL ID:

SB-33 / MW-17

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/14/14 COMPLETED: 7/14/14	BOREHOLE DIAMETER: 6-inch
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 165.98
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 932,972.923
DRILLING METHOD: Rotosonic	EASTING: 2,286,057.622
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 4.77 FT TOC

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			3.5		SW		SAND: loose, light brown to dark green/gray, well graded, fine to coarse, sub-angular, wet below 4 ft; small, rounded gravels throughout, black liquor odor 14-15 ft	0	Neat Cement Grout; 2-in PVC Well Casing; Hydrated Bentonite Seal; #2 Filter Sand; 2-in by 10-ft, #10 Slotted Well Screen
-5			0.9					-5	
-10			1.2					-10	
-15			1.6					-15	
-20			1.7					-20	
-25			1.7					-25	
-30			1.9					-30	
			2.0						
			2.1						

NOTES: TOC Elevation = 169.54

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SOIL BORING / MONITORING WELL ID:

SB-34 / MW-18

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/14/14 COMPLETED: 7/14/14	BOREHOLE DIAMETER: 6-inch
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 169.12
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 933,073.339
DRILLING METHOD: Rotosonic	EASTING: 2,286,391.379
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 7.01 FT TOC

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			0.5		SW		SAND: loose, light brown to gray, yellow, well graded, fine to medium, moist; gray clay layer at 4 ft	0	Neat Cement Grout
-5			1.3					-5	2-in PVC Well Casing
			0		SW-SM		SAND w/ silt: loose, light brown to orange, poorly graded, medium, moist; trace non-plastic to plastic fines, ash at 7 ft		Hydrated Bentonite Seal
-10			0					-10	
			0				SAND: loose, light gray, poorly graded, coarse, sub-angular, clean, wet; small, sub-rounded gravels		#2 Filter Sand
			0		SP				2-in by 10-ft, #10 Slotted Well Screen
-15			0					-15	
			0						
-20								-20	
-25								-25	
-30								-30	

NOTES: TOC Elevation = 172.12

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SOIL BORING / MONITORING WELL ID:

SB-35 / MW-19

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/14/14 COMPLETED: 7/14/14	BOREHOLE DIAMETER: 6-inch
DRILLING COMPANY: SAEDACCO	GROUND SURFACE ELEVATION: 186.95
DRILLER: W. Keyes CERT. NO.: 2092	NORTHING: 933,657.359
DRILLING METHOD: Rotosonic	EASTING: 2,285,871.674
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): 22.61 FT TOC

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			1.3		SW-SM		SAND-SILT: loose, dark gray to orange-brown, well graded, medium to fine, moist; organic, roots, small rounded gravel	0	Neat Cement Grout
-5			1.0					-5	
			1.1						
			0.9						
-10			1.2		SP		SAND: loose, light brown to yellow, poorly graded, coarse, sub-angular, moist; trace plastic fines with depth	-10	2-in PVC Well Casing
			1.5						
			1.3						Hydrated Bentonite Seal
-15			1.5				SAND: loose, white to light gray, poorly graded, coarse, sub-angular, wet; trace plastic fines, small, rounded gravels	-15	
			0.3						
			0.9		SP				
-20			1.1					-20	#2 Filter Sand
			0.7						2-in by 10-ft, #10 Slotted Well Screen
-25			0.7		SW		SAND w/ clay: loose, white, well graded, fine to medium, wet; trace plastic fines, kaolinite lamination at 24 ft	-25	
			1.5		SP		SAND: loose, light brown to orange, poorly graded, medium, wet; small, rounded gravels, trace non-plastic fines 26-27 ft		
-30								-30	

NOTES: TOC Elevation = 190.40

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SOIL BORING / MONITORING WELL ID:

TP-01

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/16/14 COMPLETED: 7/16/14	BOREHOLE DIAMETER: Test Pit
DRILLING COMPANY: GEL Engineering, LLC	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: CERT. NO.:	NORTHING:
DRILLING METHOD: Back Hoe	EASTING:
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): NA

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			9.8	TP-SS-01 P (0-2')	SM		Silty Sand: Black, moist - Black liquor mixed with sand, tar consistency.	0	
			23.2		SW		Sand: Gray, well graded with round to subround grains, strong black liquor odor. Moist to wet @ 3'.		▼
-5			15.1	TP-SS-01 R (4.5')				-5	

NOTES: Former Black Liquor Pond Test Pit

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SOIL BORING / MONITORING WELL ID:

TP-02

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/16/14 COMPLETED: 7/16/14	BOREHOLE DIAMETER: Test Pit
DRILLING COMPANY: GEL Engineering, LLC	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: CERT. NO.:	NORTHING:
DRILLING METHOD: Back Hoe	EASTING:
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): NA

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0			202	TP-SS-02 P (0-2')	SC		Clayey Sand: Black, gray to dark brown, moist -Mixture of black liquor and clayey sand. Strong black liquor odor. Grass roots, organics @3.5' - former ground surface.	0	
			26.2						
-5			58.7	TP-SS-02 R (5')	SW		Sand: Brown to tan, well graded. Rounded larger grains. Strong black liquor odor.	-5	

NOTES: Former Black Liquor Pond Test Pit

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SOIL BORING / MONITORING WELL ID:

TP-03

PERMIT NO:	PERMIT DATE:
CLIENT: Sonoco Products Company	PROJECT NAME: Phase II Baseline Investigation
PROJECT NO.: SONO00514	PROJECT LOCATION: Hartsville, SC
DATE STARTED: 7/16/14 COMPLETED: 7/16/14	BOREHOLE DIAMETER: Test Pit
DRILLING COMPANY: GEL Engineering, LLC	GROUND SURFACE ELEVATION: Not Surveyed
DRILLER: CERT. NO.:	NORTHING:
DRILLING METHOD: Back Hoe	EASTING:
LOGGED BY: R. Gardner APPROVED BY: T. Putney	GROUNDWATER LEVEL (24 hr): NA

Depth (FT)	Sample No.	Recovery %	PID	Comments	USCS	Graphic Log	Lithology Description	Elevation	Well Construction
0							Clayey Sand: Gray to black - clayey sand with black liquor (starting @ 1.5')	0	
			3.4						
							Silty Sand: Dark gray, silty sand with black liquor, moderate black liquor odor, moist.		
			4.3						
							Clayey Sand: Black, clayey sand with black liquor, strong black liquor odor, salt crystals @ 8'		
-5			10.0					-5	
			14.3						
				TP-SS-03 P (8')					
			14.5				Clayey Sand: Brown to gray. Wet @ 9'		
				TP-SS-03 R (9')					

NOTES: Former Black Liquor Pond Test Pit

10162

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-04r **PUBLIC SYSTEM NUMBER:** MW-04r

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	15ft	15ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 15' well insatlled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 15' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 4' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 4' ft. to 15' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3. ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO.: 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/18/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

10162

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-13 **PUBLIC SYSTEM NUMBER:** MW-13

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	17ft	17ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 17' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 17' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 4' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 5' ft. to 17' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe_____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO. 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/18/2014
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-14 **PUBLIC SYSTEM NUMBER:** MW-14

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	17ft	17ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 17' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 17' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 4' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 5' ft. to 17' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe_____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO. 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/18/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-15 **PUBLIC SYSTEM NUMBER:** MW-15

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	32ft	32ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 32' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 32' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 14' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 20' ft. to 32' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 15 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO.: 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/18/2014
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-16 **PUBLIC SYSTEM NUMBER:** MW-16

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	32ft	32ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 32' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 32' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 14' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 20' ft. to 32' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 15 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO. 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Well Driller Date: 7/18/2014

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-17 **PUBLIC SYSTEM NUMBER:** MW-17

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	17ft	17ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 17' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 7-14-14
17' ft. Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 4' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 5' ft. to 17' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe_____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO.: 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/18/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-18 **PUBLIC SYSTEM NUMBER:** MW-18

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	17ft	17ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 17' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 17' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 4' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 5' ft. to 17' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe_____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO.: 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Will Keyes Well Driller Date: 7/18/2014

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N Second Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: 843 Home: 319-0905

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sunoco Products
Street Address: 723 Patrick Highway
City: Hartsville, South Zip: Carolina 29550
Latitude: 34.391 Longitude: 80.0542

3. PUBLIC SYSTEM NAME: MW-19 **PUBLIC SYSTEM NUMBER:** MW-19

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
silty sands	27ft	27ft
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 27' well drilled using sonic drilling method

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 27' ft. Date Started: 7-14-14 Date Completed: 7-14-14

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL 14' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 15' ft. to 27' ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 0 ft. _____ direction
Type Land Fill
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO.: 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803)548-2180 Fax No.: (803)548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/18/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N. 2nd Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: (843) 319-0905 Home:

2. LOCATION OF WELL: **COUNTY:** Darlington
Name: Sonoco Products
Street Address: 723 Patrick Highway
City: Hartsville, SC Zip:
Latitude: 34 23 26.19063 Longitude: 80 03 20.70026

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0 ft. to 3 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologists Log		
Temporary well installed with hand		
auger - Abandoned after sampling		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
TW-01

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 7/17/2014
3 ft. Date Completed: 7/17/2014

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2 in. to 1 ft. depth
in. to ft. depth
Height: Above ☐ Below ☐
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Slotted PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 2'
Set Between: 1 ft. and 3 ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☑ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 0.5 ft. to 3 ft.
Effective size #2 Uniformity Coefficient

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other bent.0-0.5'
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type NA
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date installed: Not installed ☑
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Steve Rucker **CERT. NO.:** 1330
Address: (Print) Level: A B C D (circle one) ☐ ☑ ☐ ☐
GEL Engineering, LLC,
2040 Savage Road, Charleston, SC
Telephone No.: 843-769-7378 Fax No.: 843-769-7397

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Well Driller Date: 7/17/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N. 2nd Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: (843) 319-0905 Home:

2. LOCATION OF WELL: COUNTY: Darlington
Name: Sonoco Products
Street Address: 723 Patrick Highway
City: Hartsville, SC Zip:
Latitude: 34 23 28.44899 Longitude: 80 03 15.67517

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0 ft. to 9 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologists Log		
Temporary well installed with hand		
auger - Abandoned after sampling		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
TW-02

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 7/30/2014
9 ft. Date Completed: 7/30/2014

10. CASING: ☑ Threaded ☐ Welded
Diam.: 1"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
1 in. to 4 ft. depth
in. to ft. depth
Height: Above ☐ Below ☐
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Slotted PVC Diam.: 1"
Slot/Gauge: 0.01 Length: 5'
Set Between: 4 ft. and 9 ft.
ft. and ft.
Sieve Analysis ☐ Yes (please enclose) ☐ No
NOTE: MULTIPLE SCREENS USE SECOND SHEET

12. STATIC WATER LEVEL ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☑ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☐ Yes ☑ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type NA
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date installed: Not installed ☑
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Steve Rucker CERT. NO.: 1330
Address: (Print) Level: A B C D (circle one) ☐ ☑ ☐ ☐
GEL Engineering, LLC,
2040 Savage Road, Charleston, SC
Telephone No.: 843-769-7378 Fax No.: 843-769-7397

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Steve Rucker Well Driller Date: 7/30/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Sonoco Products Company (last) (first)
Address: N. 2nd Street
City: Hartsville State: SC Zip: 29550
Telephone: Work: (843) 319-0905 Home:

2. LOCATION OF WELL: **COUNTY:** Darlington
Name: Sonoco Products
Street Address: 723 Patrick Highway
City: Hartsville, SC Zip:
Latitude: 34 23 29.95669 Longitude: 80 03 13.53317

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0 ft. to 9 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologists Log		
Temporary well installed with hand		
auger - Abandoned after sampling		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
TW-03

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 9 ft. Date Started: 7/30/2014 Date Completed: 7/30/2014

10. CASING: ☑ Threaded ☐ Welded
Diam.: 1"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
1 in. to 4 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Slotted PVC Diam.: 1"
Slot/Gauge: 0.01 Length: 5'
Set Between: 4 ft. and 9 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☑ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☑ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type NA
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☑
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Steve Rucker **CERT. NO.:** 1330
Address: (Print) Level: A ☐ B ☑ C ☐ D ☐ (circle one)
GEL Engineering, LLC,
2040 Savage Road, Charleston, SC
Telephone No.: 843-769-7378 Fax No.: 843-769-7397

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Steve Rucker (Well Driller) Date: 7/30/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Appendix III

Soil Sample Certificates of Analysis and Chain of Custody Forms

GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

August 01, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 352745

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 16, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 352745 GEL Work Order: 352745

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J Value is estimated

N Metals−−The Matrix spike sample recovery is not within specified control limits

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by Jacob W Crook

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-28
Sample ID: 352745001
Matrix: Soil
Collect Date: 14-JUL-14 15:45
Receive Date: 16-JUL-14
Collector: Client
Moisture: 19.4%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	96.0	287	ug/kg	1	AXH3	07/24/14	1135	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		31.6	4.98	14.9	ug/Kg	1	MTM1	07/18/14	1000	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	388	1180	ug/kg	1	JWJ	07/29/14	0002	1403882	3
Silver	U	ND	118	588	ug/kg	1					
Vanadium		12700	118	588	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium		575	23.6	118	ug/kg	2	PRB	07/29/14	0242	1403878	4
Calcium		444000	7770	23600	ug/kg	2					
Sodium		79100	18800	58900	ug/kg	2					
Aluminum		6180000	3530	11800	ug/kg	2	PRB	07/31/14	0100	1403878	5
Arsenic		3580	236	1180	ug/kg	2					
Barium		58200	118	471	ug/kg	2					
Cadmium	J	101	23.6	236	ug/kg	2					
Chromium		6800	236	707	ug/kg	2					
Cobalt		1320	70.7	236	ug/kg	2					
Copper		11100	77.7	236	ug/kg	2					
Iron		2190000	7770	23600	ug/kg	2					
Lead		5930	118	471	ug/kg	2					
Magnesium		202000	2360	7070	ug/kg	2					
Manganese		15200	236	1180	ug/kg	2					
Nickel		4140	118	471	ug/kg	2					
Selenium	J	588	389	1180	ug/kg	2					
Thallium	J	237	70.7	471	ug/kg	2					
Zinc		7350	471	2360	ug/kg	2					
Potassium		361000	18800	70700	ug/kg	2	PRB	08/01/14	0821	1403878	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	123	411	ug/kg	1	JLD1	07/22/14	1430	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	123	411	ug/kg	1					

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-28 Project: SONO00514C
Sample ID: 352745001 Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	12.3	41.1	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	123	411	ug/kg	1
2,4,5-Trichlorophenol	U	ND	123	411	ug/kg	1
2,4,6-Trichlorophenol	U	ND	123	411	ug/kg	1
2,4-Dichlorophenol	U	ND	123	411	ug/kg	1
2,4-Dimethylphenol	U	ND	123	411	ug/kg	1
2,4-Dinitrophenol	U	ND	123	821	ug/kg	1
2,4-Dinitrotoluene	U	ND	123	411	ug/kg	1
2,6-Dinitrotoluene	U	ND	123	411	ug/kg	1
2-Chloronaphthalene	U	ND	12.3	41.1	ug/kg	1
2-Chlorophenol	U	ND	123	411	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	123	411	ug/kg	1
2-Methylnaphthalene	U	ND	12.3	41.1	ug/kg	1
2-Nitrophenol	U	ND	123	411	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	123	411	ug/kg	1
4-Bromophenylphenylether	U	ND	123	411	ug/kg	1
4-Chloro-3-methylphenol	U	ND	164	411	ug/kg	1
4-Chloroaniline	U	ND	123	411	ug/kg	1
4-Chlorophenylphenylether	U	ND	123	411	ug/kg	1
4-Nitrophenol	U	ND	123	411	ug/kg	1
Acenaphthene	J	22.2	12.3	41.1	ug/kg	1
Acenaphthylene	U	ND	12.3	41.1	ug/kg	1
Acetophenone	U	ND	123	411	ug/kg	1
Anthracene		48.9	12.3	41.1	ug/kg	1
Atrazine	U	ND	164	411	ug/kg	1
Benzaldehyde	U	ND	123	411	ug/kg	1
Benzo(a)anthracene		246	12.3	41.1	ug/kg	1
Benzo(a)pyrene		259	12.3	41.1	ug/kg	1
Benzo(b)fluoranthene		397	12.3	41.1	ug/kg	1
Benzo(ghi)perylene		98.1	12.3	41.1	ug/kg	1
Benzo(k)fluoranthene		132	12.3	41.1	ug/kg	1
Butylbenzylphthalate	U	ND	123	411	ug/kg	1
Caprolactam	U	ND	123	411	ug/kg	1
Carbazole	J	38.2	12.3	41.1	ug/kg	1
Chrysene		269	12.3	41.1	ug/kg	1
Di-n-butylphthalate	U	ND	123	411	ug/kg	1

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28	Project:	SONO00514C
Sample ID:	352745001	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	123	411	ug/kg	1						
Dibenzo(a,h)anthracene	J	31.2	12.3	41.1	ug/kg	1						
Dibenzofuran	U	ND	123	411	ug/kg	1						
Diethylphthalate	U	ND	123	411	ug/kg	1						
Dimethylphthalate	U	ND	123	411	ug/kg	1						
Diphenylamine	U	ND	123	411	ug/kg	1						
Fluoranthene		403	12.3	41.1	ug/kg	1						
Fluorene	J	20.9	12.3	41.1	ug/kg	1						
Hexachlorobenzene	U	ND	123	411	ug/kg	1						
Hexachlorobutadiene	U	ND	123	411	ug/kg	1						
Hexachlorocyclopentadiene	U	ND	123	411	ug/kg	1						
Hexachloroethane	U	ND	123	411	ug/kg	1						
Indeno(1,2,3-cd)pyrene		119	12.3	41.1	ug/kg	1						
Isophorone	U	ND	123	411	ug/kg	1						
N-Nitrosodipropylamine	U	ND	123	411	ug/kg	1						
Naphthalene	J	20.9	12.3	41.1	ug/kg	1						
Nitrobenzene	U	ND	123	411	ug/kg	1						
Pentachlorophenol	U	ND	123	411	ug/kg	1						
Phenanthrene		181	12.3	41.1	ug/kg	1						
Phenol	U	ND	123	411	ug/kg	1						
Pyrene		400	12.3	41.1	ug/kg	1						
bis(2-Chloro-1-methylethyl)ether	U	ND	123	411	ug/kg	1						
bis(2-Chloroethoxy)methane	U	ND	123	411	ug/kg	1						
bis(2-Chloroethyl) ether	U	ND	123	411	ug/kg	1						
bis(2-Ethylhexyl)phthalate	U	ND	123	411	ug/kg	1						
m,p-Cresols	U	ND	123	411	ug/kg	1						
m-Nitroaniline	U	ND	123	411	ug/kg	1						
o-Cresol	U	ND	123	411	ug/kg	1						
o-Nitroaniline	U	ND	135	411	ug/kg	1						
p-Nitroaniline	U	ND	123	411	ug/kg	1						

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	0.687	0.0996	0.332	mg/kg	1	EXM3	07/18/14	1137	1404102	8

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-28 Project: SONO00514C
Sample ID: 352745001 Client ID: GEEL003

Volatile Organics
5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.300	0.899	ug/kg	1	GRB2	07/25/14	1707	1406788	9
1,1,2,2-Tetrachloroethane	U	ND	0.300	0.899	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.300	0.899	ug/kg	1					
1,1-Dichloroethane	U	ND	0.300	0.899	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.300	0.899	ug/kg	1					
1,2-Dichloroethane	U	ND	0.300	0.899	ug/kg	1					
1,2-Dichloropropane	U	ND	0.300	0.899	ug/kg	1					
2-Butanone	J	1.58	1.50	4.50	ug/kg	1					
2-Hexanone	U	ND	1.50	4.50	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.50	4.50	ug/kg	1					
Acetone		6.44	1.50	4.50	ug/kg	1					
Benzene	U	ND	0.300	0.899	ug/kg	1					
Bromodichloromethane	U	ND	0.300	0.899	ug/kg	1					
Bromoform	U	ND	0.300	0.899	ug/kg	1					
Bromomethane	U	ND	0.300	0.899	ug/kg	1					
Carbon disulfide	U	ND	1.50	4.50	ug/kg	1					
Carbon tetrachloride	U	ND	0.300	0.899	ug/kg	1					
Chlorobenzene	U	ND	0.300	0.899	ug/kg	1					
Chloroethane	U	ND	0.300	0.899	ug/kg	1					
Chloroform	U	ND	0.300	0.899	ug/kg	1					
Chloromethane	U	ND	0.300	0.899	ug/kg	1					
Dibromochloromethane	U	ND	0.300	0.899	ug/kg	1					
Ethylbenzene	U	ND	0.300	0.899	ug/kg	1					
Methylene chloride	U	ND	1.50	4.50	ug/kg	1					
Styrene	U	ND	0.300	0.899	ug/kg	1					
Tetrachloroethylene	U	ND	0.300	0.899	ug/kg	1					
Toluene	U	ND	0.300	0.899	ug/kg	1					
Trichloroethylene	U	ND	0.300	0.899	ug/kg	1					
Vinyl acetate	U	ND	1.50	4.50	ug/kg	1					
Vinyl chloride	U	ND	0.300	0.899	ug/kg	1					
Xylenes (total)	U	ND	0.899	2.70	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.300	0.899	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.300	0.899	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.300	0.899	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.300	0.899	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28	Project:	SONO00514C
Sample ID:	352745001	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/14/14	1545	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	
9	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1280 ug/kg	2050	62.4	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1350 ug/kg	2050	66.0	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1390 ug/kg	2050	67.6	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2810 ug/kg	4110	68.4	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2380 ug/kg	4110	58.0	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2420 ug/kg	4110	58.9	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	44.3 ug/kg	50.0	98.4	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	45.7 ug/kg	50.0	102	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	43.2 ug/kg	50.0	96.0	(80%-120%)

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28	Project:	SONO00514C
Sample ID:	352745001	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-24
Sample ID: 352745002
Matrix: Soil
Collect Date: 14-JUL-14 15:00
Receive Date: 16-JUL-14
Collector: Client
Moisture: 25.3%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	105	316	ug/kg	1	AXH3	07/24/14	1138	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	J	7.42	5.12	15.3	ug/Kg	1	MTM1	07/18/14	1010	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	426	1290	ug/kg	1	JWJ	07/29/14	0013	1403882	3
Silver	U	ND	129	646	ug/kg	1					
Vanadium		1230	129	646	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium	J	27.4	24.4	122	ug/kg	2	PRB	07/29/14	0336	1403878	4
Calcium		50600	8060	24400	ug/kg	2					
Sodium		158000	19500	61100	ug/kg	2					
Aluminum		1040000	3660	12200	ug/kg	2	PRB	07/31/14	0147	1403878	5
Arsenic	U	ND	244	1220	ug/kg	2					
Barium		1370	122	489	ug/kg	2					
Cadmium	U	ND	24.4	244	ug/kg	2					
Chromium		2900	244	733	ug/kg	2					
Cobalt	U	ND	73.3	244	ug/kg	2					
Copper		1930	80.6	244	ug/kg	2					
Iron		475000	8060	24400	ug/kg	2					
Lead		2540	122	489	ug/kg	2					
Magnesium		46100	2440	7330	ug/kg	2					
Manganese		1330	244	1220	ug/kg	2					
Nickel	J	295	122	489	ug/kg	2					
Selenium	U	ND	403	1220	ug/kg	2					
Thallium	U	ND	73.3	489	ug/kg	2					
Zinc	J	499	489	2440	ug/kg	2					
Potassium		84000	19500	73300	ug/kg	2	PRB	08/01/14	0850	1403878	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	134	445	ug/kg	1	JLD1	07/23/14	2110	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	134	445	ug/kg	1					

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-24	Project:	SONO00514C
Sample ID:	352745002	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	13.4	44.5	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	134	445	ug/kg	1
2,4,5-Trichlorophenol	U	ND	134	445	ug/kg	1
2,4,6-Trichlorophenol	U	ND	134	445	ug/kg	1
2,4-Dichlorophenol	U	ND	134	445	ug/kg	1
2,4-Dimethylphenol	U	ND	134	445	ug/kg	1
2,4-Dinitrophenol	U	ND	134	891	ug/kg	1
2,4-Dinitrotoluene	U	ND	134	445	ug/kg	1
2,6-Dinitrotoluene	U	ND	134	445	ug/kg	1
2-Chloronaphthalene	U	ND	13.4	44.5	ug/kg	1
2-Chlorophenol	U	ND	134	445	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	134	445	ug/kg	1
2-Methylnaphthalene	U	ND	13.4	44.5	ug/kg	1
2-Nitrophenol	U	ND	134	445	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	134	445	ug/kg	1
4-Bromophenylphenylether	U	ND	134	445	ug/kg	1
4-Chloro-3-methylphenol	U	ND	178	445	ug/kg	1
4-Chloroaniline	U	ND	134	445	ug/kg	1
4-Chlorophenylphenylether	U	ND	134	445	ug/kg	1
4-Nitrophenol	U	ND	134	445	ug/kg	1
Acenaphthene	J	16.0	13.4	44.5	ug/kg	1
Acenaphthylene	U	ND	13.4	44.5	ug/kg	1
Acetophenone	U	ND	134	445	ug/kg	1
Anthracene	J	38.3	13.4	44.5	ug/kg	1
Atrazine	U	ND	178	445	ug/kg	1
Benzaldehyde	U	ND	134	445	ug/kg	1
Benzo(a)anthracene		142	13.4	44.5	ug/kg	1
Benzo(a)pyrene		140	13.4	44.5	ug/kg	1
Benzo(b)fluoranthene		203	13.4	44.5	ug/kg	1
Benzo(ghi)perylene		59.2	13.4	44.5	ug/kg	1
Benzo(k)fluoranthene		75.3	13.4	44.5	ug/kg	1
Butylbenzylphthalate	U	ND	134	445	ug/kg	1
Caprolactam	U	ND	134	445	ug/kg	1
Carbazole	J	29.4	13.4	44.5	ug/kg	1
Chrysene		152	13.4	44.5	ug/kg	1
Di-n-butylphthalate	U	ND	134	445	ug/kg	1

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-24	Project:	SONO00514C
Sample ID:	352745002	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	134	445	ug/kg	1					
Dibenzo(a,h)anthracene	J	19.1	13.4	44.5	ug/kg	1					
Dibenzofuran	U	ND	134	445	ug/kg	1					
Diethylphthalate	U	ND	134	445	ug/kg	1					
Dimethylphthalate	U	ND	134	445	ug/kg	1					
Diphenylamine	U	ND	134	445	ug/kg	1					
Fluoranthene		212	13.4	44.5	ug/kg	1					
Fluorene	J	18.7	13.4	44.5	ug/kg	1					
Hexachlorobenzene	U	ND	134	445	ug/kg	1					
Hexachlorobutadiene	U	ND	134	445	ug/kg	1					
Hexachlorocyclopentadiene	U	ND	134	445	ug/kg	1					
Hexachloroethane	U	ND	134	445	ug/kg	1					
Indeno(1,2,3-cd)pyrene		60.6	13.4	44.5	ug/kg	1					
Isophorone	U	ND	134	445	ug/kg	1					
N-Nitrosodipropylamine	U	ND	134	445	ug/kg	1					
Naphthalene	U	ND	13.4	44.5	ug/kg	1					
Nitrobenzene	U	ND	134	445	ug/kg	1					
Pentachlorophenol	U	ND	134	445	ug/kg	1					
Phenanthrene		128	13.4	44.5	ug/kg	1					
Phenol	U	ND	134	445	ug/kg	1					
Pyrene		204	13.4	44.5	ug/kg	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	134	445	ug/kg	1					
bis(2-Chloroethoxy)methane	U	ND	134	445	ug/kg	1					
bis(2-Chloroethyl) ether	U	ND	134	445	ug/kg	1					
bis(2-Ethylhexyl)phthalate	U	ND	134	445	ug/kg	1					
m,p-Cresols	U	ND	134	445	ug/kg	1					
m-Nitroaniline	U	ND	134	445	ug/kg	1					
o-Cresol	U	ND	134	445	ug/kg	1					
o-Nitroaniline	U	ND	147	445	ug/kg	1					
p-Nitroaniline	U	ND	134	445	ug/kg	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	0.451	0.127	0.422	mg/kg	1	EXM3	07/18/14	1138	1404102	8	

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Certificate of Analysis

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Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-24 Project: SONO00514C
Sample ID: 352745002 Client ID: GEEL003

Volatile Organics
5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.338	1.01	ug/kg	1	ACJ	07/28/14	1320	1406788	9
1,1,2,2-Tetrachloroethane	U	ND	0.338	1.01	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.338	1.01	ug/kg	1					
1,1-Dichloroethane	U	ND	0.338	1.01	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.338	1.01	ug/kg	1					
1,2-Dichloroethane	U	ND	0.338	1.01	ug/kg	1					
1,2-Dichloropropane	U	ND	0.338	1.01	ug/kg	1					
2-Butanone	J	3.49	1.69	5.07	ug/kg	1					
2-Hexanone	U	ND	1.69	5.07	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.69	5.07	ug/kg	1					
Acetone		13.6	1.69	5.07	ug/kg	1					
Benzene	U	ND	0.338	1.01	ug/kg	1					
Bromodichloromethane	U	ND	0.338	1.01	ug/kg	1					
Bromoform	U	ND	0.338	1.01	ug/kg	1					
Bromomethane	U	ND	0.338	1.01	ug/kg	1					
Carbon disulfide	J	2.03	1.69	5.07	ug/kg	1					
Carbon tetrachloride	U	ND	0.338	1.01	ug/kg	1					
Chlorobenzene	U	ND	0.338	1.01	ug/kg	1					
Chloroethane	U	ND	0.338	1.01	ug/kg	1					
Chloroform	U	ND	0.338	1.01	ug/kg	1					
Chloromethane	U	ND	0.338	1.01	ug/kg	1					
Dibromochloromethane	U	ND	0.338	1.01	ug/kg	1					
Ethylbenzene	U	ND	0.338	1.01	ug/kg	1					
Methylene chloride	U	ND	1.69	5.07	ug/kg	1					
Styrene	U	ND	0.338	1.01	ug/kg	1					
Tetrachloroethylene	U	ND	0.338	1.01	ug/kg	1					
Toluene	U	ND	0.338	1.01	ug/kg	1					
Trichloroethylene	U	ND	0.338	1.01	ug/kg	1					
Vinyl acetate	U	ND	1.69	5.07	ug/kg	1					
Vinyl chloride	U	ND	0.338	1.01	ug/kg	1					
Xylenes (total)	U	ND	1.01	3.04	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.338	1.01	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.338	1.01	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.338	1.01	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.338	1.01	ug/kg	1					

The following Prep Methods were performed:

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Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-24	Project:	SONO00514C
Sample ID:	352745002	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/14/14	1500	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	
9	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1520 ug/kg	2230	68.4	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1510 ug/kg	2230	67.7	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1590 ug/kg	2230	71.5	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3060 ug/kg	4450	68.8	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2660 ug/kg	4450	59.8	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2190 ug/kg	4450	49.3	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	49.7 ug/kg	50.0	97.9	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	56.8 ug/kg	50.0	112	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	52.2 ug/kg	50.0	103	(80%-120%)

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Certificate of Analysis

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-24	Project:	SONO00514C
Sample ID:	352745002	Client ID:	GEEL003

Notes:

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Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-28-D
Project: SONO00514C
Sample ID: 352745003
Client ID: GEEL003
Matrix: Soil
Collect Date: 14-JUL-14 15:45
Receive Date: 16-JUL-14
Collector: Client
Moisture: 21%

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	99.7	298	ug/kg	1	AXH3	07/24/14	1143	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		27.4	4.83	14.4	ug/Kg	1	MTM1	07/18/14	1012	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	J	612	407	1230	ug/kg	1	JWJ	07/29/14	2327	1403882	3
Silver	U	ND	123	617	ug/kg	1					
Vanadium		18800	123	617	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium		1150	25.0	125	ug/kg	2	PRB	07/29/14	0343	1403878	4
Calcium		735000	8250	25000	ug/kg	2					
Sodium		172000	20000	62500	ug/kg	2					
Aluminum		6010000	3750	12500	ug/kg	2	PRB	07/31/14	0153	1403878	5
Arsenic		5460	250	1250	ug/kg	2					
Barium		119000	125	500	ug/kg	2					
Cadmium	J	157	25.0	250	ug/kg	2					
Chromium		8370	250	750	ug/kg	2					
Cobalt		2470	75.0	250	ug/kg	2					
Copper		18800	82.5	250	ug/kg	2					
Iron		3230000	8250	25000	ug/kg	2					
Lead		7990	125	500	ug/kg	2					
Magnesium		296000	2500	7500	ug/kg	2					
Manganese		19000	250	1250	ug/kg	2					
Nickel		6380	125	500	ug/kg	2					
Selenium		1370	413	1250	ug/kg	2					
Thallium	J	362	75.0	500	ug/kg	2					
Zinc		10200	500	2500	ug/kg	2					
Potassium		731000	20000	75000	ug/kg	2	PRB	08/01/14	0854	1403878	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	126	420	ug/kg	1	JLD1	07/22/14	1634	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	126	420	ug/kg	1					

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Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28-D	Project:	SONO00514C
Sample ID:	352745003	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	12.6	42.0	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	126	420	ug/kg	1
2,4,5-Trichlorophenol	U	ND	126	420	ug/kg	1
2,4,6-Trichlorophenol	U	ND	126	420	ug/kg	1
2,4-Dichlorophenol	U	ND	126	420	ug/kg	1
2,4-Dimethylphenol	U	ND	126	420	ug/kg	1
2,4-Dinitrophenol	U	ND	126	841	ug/kg	1
2,4-Dinitrotoluene	U	ND	126	420	ug/kg	1
2,6-Dinitrotoluene	U	ND	126	420	ug/kg	1
2-Chloronaphthalene	U	ND	12.6	42.0	ug/kg	1
2-Chlorophenol	U	ND	126	420	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	126	420	ug/kg	1
2-Methylnaphthalene	U	ND	12.6	42.0	ug/kg	1
2-Nitrophenol	U	ND	126	420	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	126	420	ug/kg	1
4-Bromophenylphenylether	U	ND	126	420	ug/kg	1
4-Chloro-3-methylphenol	U	ND	168	420	ug/kg	1
4-Chloroaniline	U	ND	126	420	ug/kg	1
4-Chlorophenylphenylether	U	ND	126	420	ug/kg	1
4-Nitrophenol	U	ND	126	420	ug/kg	1
Acenaphthene	U	ND	12.6	42.0	ug/kg	1
Acenaphthylene	U	ND	12.6	42.0	ug/kg	1
Acetophenone	U	ND	126	420	ug/kg	1
Anthracene	J	14.7	12.6	42.0	ug/kg	1
Atrazine	U	ND	168	420	ug/kg	1
Benzaldehyde	U	ND	126	420	ug/kg	1
Benzo(a)anthracene		84.5	12.6	42.0	ug/kg	1
Benzo(a)pyrene		87.9	12.6	42.0	ug/kg	1
Benzo(b)fluoranthene		132	12.6	42.0	ug/kg	1
Benzo(ghi)perylene	J	32.0	12.6	42.0	ug/kg	1
Benzo(k)fluoranthene	J	40.4	12.6	42.0	ug/kg	1
Butylbenzylphthalate	U	ND	126	420	ug/kg	1
Caprolactam	U	ND	126	420	ug/kg	1
Carbazole	J	12.6	12.6	42.0	ug/kg	1
Chrysene		89.6	12.6	42.0	ug/kg	1
Di-n-butylphthalate	U	ND	126	420	ug/kg	1

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Report Date: August 1, 2014

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Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28-D	Project:	SONO00514C
Sample ID:	352745003	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	126	420	ug/kg	1					
Dibenzo(a,h)anthracene	U	ND	12.6	42.0	ug/kg	1					
Dibenzofuran	U	ND	126	420	ug/kg	1					
Diethylphthalate	U	ND	126	420	ug/kg	1					
Dimethylphthalate	U	ND	126	420	ug/kg	1					
Diphenylamine	U	ND	126	420	ug/kg	1					
Fluoranthene		131	12.6	42.0	ug/kg	1					
Fluorene	U	ND	12.6	42.0	ug/kg	1					
Hexachlorobenzene	U	ND	126	420	ug/kg	1					
Hexachlorobutadiene	U	ND	126	420	ug/kg	1					
Hexachlorocyclopentadiene	U	ND	126	420	ug/kg	1					
Hexachloroethane	U	ND	126	420	ug/kg	1					
Indeno(1,2,3-cd)pyrene	J	35.3	12.6	42.0	ug/kg	1					
Isophorone	U	ND	126	420	ug/kg	1					
N-Nitrosodipropylamine	U	ND	126	420	ug/kg	1					
Naphthalene	U	ND	12.6	42.0	ug/kg	1					
Nitrobenzene	U	ND	126	420	ug/kg	1					
Pentachlorophenol	U	ND	126	420	ug/kg	1					
Phenanthrene		59.3	12.6	42.0	ug/kg	1					
Phenol	U	ND	126	420	ug/kg	1					
Pyrene		148	12.6	42.0	ug/kg	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	126	420	ug/kg	1					
bis(2-Chloroethoxy)methane	U	ND	126	420	ug/kg	1					
bis(2-Chloroethyl) ether	U	ND	126	420	ug/kg	1					
bis(2-Ethylhexyl)phthalate	U	ND	126	420	ug/kg	1					
m,p-Cresols	U	ND	126	420	ug/kg	1					
m-Nitroaniline	U	ND	126	420	ug/kg	1					
o-Cresol	U	ND	126	420	ug/kg	1					
o-Nitroaniline	U	ND	139	420	ug/kg	1					
p-Nitroaniline	U	ND	126	420	ug/kg	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.143	0.476	mg/kg	1	EXM3	07/18/14	1138	1404102	8

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28-D	Project:	SONO00514C
Sample ID:	352745003	Client ID:	GEEL003

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.305	0.917	ug/kg	1	GRB2	07/25/14	1806	1406788	9
1,1,2,2-Tetrachloroethane	U	ND	0.305	0.917	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.305	0.917	ug/kg	1					
1,1-Dichloroethane	U	ND	0.305	0.917	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.305	0.917	ug/kg	1					
1,2-Dichloroethane	U	ND	0.305	0.917	ug/kg	1					
1,2-Dichloropropane	U	ND	0.305	0.917	ug/kg	1					
2-Butanone	J	1.68	1.53	4.58	ug/kg	1					
2-Hexanone	U	ND	1.53	4.58	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.53	4.58	ug/kg	1					
Acetone		7.76	1.53	4.58	ug/kg	1					
Benzene	U	ND	0.305	0.917	ug/kg	1					
Bromodichloromethane	U	ND	0.305	0.917	ug/kg	1					
Bromoform	U	ND	0.305	0.917	ug/kg	1					
Bromomethane	U	ND	0.305	0.917	ug/kg	1					
Carbon disulfide	U	ND	1.53	4.58	ug/kg	1					
Carbon tetrachloride	U	ND	0.305	0.917	ug/kg	1					
Chlorobenzene	U	ND	0.305	0.917	ug/kg	1					
Chloroethane	U	ND	0.305	0.917	ug/kg	1					
Chloroform	U	ND	0.305	0.917	ug/kg	1					
Chloromethane	U	ND	0.305	0.917	ug/kg	1					
Dibromochloromethane	U	ND	0.305	0.917	ug/kg	1					
Ethylbenzene	U	ND	0.305	0.917	ug/kg	1					
Methylene chloride	U	ND	1.53	4.58	ug/kg	1					
Styrene	U	ND	0.305	0.917	ug/kg	1					
Tetrachloroethylene	U	ND	0.305	0.917	ug/kg	1					
Toluene	U	ND	0.305	0.917	ug/kg	1					
Trichloroethylene	U	ND	0.305	0.917	ug/kg	1					
Vinyl acetate	U	ND	1.53	4.58	ug/kg	1					
Vinyl chloride	U	ND	0.305	0.917	ug/kg	1					
Xylenes (total)	U	ND	0.917	2.75	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.305	0.917	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.305	0.917	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.305	0.917	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.305	0.917	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 1, 2014

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-28-D
Sample ID: 352745003
Project: SONO00514C
Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/14/14	1545	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	
9	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1440 ug/kg	2100	68.5	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1340 ug/kg	2100	63.9	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1690 ug/kg	2100	80.4	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3090 ug/kg	4200	73.5	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2630 ug/kg	4200	62.6	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2750 ug/kg	4200	65.4	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	46.1 ug/kg	50.0	101	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	46.9 ug/kg	50.0	102	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	44.3 ug/kg	50.0	96.6	(80%-120%)

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-28-D	Project:	SONO00514C
Sample ID:	352745003	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TB-071514
Sample ID: 352745004
Matrix: Water
Collect Date: 15-JUL-14 09:04
Receive Date: 16-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	RXY1	07/22/14	1125	1405334	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

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Report Date: August 1, 2014

Company :	GEL Engineering
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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TB-071514	Project:	SONO00514C
Sample ID:	352745004	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	59.8 ug/L	50.0	120	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	51.7 ug/L	50.0	103	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	50.8 ug/L	50.0	102	(80%-120%)

Notes:

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Company : GEL Engineering
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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-25
Sample ID: 352745005
Matrix: Soil
Collect Date: 15-JUL-14 09:25
Receive Date: 16-JUL-14
Collector: Client
Moisture: 17.8%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	J	151	99.6	298	ug/kg	1	AXH3	07/24/14	1142	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	J	9.48	4.10	12.2	ug/Kg	1	MTM1	07/18/14	1017	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	358	1090	ug/kg	1	JWJ	07/28/14	1923	1403882	3
Silver	U	ND	109	543	ug/kg	1					
Vanadium		1570	109	543	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium		175	22.4	112	ug/kg	2	PRB	07/29/14	0350	1403878	4
Calcium		97700	7410	22400	ug/kg	2					
Sodium		216000	18000	56100	ug/kg	2					
Aluminum		2390000	3370	11200	ug/kg	2	PRB	07/31/14	0159	1403878	5
Arsenic	U	ND	224	1120	ug/kg	2					
Barium		10700	112	449	ug/kg	2					
Cadmium	J	33.2	22.4	224	ug/kg	2					
Chromium		11400	224	673	ug/kg	2					
Cobalt	J	93.8	67.3	224	ug/kg	2					
Copper		2610	74.1	224	ug/kg	2					
Iron		1300000	7410	22400	ug/kg	2					
Lead		2680	112	449	ug/kg	2					
Magnesium		68100	2240	6730	ug/kg	2					
Manganese		4520	224	1120	ug/kg	2					
Nickel		529	112	449	ug/kg	2					
Selenium	J	470	370	1120	ug/kg	2					
Thallium	U	ND	67.3	449	ug/kg	2					
Zinc	J	1660	449	2240	ug/kg	2					
Potassium		100000	18000	67300	ug/kg	2	PRB	08/01/14	0857	1403878	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	604	2010	ug/kg	5	JLD1	07/24/14	1538	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	604	2010	ug/kg	5					

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Project: Phase II investigation

Client Sample ID: SB-SS-25 Project: SONO00514C
Sample ID: 352745005 Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	60.4	201	ug/kg	5
2,3,4,6-Tetrachlorophenol	U	ND	604	2010	ug/kg	5
2,4,5-Trichlorophenol	U	ND	604	2010	ug/kg	5
2,4,6-Trichlorophenol	U	ND	604	2010	ug/kg	5
2,4-Dichlorophenol	U	ND	604	2010	ug/kg	5
2,4-Dimethylphenol	U	ND	604	2010	ug/kg	5
2,4-Dinitrophenol	U	ND	604	4020	ug/kg	5
2,4-Dinitrotoluene	U	ND	604	2010	ug/kg	5
2,6-Dinitrotoluene	U	ND	604	2010	ug/kg	5
2-Chloronaphthalene	U	ND	60.4	201	ug/kg	5
2-Chlorophenol	U	ND	604	2010	ug/kg	5
2-Methyl-4,6-dinitrophenol	U	ND	604	2010	ug/kg	5
2-Methylnaphthalene	U	ND	60.4	201	ug/kg	5
2-Nitrophenol	U	ND	604	2010	ug/kg	5
3,3'-Dichlorobenzidine	U	ND	604	2010	ug/kg	5
4-Bromophenylphenylether	U	ND	604	2010	ug/kg	5
4-Chloro-3-methylphenol	U	ND	805	2010	ug/kg	5
4-Chloroaniline	U	ND	604	2010	ug/kg	5
4-Chlorophenylphenylether	U	ND	604	2010	ug/kg	5
4-Nitrophenol	U	ND	604	2010	ug/kg	5
Acenaphthene		274	60.4	201	ug/kg	5
Acenaphthylene	U	ND	60.4	201	ug/kg	5
Acetophenone	U	ND	604	2010	ug/kg	5
Anthracene		686	60.4	201	ug/kg	5
Atrazine	U	ND	805	2010	ug/kg	5
Benzaldehyde	U	ND	604	2010	ug/kg	5
Benzo(a)anthracene		1970	60.4	201	ug/kg	5
Benzo(a)pyrene		1630	60.4	201	ug/kg	5
Benzo(b)fluoranthene		2090	60.4	201	ug/kg	5
Benzo(ghi)perylene		743	60.4	201	ug/kg	5
Benzo(k)fluoranthene		751	60.4	201	ug/kg	5
Butylbenzylphthalate	U	ND	604	2010	ug/kg	5
Caprolactam	U	ND	604	2010	ug/kg	5
Carbazole		338	60.4	201	ug/kg	5
Chrysene		1900	60.4	201	ug/kg	5
Di-n-butylphthalate	U	ND	604	2010	ug/kg	5

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-25 Project: SONO00514C
Sample ID: 352745005 Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	604	2010	ug/kg	5					
Dibenzo(a,h)anthracene		256	60.4	201	ug/kg	5					
Dibenzofuran	U	ND	604	2010	ug/kg	5					
Diethylphthalate	U	ND	604	2010	ug/kg	5					
Dimethylphthalate	U	ND	604	2010	ug/kg	5					
Diphenylamine	U	ND	604	2010	ug/kg	5					
Fluoranthene		2710	60.4	201	ug/kg	5					
Fluorene		306	60.4	201	ug/kg	5					
Hexachlorobenzene	U	ND	604	2010	ug/kg	5					
Hexachlorobutadiene	U	ND	604	2010	ug/kg	5					
Hexachlorocyclopentadiene	U	ND	604	2010	ug/kg	5					
Hexachloroethane	U	ND	604	2010	ug/kg	5					
Indeno(1,2,3-cd)pyrene		841	60.4	201	ug/kg	5					
Isophorone	U	ND	604	2010	ug/kg	5					
N-Nitrosodipropylamine	U	ND	604	2010	ug/kg	5					
Naphthalene	J	111	60.4	201	ug/kg	5					
Nitrobenzene	U	ND	604	2010	ug/kg	5					
Pentachlorophenol	U	ND	604	2010	ug/kg	5					
Phenanthrene		2440	60.4	201	ug/kg	5					
Phenol	U	ND	604	2010	ug/kg	5					
Pyrene		3550	60.4	201	ug/kg	5					
bis(2-Chloro-1-methylethyl)ether	U	ND	604	2010	ug/kg	5					
bis(2-Chloroethoxy)methane	U	ND	604	2010	ug/kg	5					
bis(2-Chloroethyl) ether	U	ND	604	2010	ug/kg	5					
bis(2-Ethylhexyl)phthalate	U	ND	604	2010	ug/kg	5					
m,p-Cresols	U	ND	604	2010	ug/kg	5					
m-Nitroaniline	U	ND	604	2010	ug/kg	5					
o-Cresol	U	ND	604	2010	ug/kg	5					
o-Nitroaniline	U	ND	664	2010	ug/kg	5					
p-Nitroaniline	U	ND	604	2010	ug/kg	5					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.132	0.439	mg/kg	1	EXM3	07/18/14	1140	1404102	8

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-25	Project:	SONO00514C
Sample ID:	352745005	Client ID:	GEEL003

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.270	0.811	ug/kg	1	ACJ	07/28/14	1348	1406788	9
1,1,2,2-Tetrachloroethane	U	ND	0.270	0.811	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.270	0.811	ug/kg	1					
1,1-Dichloroethane	U	ND	0.270	0.811	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.270	0.811	ug/kg	1					
1,2-Dichloroethane	U	ND	0.270	0.811	ug/kg	1					
1,2-Dichloropropane	U	ND	0.270	0.811	ug/kg	1					
2-Butanone	J	1.76	1.35	4.06	ug/kg	1					
2-Hexanone	U	ND	1.35	4.06	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.35	4.06	ug/kg	1					
Acetone		6.94	1.35	4.06	ug/kg	1					
Benzene	U	ND	0.270	0.811	ug/kg	1					
Bromodichloromethane	U	ND	0.270	0.811	ug/kg	1					
Bromoform	U	ND	0.270	0.811	ug/kg	1					
Bromomethane	U	ND	0.270	0.811	ug/kg	1					
Carbon disulfide	U	ND	1.35	4.06	ug/kg	1					
Carbon tetrachloride	U	ND	0.270	0.811	ug/kg	1					
Chlorobenzene	U	ND	0.270	0.811	ug/kg	1					
Chloroethane	U	ND	0.270	0.811	ug/kg	1					
Chloroform	U	ND	0.270	0.811	ug/kg	1					
Chloromethane	U	ND	0.270	0.811	ug/kg	1					
Dibromochloromethane	U	ND	0.270	0.811	ug/kg	1					
Ethylbenzene	J	0.576	0.270	0.811	ug/kg	1					
Methylene chloride	U	ND	1.35	4.06	ug/kg	1					
Styrene	U	ND	0.270	0.811	ug/kg	1					
Tetrachloroethylene	U	ND	0.270	0.811	ug/kg	1					
Toluene	U	ND	0.270	0.811	ug/kg	1					
Trichloroethylene	U	ND	0.270	0.811	ug/kg	1					
Vinyl acetate	U	ND	1.35	4.06	ug/kg	1					
Vinyl chloride	U	ND	0.270	0.811	ug/kg	1					
Xylenes (total)	U	ND	0.811	2.43	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.270	0.811	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.270	0.811	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.270	0.811	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.270	0.811	ug/kg	1					

The following Prep Methods were performed:

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Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-25 Project: SONO00514C
Sample ID: 352745005 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/15/14	0925	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	
9	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1730 ug/kg	2010	85.9	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1590 ug/kg	2010	79.0	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1760 ug/kg	2010	87.3	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2840 ug/kg	4020	70.7	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3140 ug/kg	4020	78.0	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3080 ug/kg	4020	76.6	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	42.2 ug/kg	50.0	104	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	42.6 ug/kg	50.0	105	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	40.2 ug/kg	50.0	99.2	(80%-120%)

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Certificate of Analysis

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Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-25	Project:	SONO00514C
Sample ID:	352745005	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-26
Sample ID: 352745006
Matrix: Soil
Collect Date: 15-JUL-14 10:05
Receive Date: 16-JUL-14
Collector: Client
Moisture: 12.1%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	84.8	254	ug/kg	1	AXH3	07/24/14	1143	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	J	13.6	4.57	13.6	ug/Kg	1	MTM1	07/18/14	1019	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	358	1080	ug/kg	1	JWJ	07/28/14	1925	1403882	3
Silver	U	ND	108	542	ug/kg	1					
Vanadium		11700	108	542	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium	J	89.8	22.0	110	ug/kg	2	PRB	07/29/14	0357	1403878	4
Calcium		99900	7240	22000	ug/kg	2					
Sodium	J	25100	17600	54900	ug/kg	2					
Aluminum		7770000	3290	11000	ug/kg	2	PRB	07/31/14	0205	1403878	5
Arsenic	U	ND	220	1100	ug/kg	2					
Barium		8310	110	439	ug/kg	2					
Cadmium	J	43.0	22.0	220	ug/kg	2					
Chromium		10900	220	659	ug/kg	2					
Cobalt		355	65.9	220	ug/kg	2					
Copper		3780	72.4	220	ug/kg	2					
Iron		1010000	7240	22000	ug/kg	2					
Lead		5380	110	439	ug/kg	2					
Magnesium		156000	2200	6590	ug/kg	2					
Manganese		5440	220	1100	ug/kg	2					
Nickel		1240	110	439	ug/kg	2					
Selenium	U	ND	362	1100	ug/kg	2					
Thallium	U	ND	65.9	439	ug/kg	2					
Zinc		2820	439	2200	ug/kg	2					
Potassium		224000	17600	65900	ug/kg	2	PRB	08/01/14	0901	1403878	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	113	378	ug/kg	1	JLD1	07/22/14	1736	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	113	378	ug/kg	1					

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Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-26	Project:	SONO00514C
Sample ID:	352745006	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	11.3	37.8	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	113	378	ug/kg	1
2,4,5-Trichlorophenol	U	ND	113	378	ug/kg	1
2,4,6-Trichlorophenol	U	ND	113	378	ug/kg	1
2,4-Dichlorophenol	U	ND	113	378	ug/kg	1
2,4-Dimethylphenol	U	ND	113	378	ug/kg	1
2,4-Dinitrophenol	U	ND	113	756	ug/kg	1
2,4-Dinitrotoluene	U	ND	113	378	ug/kg	1
2,6-Dinitrotoluene	U	ND	113	378	ug/kg	1
2-Chloronaphthalene	U	ND	11.3	37.8	ug/kg	1
2-Chlorophenol	U	ND	113	378	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	113	378	ug/kg	1
2-Methylnaphthalene	U	ND	11.3	37.8	ug/kg	1
2-Nitrophenol	U	ND	113	378	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	113	378	ug/kg	1
4-Bromophenylphenylether	U	ND	113	378	ug/kg	1
4-Chloro-3-methylphenol	U	ND	151	378	ug/kg	1
4-Chloroaniline	U	ND	113	378	ug/kg	1
4-Chlorophenylphenylether	U	ND	113	378	ug/kg	1
4-Nitrophenol	U	ND	113	378	ug/kg	1
Acenaphthene	U	ND	11.3	37.8	ug/kg	1
Acenaphthylene	U	ND	11.3	37.8	ug/kg	1
Acetophenone	U	ND	113	378	ug/kg	1
Anthracene	U	ND	11.3	37.8	ug/kg	1
Atrazine	U	ND	151	378	ug/kg	1
Benzaldehyde	U	ND	113	378	ug/kg	1
Benzo(a)anthracene	J	16.3	11.3	37.8	ug/kg	1
Benzo(a)pyrene	U	ND	11.3	37.8	ug/kg	1
Benzo(b)fluoranthene	J	14.7	11.3	37.8	ug/kg	1
Benzo(ghi)perylene	U	ND	11.3	37.8	ug/kg	1
Benzo(k)fluoranthene	U	ND	11.3	37.8	ug/kg	1
Butylbenzylphthalate	U	ND	113	378	ug/kg	1
Caprolactam	U	ND	113	378	ug/kg	1
Carbazole	U	ND	11.3	37.8	ug/kg	1
Chrysene	U	ND	11.3	37.8	ug/kg	1
Di-n-butylphthalate	U	ND	113	378	ug/kg	1

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-26	Project:	SONO00514C
Sample ID:	352745006	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	113	378	ug/kg	1					
Dibenzo(a,h)anthracene	U	ND	11.3	37.8	ug/kg	1					
Dibenzofuran	U	ND	113	378	ug/kg	1					
Diethylphthalate	U	ND	113	378	ug/kg	1					
Dimethylphthalate	U	ND	113	378	ug/kg	1					
Diphenylamine	U	ND	113	378	ug/kg	1					
Fluoranthene	J	22.7	11.3	37.8	ug/kg	1					
Fluorene	U	ND	11.3	37.8	ug/kg	1					
Hexachlorobenzene	U	ND	113	378	ug/kg	1					
Hexachlorobutadiene	U	ND	113	378	ug/kg	1					
Hexachlorocyclopentadiene	U	ND	113	378	ug/kg	1					
Hexachloroethane	U	ND	113	378	ug/kg	1					
Indeno(1,2,3-cd)pyrene	U	ND	11.3	37.8	ug/kg	1					
Isophorone	U	ND	113	378	ug/kg	1					
N-Nitrosodipropylamine	U	ND	113	378	ug/kg	1					
Naphthalene	U	ND	11.3	37.8	ug/kg	1					
Nitrobenzene	U	ND	113	378	ug/kg	1					
Pentachlorophenol	U	ND	113	378	ug/kg	1					
Phenanthrene	U	ND	11.3	37.8	ug/kg	1					
Phenol	U	ND	113	378	ug/kg	1					
Pyrene	J	18.5	11.3	37.8	ug/kg	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	113	378	ug/kg	1					
bis(2-Chloroethoxy)methane	U	ND	113	378	ug/kg	1					
bis(2-Chloroethyl) ether	U	ND	113	378	ug/kg	1					
bis(2-Ethylhexyl)phthalate	U	ND	113	378	ug/kg	1					
m,p-Cresols	U	ND	113	378	ug/kg	1					
m-Nitroaniline	U	ND	113	378	ug/kg	1					
o-Cresol	U	ND	113	378	ug/kg	1					
o-Nitroaniline	U	ND	125	378	ug/kg	1					
p-Nitroaniline	U	ND	113	378	ug/kg	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.121	0.404	mg/kg	1	EXM3	07/18/14	1144	1404102	8

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Certificate of Analysis

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Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-26	Project:	SONO00514C
Sample ID:	352745006	Client ID:	GEEL003

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.228	0.685	ug/kg	1	GRB2	07/25/14	1904	1406788	9
1,1,2,2-Tetrachloroethane	U	ND	0.228	0.685	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.228	0.685	ug/kg	1					
1,1-Dichloroethane	U	ND	0.228	0.685	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.228	0.685	ug/kg	1					
1,2-Dichloroethane	U	ND	0.228	0.685	ug/kg	1					
1,2-Dichloropropane	U	ND	0.228	0.685	ug/kg	1					
2-Butanone	U	ND	1.14	3.42	ug/kg	1					
2-Hexanone	U	ND	1.14	3.42	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.14	3.42	ug/kg	1					
Acetone		4.85	1.14	3.42	ug/kg	1					
Benzene	U	ND	0.228	0.685	ug/kg	1					
Bromodichloromethane	U	ND	0.228	0.685	ug/kg	1					
Bromoform	U	ND	0.228	0.685	ug/kg	1					
Bromomethane	U	ND	0.228	0.685	ug/kg	1					
Carbon disulfide	U	ND	1.14	3.42	ug/kg	1					
Carbon tetrachloride	U	ND	0.228	0.685	ug/kg	1					
Chlorobenzene	U	ND	0.228	0.685	ug/kg	1					
Chloroethane	U	ND	0.228	0.685	ug/kg	1					
Chloroform	U	ND	0.228	0.685	ug/kg	1					
Chloromethane	U	ND	0.228	0.685	ug/kg	1					
Dibromochloromethane	U	ND	0.228	0.685	ug/kg	1					
Ethylbenzene	U	ND	0.228	0.685	ug/kg	1					
Methylene chloride	U	ND	1.14	3.42	ug/kg	1					
Styrene	U	ND	0.228	0.685	ug/kg	1					
Tetrachloroethylene	U	ND	0.228	0.685	ug/kg	1					
Toluene	U	ND	0.228	0.685	ug/kg	1					
Trichloroethylene	U	ND	0.228	0.685	ug/kg	1					
Vinyl acetate	U	ND	1.14	3.42	ug/kg	1					
Vinyl chloride	U	ND	0.228	0.685	ug/kg	1					
Xylenes (total)	U	ND	0.685	2.05	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.228	0.685	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.228	0.685	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.228	0.685	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.228	0.685	ug/kg	1					

The following Prep Methods were performed:

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Company :	GEL Engineering
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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-26	Project:	SONO00514C
Sample ID:	352745006	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/15/14	1005	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	
9	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1270 ug/kg	1890	67.3	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1200 ug/kg	1890	63.3	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1530 ug/kg	1890	81.1	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2920 ug/kg	3780	77.2	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2340 ug/kg	3780	62.0	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2440 ug/kg	3780	64.5	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	32.4 ug/kg	50.0	94.5	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	36.1 ug/kg	50.0	105	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	33.6 ug/kg	50.0	98.2	(80%-120%)

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-26	Project:	SONO00514C
Sample ID:	352745006	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-26-D
Project: SONO00514C
Sample ID: 352745007
Client ID: GEEL003
Matrix: Soil
Collect Date: 15-JUL-14 10:05
Receive Date: 16-JUL-14
Collector: Client
Moisture: 13.1%

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	85.8	257	ug/kg	1	AXH3	07/24/14	1144	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		17.8	4.42	13.2	ug/Kg	1	MTM1	07/18/14	1021	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	361	1090	ug/kg	1	JWJ	07/28/14	1928	1403882	3
Silver	U	ND	109	547	ug/kg	1					
Vanadium		8460	109	547	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium		120	21.1	105	ug/kg	2	PRB	07/29/14	0404	1403878	4
Calcium		199000	6960	21100	ug/kg	2					
Sodium	J	31800	16900	52700	ug/kg	2					
Aluminum		8580000	3160	10500	ug/kg	2	PRB	07/31/14	0228	1403878	5
Arsenic	U	ND	211	1050	ug/kg	2					
Barium		10600	105	422	ug/kg	2					
Cadmium	J	41.7	21.1	211	ug/kg	2					
Chromium		11000	211	632	ug/kg	2					
Cobalt		384	63.2	211	ug/kg	2					
Copper		4150	69.6	211	ug/kg	2					
Iron		1100000	6960	21100	ug/kg	2					
Lead		5720	105	422	ug/kg	2					
Magnesium		164000	2110	6320	ug/kg	2					
Manganese		7530	211	1050	ug/kg	2					
Nickel		1400	105	422	ug/kg	2					
Selenium	U	ND	348	1050	ug/kg	2					
Thallium	U	ND	63.2	422	ug/kg	2					
Zinc		3220	422	2110	ug/kg	2					
Potassium		254000	16900	63200	ug/kg	2	PRB	08/01/14	0905	1403878	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	115	382	ug/kg	1	JLD1	07/22/14	1806	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	115	382	ug/kg	1					

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Certificate of Analysis

Report Date: August 1, 2014

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-26-D	Project:	SONO00514C
Sample ID:	352745007	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	11.5	38.2	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	115	382	ug/kg	1
2,4,5-Trichlorophenol	U	ND	115	382	ug/kg	1
2,4,6-Trichlorophenol	U	ND	115	382	ug/kg	1
2,4-Dichlorophenol	U	ND	115	382	ug/kg	1
2,4-Dimethylphenol	U	ND	115	382	ug/kg	1
2,4-Dinitrophenol	U	ND	115	765	ug/kg	1
2,4-Dinitrotoluene	U	ND	115	382	ug/kg	1
2,6-Dinitrotoluene	U	ND	115	382	ug/kg	1
2-Chloronaphthalene	U	ND	11.5	38.2	ug/kg	1
2-Chlorophenol	U	ND	115	382	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	115	382	ug/kg	1
2-Methylnaphthalene	U	ND	11.5	38.2	ug/kg	1
2-Nitrophenol	U	ND	115	382	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	115	382	ug/kg	1
4-Bromophenylphenylether	U	ND	115	382	ug/kg	1
4-Chloro-3-methylphenol	U	ND	153	382	ug/kg	1
4-Chloroaniline	U	ND	115	382	ug/kg	1
4-Chlorophenylphenylether	U	ND	115	382	ug/kg	1
4-Nitrophenol	U	ND	115	382	ug/kg	1
Acenaphthene	U	ND	11.5	38.2	ug/kg	1
Acenaphthylene	U	ND	11.5	38.2	ug/kg	1
Acetophenone	U	ND	115	382	ug/kg	1
Anthracene	U	ND	11.5	38.2	ug/kg	1
Atrazine	U	ND	153	382	ug/kg	1
Benzaldehyde	U	ND	115	382	ug/kg	1
Benzo(a)anthracene	U	ND	11.5	38.2	ug/kg	1
Benzo(a)pyrene	U	ND	11.5	38.2	ug/kg	1
Benzo(b)fluoranthene	U	ND	11.5	38.2	ug/kg	1
Benzo(ghi)perylene	U	ND	11.5	38.2	ug/kg	1
Benzo(k)fluoranthene	U	ND	11.5	38.2	ug/kg	1
Butylbenzylphthalate	U	ND	115	382	ug/kg	1
Caprolactam	U	ND	115	382	ug/kg	1
Carbazole	U	ND	11.5	38.2	ug/kg	1
Chrysene	U	ND	11.5	38.2	ug/kg	1
Di-n-butylphthalate	U	ND	115	382	ug/kg	1

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Project:	Phase II investigation

Client Sample ID:	SB-SS-26-D	Project:	SONO00514C
Sample ID:	352745007	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	115	382	ug/kg	1					
Dibenzo(a,h)anthracene	U	ND	11.5	38.2	ug/kg	1					
Dibenzofuran	U	ND	115	382	ug/kg	1					
Diethylphthalate	U	ND	115	382	ug/kg	1					
Dimethylphthalate	U	ND	115	382	ug/kg	1					
Diphenylamine	U	ND	115	382	ug/kg	1					
Fluoranthene	U	ND	11.5	38.2	ug/kg	1					
Fluorene	U	ND	11.5	38.2	ug/kg	1					
Hexachlorobenzene	U	ND	115	382	ug/kg	1					
Hexachlorobutadiene	U	ND	115	382	ug/kg	1					
Hexachlorocyclopentadiene	U	ND	115	382	ug/kg	1					
Hexachloroethane	U	ND	115	382	ug/kg	1					
Indeno(1,2,3-cd)pyrene	U	ND	11.5	38.2	ug/kg	1					
Isophorone	U	ND	115	382	ug/kg	1					
N-Nitrosodipropylamine	U	ND	115	382	ug/kg	1					
Naphthalene	U	ND	11.5	38.2	ug/kg	1					
Nitrobenzene	U	ND	115	382	ug/kg	1					
Pentachlorophenol	U	ND	115	382	ug/kg	1					
Phenanthrene	U	ND	11.5	38.2	ug/kg	1					
Phenol	U	ND	115	382	ug/kg	1					
Pyrene	U	ND	11.5	38.2	ug/kg	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	115	382	ug/kg	1					
bis(2-Chloroethoxy)methane	U	ND	115	382	ug/kg	1					
bis(2-Chloroethyl) ether	U	ND	115	382	ug/kg	1					
bis(2-Ethylhexyl)phthalate	U	ND	115	382	ug/kg	1					
m,p-Cresols	U	ND	115	382	ug/kg	1					
m-Nitroaniline	U	ND	115	382	ug/kg	1					
o-Cresol	U	ND	115	382	ug/kg	1					
o-Nitroaniline	U	ND	126	382	ug/kg	1					
p-Nitroaniline	U	ND	115	382	ug/kg	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	0.377	0.106	0.353	mg/kg	1	EXM3	07/18/14	1145	1404102	8	

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-26-D
Sample ID: 352745007
Project: SONO00514C
Client ID: GEEL003

Volatile Organics
5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.234	0.702	ug/kg	1	ACJ	07/28/14	1416	1406788	9
1,1,2,2-Tetrachloroethane	U	ND	0.234	0.702	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.234	0.702	ug/kg	1					
1,1-Dichloroethane	U	ND	0.234	0.702	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.234	0.702	ug/kg	1					
1,2-Dichloroethane	U	ND	0.234	0.702	ug/kg	1					
1,2-Dichloropropane	U	ND	0.234	0.702	ug/kg	1					
2-Butanone	U	ND	1.17	3.51	ug/kg	1					
2-Hexanone	U	ND	1.17	3.51	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.17	3.51	ug/kg	1					
Acetone		5.03	1.17	3.51	ug/kg	1					
Benzene	U	ND	0.234	0.702	ug/kg	1					
Bromodichloromethane	U	ND	0.234	0.702	ug/kg	1					
Bromoform	U	ND	0.234	0.702	ug/kg	1					
Bromomethane	U	ND	0.234	0.702	ug/kg	1					
Carbon disulfide	U	ND	1.17	3.51	ug/kg	1					
Carbon tetrachloride	U	ND	0.234	0.702	ug/kg	1					
Chlorobenzene	U	ND	0.234	0.702	ug/kg	1					
Chloroethane	U	ND	0.234	0.702	ug/kg	1					
Chloroform	U	ND	0.234	0.702	ug/kg	1					
Chloromethane	U	ND	0.234	0.702	ug/kg	1					
Dibromochloromethane	U	ND	0.234	0.702	ug/kg	1					
Ethylbenzene	U	ND	0.234	0.702	ug/kg	1					
Methylene chloride	J	3.28	1.17	3.51	ug/kg	1					
Styrene	U	ND	0.234	0.702	ug/kg	1					
Tetrachloroethylene	U	ND	0.234	0.702	ug/kg	1					
Toluene	U	ND	0.234	0.702	ug/kg	1					
Trichloroethylene	U	ND	0.234	0.702	ug/kg	1					
Vinyl acetate	U	ND	1.17	3.51	ug/kg	1					
Vinyl chloride	U	ND	0.234	0.702	ug/kg	1					
Xylenes (total)	U	ND	0.702	2.11	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.234	0.702	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.234	0.702	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.234	0.702	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.234	0.702	ug/kg	1					

The following Prep Methods were performed:

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-26-D
Sample ID: 352745007
Project: SONO00514C
Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/15/14	1005	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	
9	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1310 ug/kg	1910	68.4	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1240 ug/kg	1910	64.9	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1700 ug/kg	1910	89.0	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2780 ug/kg	3820	72.8	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2430 ug/kg	3820	63.5	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2540 ug/kg	3820	66.5	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	35.9 ug/kg	50.0	102	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	35.2 ug/kg	50.0	100	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	35.0 ug/kg	50.0	99.6	(80%-120%)

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Project:	Phase II investigation

Client Sample ID:	SB-SS-26-D	Project:	SONO00514C
Sample ID:	352745007	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-27
Sample ID: 352745008
Matrix: Soil
Collect Date: 15-JUL-14 10:40
Receive Date: 16-JUL-14
Collector: Client
Moisture: 16.6%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	84.9	254	ug/kg	1	AXH3	07/24/14	1145	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	U	ND	4.57	13.6	ug/Kg	1	MTM1	07/18/14	1022	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Silver	U	ND	111	553	ug/kg	1	JWJ	07/29/14	0019	1403882	3
Vanadium		680	111	553	ug/kg	1					
Antimony	U	ND	365	1110	ug/kg	1	JWJ	07/28/14	1931	1403882	4
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium	U	ND	21.7	108	ug/kg	2	PRB	07/29/14	0411	1403878	5
Calcium	J	20800	7160	21700	ug/kg	2					
Sodium	J	23800	17400	54200	ug/kg	2					
Aluminum		350000	3250	10800	ug/kg	2	PRB	07/31/14	0234	1403878	6
Arsenic	U	ND	217	1080	ug/kg	2					
Barium		1270	108	434	ug/kg	2					
Cadmium	J	40.6	21.7	217	ug/kg	2					
Chromium		1250	217	651	ug/kg	2					
Cobalt	U	ND	65.1	217	ug/kg	2					
Copper		2110	71.6	217	ug/kg	2					
Iron		197000	7160	21700	ug/kg	2					
Lead		1560	108	434	ug/kg	2					
Magnesium		8240	2170	6510	ug/kg	2					
Manganese		1660	217	1080	ug/kg	2					
Nickel		4170	108	434	ug/kg	2					
Selenium	U	ND	358	1080	ug/kg	2					
Thallium	U	ND	65.1	434	ug/kg	2					
Zinc	J	1330	434	2170	ug/kg	2					
Potassium	U	ND	17400	65100	ug/kg	2	PRB	08/01/14	0908	1403878	7
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	119	398	ug/kg	1	JLD1	07/22/14	1837	1404578	8
1,2,4,5-Tetrachlorobenzene	U	ND	119	398	ug/kg	1					

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Project:	Phase II investigation

Client Sample ID:	SB-SS-27	Project:	SONO00514C
Sample ID:	352745008	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	11.9	39.8	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	119	398	ug/kg	1
2,4,5-Trichlorophenol	U	ND	119	398	ug/kg	1
2,4,6-Trichlorophenol	U	ND	119	398	ug/kg	1
2,4-Dichlorophenol	U	ND	119	398	ug/kg	1
2,4-Dimethylphenol	U	ND	119	398	ug/kg	1
2,4-Dinitrophenol	U	ND	119	796	ug/kg	1
2,4-Dinitrotoluene	U	ND	119	398	ug/kg	1
2,6-Dinitrotoluene	U	ND	119	398	ug/kg	1
2-Chloronaphthalene	U	ND	11.9	39.8	ug/kg	1
2-Chlorophenol	U	ND	119	398	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	119	398	ug/kg	1
2-Methylnaphthalene	U	ND	11.9	39.8	ug/kg	1
2-Nitrophenol	U	ND	119	398	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	119	398	ug/kg	1
4-Bromophenylphenylether	U	ND	119	398	ug/kg	1
4-Chloro-3-methylphenol	U	ND	159	398	ug/kg	1
4-Chloroaniline	U	ND	119	398	ug/kg	1
4-Chlorophenylphenylether	U	ND	119	398	ug/kg	1
4-Nitrophenol	U	ND	119	398	ug/kg	1
Acenaphthene	U	ND	11.9	39.8	ug/kg	1
Acenaphthylene	U	ND	11.9	39.8	ug/kg	1
Acetophenone	U	ND	119	398	ug/kg	1
Anthracene	J	14.7	11.9	39.8	ug/kg	1
Atrazine	U	ND	159	398	ug/kg	1
Benzaldehyde	U	ND	119	398	ug/kg	1
Benzo(a)anthracene		52.2	11.9	39.8	ug/kg	1
Benzo(a)pyrene	J	36.6	11.9	39.8	ug/kg	1
Benzo(b)fluoranthene		57.7	11.9	39.8	ug/kg	1
Benzo(ghi)perylene	U	ND	11.9	39.8	ug/kg	1
Benzo(k)fluoranthene	J	19.5	11.9	39.8	ug/kg	1
Butylbenzylphthalate	U	ND	119	398	ug/kg	1
Caprolactam	U	ND	119	398	ug/kg	1
Carbazole	U	ND	11.9	39.8	ug/kg	1
Chrysene		44.6	11.9	39.8	ug/kg	1
Di-n-butylphthalate	U	ND	119	398	ug/kg	1

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-27	Project:	SONO00514C
Sample ID:	352745008	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	119	398	ug/kg	1					
Dibenzo(a,h)anthracene	U	ND	11.9	39.8	ug/kg	1					
Dibenzofuran	U	ND	119	398	ug/kg	1					
Diethylphthalate	U	ND	119	398	ug/kg	1					
Dimethylphthalate	U	ND	119	398	ug/kg	1					
Diphenylamine	U	ND	119	398	ug/kg	1					
Fluoranthene		88.0	11.9	39.8	ug/kg	1					
Fluorene	U	ND	11.9	39.8	ug/kg	1					
Hexachlorobenzene	U	ND	119	398	ug/kg	1					
Hexachlorobutadiene	U	ND	119	398	ug/kg	1					
Hexachlorocyclopentadiene	U	ND	119	398	ug/kg	1					
Hexachloroethane	U	ND	119	398	ug/kg	1					
Indeno(1,2,3-cd)pyrene	J	15.9	11.9	39.8	ug/kg	1					
Isophorone	U	ND	119	398	ug/kg	1					
N-Nitrosodipropylamine	U	ND	119	398	ug/kg	1					
Naphthalene	U	ND	11.9	39.8	ug/kg	1					
Nitrobenzene	U	ND	119	398	ug/kg	1					
Pentachlorophenol	U	ND	119	398	ug/kg	1					
Phenanthrene		57.7	11.9	39.8	ug/kg	1					
Phenol	U	ND	119	398	ug/kg	1					
Pyrene		68.9	11.9	39.8	ug/kg	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	119	398	ug/kg	1					
bis(2-Chloroethoxy)methane	U	ND	119	398	ug/kg	1					
bis(2-Chloroethyl) ether	U	ND	119	398	ug/kg	1					
bis(2-Ethylhexyl)phthalate	U	ND	119	398	ug/kg	1					
m,p-Cresols	U	ND	119	398	ug/kg	1					
m-Nitroaniline	U	ND	119	398	ug/kg	1					
o-Cresol	U	ND	119	398	ug/kg	1					
o-Nitroaniline	U	ND	131	398	ug/kg	1					
p-Nitroaniline	U	ND	119	398	ug/kg	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.107	0.356	mg/kg	1	EXM3	07/18/14	1146	1404102	9

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-27	Project:	SONO00514C
Sample ID:	352745008	Client ID:	GEEL003

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.298	0.895	ug/kg	1	ACJ	07/28/14	1444	1406788	10
1,1,2,2-Tetrachloroethane	U	ND	0.298	0.895	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.298	0.895	ug/kg	1					
1,1-Dichloroethane	U	ND	0.298	0.895	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.298	0.895	ug/kg	1					
1,2-Dichloroethane	U	ND	0.298	0.895	ug/kg	1					
1,2-Dichloropropane	U	ND	0.298	0.895	ug/kg	1					
2-Butanone	U	ND	1.49	4.48	ug/kg	1					
2-Hexanone	U	ND	1.49	4.48	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.49	4.48	ug/kg	1					
Acetone	J	2.40	1.49	4.48	ug/kg	1					
Benzene	U	ND	0.298	0.895	ug/kg	1					
Bromodichloromethane	U	ND	0.298	0.895	ug/kg	1					
Bromoform	U	ND	0.298	0.895	ug/kg	1					
Bromomethane	U	ND	0.298	0.895	ug/kg	1					
Carbon disulfide	U	ND	1.49	4.48	ug/kg	1					
Carbon tetrachloride	U	ND	0.298	0.895	ug/kg	1					
Chlorobenzene	U	ND	0.298	0.895	ug/kg	1					
Chloroethane	U	ND	0.298	0.895	ug/kg	1					
Chloroform	U	ND	0.298	0.895	ug/kg	1					
Chloromethane	U	ND	0.298	0.895	ug/kg	1					
Dibromochloromethane	U	ND	0.298	0.895	ug/kg	1					
Ethylbenzene	U	ND	0.298	0.895	ug/kg	1					
Methylene chloride	U	ND	1.49	4.48	ug/kg	1					
Styrene	U	ND	0.298	0.895	ug/kg	1					
Tetrachloroethylene	U	ND	0.298	0.895	ug/kg	1					
Toluene	U	ND	0.298	0.895	ug/kg	1					
Trichloroethylene	U	ND	0.298	0.895	ug/kg	1					
Vinyl acetate	U	ND	1.49	4.48	ug/kg	1					
Vinyl chloride	U	ND	0.298	0.895	ug/kg	1					
Xylenes (total)	U	ND	0.895	2.69	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.298	0.895	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.298	0.895	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.298	0.895	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.298	0.895	ug/kg	1					

The following Prep Methods were performed:

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Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-27 Project: SONO00514C
Sample ID: 352745008 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/15/14	1040	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6010C	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3050B/6020A	
8	SW846 3550C/8270D	
9	SW846 7196A	
10	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1370 ug/kg	1990	68.8	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1300 ug/kg	1990	65.4	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1560 ug/kg	1990	78.3	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3130 ug/kg	3980	78.7	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2580 ug/kg	3980	64.8	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2710 ug/kg	3980	67.9	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	46.2 ug/kg	50.0	103	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	44.3 ug/kg	50.0	99.1	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	46.5 ug/kg	50.0	104	(80%-120%)

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-27	Project:	SONO00514C
Sample ID:	352745008	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-23
Sample ID: 352745009
Matrix: Soil
Collect Date: 15-JUL-14 11:30
Receive Date: 16-JUL-14
Collector: Client
Moisture: 21%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	106	316	ug/kg	1	AXH3	07/24/14	1146	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		14.6	4.29	12.8	ug/Kg	1	MTM1	07/18/14	1024	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Silver	U	ND	116	578	ug/kg	1	JWJ	07/28/14	1934	1403882	3
Vanadium		3310	116	578	ug/kg	1					
Antimony	U	ND	382	1160	ug/kg	1	JWJ	07/30/14	1736	1403882	4
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium	J	98.7	23.8	119	ug/kg	2	PRB	07/29/14	0417	1403878	5
Calcium		91000	7860	23800	ug/kg	2					
Sodium	J	30500	19100	59600	ug/kg	2					
Aluminum		4910000	3570	11900	ug/kg	2	PRB	07/31/14	0240	1403878	6
Arsenic	U	ND	238	1190	ug/kg	2					
Barium		6010	119	477	ug/kg	2					
Cadmium	U	ND	23.8	238	ug/kg	2					
Chromium		5520	238	715	ug/kg	2					
Cobalt	J	227	71.5	238	ug/kg	2					
Copper		3250	78.6	238	ug/kg	2					
Iron		438000	7860	23800	ug/kg	2					
Lead		4020	119	477	ug/kg	2					
Magnesium		81000	2380	7150	ug/kg	2					
Manganese		2820	238	1190	ug/kg	2					
Nickel		837	119	477	ug/kg	2					
Selenium	J	654	393	1190	ug/kg	2					
Thallium	U	ND	71.5	477	ug/kg	2					
Zinc	J	2060	477	2380	ug/kg	2					
Potassium		120000	19100	71500	ug/kg	2	PRB	08/01/14	0912	1403878	7
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	126	421	ug/kg	1	JLD1	07/23/14	2243	1404578	8
1,2,4,5-Tetrachlorobenzene	U	ND	126	421	ug/kg	1					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-23 Project: SONO00514C
Sample ID: 352745009 Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	12.6	42.1	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	126	421	ug/kg	1
2,4,5-Trichlorophenol	U	ND	126	421	ug/kg	1
2,4,6-Trichlorophenol	U	ND	126	421	ug/kg	1
2,4-Dichlorophenol	U	ND	126	421	ug/kg	1
2,4-Dimethylphenol	U	ND	126	421	ug/kg	1
2,4-Dinitrophenol	U	ND	126	843	ug/kg	1
2,4-Dinitrotoluene	U	ND	126	421	ug/kg	1
2,6-Dinitrotoluene	U	ND	126	421	ug/kg	1
2-Chloronaphthalene	U	ND	12.6	42.1	ug/kg	1
2-Chlorophenol	U	ND	126	421	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	126	421	ug/kg	1
2-Methylnaphthalene	U	ND	12.6	42.1	ug/kg	1
2-Nitrophenol	U	ND	126	421	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	126	421	ug/kg	1
4-Bromophenylphenylether	U	ND	126	421	ug/kg	1
4-Chloro-3-methylphenol	U	ND	169	421	ug/kg	1
4-Chloroaniline	U	ND	126	421	ug/kg	1
4-Chlorophenylphenylether	U	ND	126	421	ug/kg	1
4-Nitrophenol	U	ND	126	421	ug/kg	1
Acenaphthene		44.7	12.6	42.1	ug/kg	1
Acenaphthylene	U	ND	12.6	42.1	ug/kg	1
Acetophenone	U	ND	126	421	ug/kg	1
Anthracene		43.8	12.6	42.1	ug/kg	1
Atrazine	U	ND	169	421	ug/kg	1
Benzaldehyde	U	ND	126	421	ug/kg	1
Benzo(a)anthracene		129	12.6	42.1	ug/kg	1
Benzo(a)pyrene		113	12.6	42.1	ug/kg	1
Benzo(b)fluoranthene		184	12.6	42.1	ug/kg	1
Benzo(ghi)perylene		42.1	12.6	42.1	ug/kg	1
Benzo(k)fluoranthene		71.2	12.6	42.1	ug/kg	1
Butylbenzylphthalate	U	ND	126	421	ug/kg	1
Caprolactam	U	ND	126	421	ug/kg	1
Carbazole	J	24.0	12.6	42.1	ug/kg	1
Chrysene		133	12.6	42.1	ug/kg	1
Di-n-butylphthalate	U	ND	126	421	ug/kg	1

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-23	Project:	SONO00514C
Sample ID:	352745009	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	126	421	ug/kg	1					
Dibenzo(a,h)anthracene	J	16.0	12.6	42.1	ug/kg	1					
Dibenzofuran	U	ND	126	421	ug/kg	1					
Diethylphthalate	U	ND	126	421	ug/kg	1					
Dimethylphthalate	U	ND	126	421	ug/kg	1					
Diphenylamine	U	ND	126	421	ug/kg	1					
Fluoranthene		235	12.6	42.1	ug/kg	1					
Fluorene	J	26.1	12.6	42.1	ug/kg	1					
Hexachlorobenzene	U	ND	126	421	ug/kg	1					
Hexachlorobutadiene	U	ND	126	421	ug/kg	1					
Hexachlorocyclopentadiene	U	ND	126	421	ug/kg	1					
Hexachloroethane	U	ND	126	421	ug/kg	1					
Indeno(1,2,3-cd)pyrene		52.7	12.6	42.1	ug/kg	1					
Isophorone	U	ND	126	421	ug/kg	1					
N-Nitrosodipropylamine	U	ND	126	421	ug/kg	1					
Naphthalene	U	ND	12.6	42.1	ug/kg	1					
Nitrobenzene	U	ND	126	421	ug/kg	1					
Pentachlorophenol	U	ND	126	421	ug/kg	1					
Phenanthrene		145	12.6	42.1	ug/kg	1					
Phenol	U	ND	126	421	ug/kg	1					
Pyrene		199	12.6	42.1	ug/kg	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	126	421	ug/kg	1					
bis(2-Chloroethoxy)methane	U	ND	126	421	ug/kg	1					
bis(2-Chloroethyl) ether	U	ND	126	421	ug/kg	1					
bis(2-Ethylhexyl)phthalate	U	ND	126	421	ug/kg	1					
m,p-Cresols	U	ND	126	421	ug/kg	1					
m-Nitroaniline	U	ND	126	421	ug/kg	1					
o-Cresol	U	ND	126	421	ug/kg	1					
o-Nitroaniline	U	ND	139	421	ug/kg	1					
p-Nitroaniline	U	ND	126	421	ug/kg	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.395	0.131	0.438	mg/kg	1	EXM3	07/18/14	1147	1404102	9

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Certificate of Analysis

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-23	Project:	SONO00514C
Sample ID:	352745009	Client ID:	GEEL003

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.305	0.917	ug/kg	1	ACJ	07/28/14	1513	1406788	10
1,1,2,2-Tetrachloroethane	U	ND	0.305	0.917	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.305	0.917	ug/kg	1					
1,1-Dichloroethane	U	ND	0.305	0.917	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.305	0.917	ug/kg	1					
1,2-Dichloroethane	U	ND	0.305	0.917	ug/kg	1					
1,2-Dichloropropane	U	ND	0.305	0.917	ug/kg	1					
2-Butanone	U	ND	1.53	4.58	ug/kg	1					
2-Hexanone	U	ND	1.53	4.58	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.53	4.58	ug/kg	1					
Acetone	U	ND	1.53	4.58	ug/kg	1					
Benzene	U	ND	0.305	0.917	ug/kg	1					
Bromodichloromethane	U	ND	0.305	0.917	ug/kg	1					
Bromoform	U	ND	0.305	0.917	ug/kg	1					
Bromomethane	U	ND	0.305	0.917	ug/kg	1					
Carbon disulfide	U	ND	1.53	4.58	ug/kg	1					
Carbon tetrachloride	U	ND	0.305	0.917	ug/kg	1					
Chlorobenzene	U	ND	0.305	0.917	ug/kg	1					
Chloroethane	U	ND	0.305	0.917	ug/kg	1					
Chloroform	U	ND	0.305	0.917	ug/kg	1					
Chloromethane	U	ND	0.305	0.917	ug/kg	1					
Dibromochloromethane	U	ND	0.305	0.917	ug/kg	1					
Ethylbenzene	U	ND	0.305	0.917	ug/kg	1					
Methylene chloride	J	2.88	1.53	4.58	ug/kg	1					
Styrene	U	ND	0.305	0.917	ug/kg	1					
Tetrachloroethylene	U	ND	0.305	0.917	ug/kg	1					
Toluene	U	ND	0.305	0.917	ug/kg	1					
Trichloroethylene	U	ND	0.305	0.917	ug/kg	1					
Vinyl acetate	U	ND	1.53	4.58	ug/kg	1					
Vinyl chloride	U	ND	0.305	0.917	ug/kg	1					
Xylenes (total)	U	ND	0.917	2.75	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.305	0.917	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.305	0.917	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.305	0.917	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.305	0.917	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-23 Project: SONO00514C
Sample ID: 352745009 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/15/14	1130	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6010C	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3050B/6020A	
8	SW846 3550C/8270D	
9	SW846 7196A	
10	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1540 ug/kg	2110	72.9	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1380 ug/kg	2110	65.3	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1650 ug/kg	2110	78.3	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3140 ug/kg	4210	74.5	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2650 ug/kg	4210	63.0	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2760 ug/kg	4210	65.4	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	47.4 ug/kg	50.0	103	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	46.1 ug/kg	50.0	101	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	44.9 ug/kg	50.0	98.0	(80%-120%)

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Certificate of Analysis

Report Date: August 1, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-23	Project:	SONO00514C
Sample ID:	352745009	Client ID:	GEEL003

Notes:

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Certificate of Analysis

Report Date: August 1, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-29
Sample ID: 352745010
Matrix: Soil
Collect Date: 15-JUL-14 12:20
Receive Date: 16-JUL-14
Collector: Client
Moisture: 17.2%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total		260	85.4	256	ug/kg	1	AXH3	07/24/14	1147	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		93.1	4.85	14.5	ug/Kg	1	MTM1	07/18/14	1026	1404014	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Silver	U	ND	114	572	ug/kg	1	JWJ	07/28/14	1937	1403882	3
Vanadium		5920	114	572	ug/kg	1					
Antimony	J	594	377	1140	ug/kg	1	JWJ	07/30/14	1738	1403882	4
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Beryllium		204	22.5	112	ug/kg	2	PRB	07/29/14	0424	1403878	5
Calcium		834000	7420	22500	ug/kg	2					
Sodium	U	ND	18000	56200	ug/kg	2					
Aluminum		2920000	3370	11200	ug/kg	2	PRB	07/31/14	0246	1403878	6
Arsenic		1260	225	1120	ug/kg	2					
Barium		46300	112	450	ug/kg	2					
Cadmium		231	22.5	225	ug/kg	2					
Chromium		4370	225	675	ug/kg	2					
Cobalt		859	67.5	225	ug/kg	2					
Copper		42700	74.2	225	ug/kg	2					
Iron		2430000	7420	22500	ug/kg	2					
Lead		49500	112	450	ug/kg	2					
Magnesium		87300	2250	6750	ug/kg	2					
Manganese		39200	225	1120	ug/kg	2					
Nickel		2600	112	450	ug/kg	2					
Selenium	U	ND	371	1120	ug/kg	2					
Thallium	U	ND	67.5	450	ug/kg	2					
Zinc		73500	450	2250	ug/kg	2					
Potassium		117000	18000	67500	ug/kg	2	PRB	08/01/14	0916	1403878	7
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	1200	4000	ug/kg	10	JLD1	07/22/14	1939	1404578	8
1,2,4,5-Tetrachlorobenzene	U	ND	1200	4000	ug/kg	10					

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Project:	Phase II investigation

Client Sample ID:	SB-SS-29	Project:	SONO00514C
Sample ID:	352745010	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	120	400	ug/kg	10
2,3,4,6-Tetrachlorophenol	U	ND	1200	4000	ug/kg	10
2,4,5-Trichlorophenol	U	ND	1200	4000	ug/kg	10
2,4,6-Trichlorophenol	U	ND	1200	4000	ug/kg	10
2,4-Dichlorophenol	U	ND	1200	4000	ug/kg	10
2,4-Dimethylphenol	U	ND	1200	4000	ug/kg	10
2,4-Dinitrophenol	U	ND	1200	8000	ug/kg	10
2,4-Dinitrotoluene	U	ND	1200	4000	ug/kg	10
2,6-Dinitrotoluene	U	ND	1200	4000	ug/kg	10
2-Chloronaphthalene	U	ND	120	400	ug/kg	10
2-Chlorophenol	U	ND	1200	4000	ug/kg	10
2-Methyl-4,6-dinitrophenol	U	ND	1200	4000	ug/kg	10
2-Methylnaphthalene	U	ND	120	400	ug/kg	10
2-Nitrophenol	U	ND	1200	4000	ug/kg	10
3,3'-Dichlorobenzidine	U	ND	1200	4000	ug/kg	10
4-Bromophenylphenylether	U	ND	1200	4000	ug/kg	10
4-Chloro-3-methylphenol	U	ND	1600	4000	ug/kg	10
4-Chloroaniline	U	ND	1200	4000	ug/kg	10
4-Chlorophenylphenylether	U	ND	1200	4000	ug/kg	10
4-Nitrophenol	U	ND	1200	4000	ug/kg	10
Acenaphthene	J	160	120	400	ug/kg	10
Acenaphthylene	U	ND	120	400	ug/kg	10
Acetophenone	U	ND	1200	4000	ug/kg	10
Anthracene		576	120	400	ug/kg	10
Atrazine	U	ND	1600	4000	ug/kg	10
Benzaldehyde	U	ND	1200	4000	ug/kg	10
Benzo(a)anthracene		3390	120	400	ug/kg	10
Benzo(a)pyrene		3480	120	400	ug/kg	10
Benzo(b)fluoranthene		5140	120	400	ug/kg	10
Benzo(ghi)perylene		1430	120	400	ug/kg	10
Benzo(k)fluoranthene		1920	120	400	ug/kg	10
Butylbenzylphthalate	U	ND	1200	4000	ug/kg	10
Caprolactam	U	ND	1200	4000	ug/kg	10
Carbazole		516	120	400	ug/kg	10
Chrysene		3830	120	400	ug/kg	10
Di-n-butylphthalate	U	ND	1200	4000	ug/kg	10

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Sample ID:	352745010	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	1200	4000	ug/kg	10					
Dibenzo(a,h)anthracene		576	120	400	ug/kg	10					
Dibenzofuran	U	ND	1200	4000	ug/kg	10					
Diethylphthalate	U	ND	1200	4000	ug/kg	10					
Dimethylphthalate	U	ND	1200	4000	ug/kg	10					
Diphenylamine	U	ND	1200	4000	ug/kg	10					
Fluoranthene		4680	120	400	ug/kg	10					
Fluorene	J	152	120	400	ug/kg	10					
Hexachlorobenzene	U	ND	1200	4000	ug/kg	10					
Hexachlorobutadiene	U	ND	1200	4000	ug/kg	10					
Hexachlorocyclopentadiene	U	ND	1200	4000	ug/kg	10					
Hexachloroethane	U	ND	1200	4000	ug/kg	10					
Indeno(1,2,3-cd)pyrene		1790	120	400	ug/kg	10					
Isophorone	U	ND	1200	4000	ug/kg	10					
N-Nitrosodipropylamine	U	ND	1200	4000	ug/kg	10					
Naphthalene	U	ND	120	400	ug/kg	10					
Nitrobenzene	U	ND	1200	4000	ug/kg	10					
Pentachlorophenol	U	ND	1200	4000	ug/kg	10					
Phenanthrene		2320	120	400	ug/kg	10					
Phenol	U	ND	1200	4000	ug/kg	10					
Pyrene		6140	120	400	ug/kg	10					
bis(2-Chloro-1-methylethyl)ether	U	ND	1200	4000	ug/kg	10					
bis(2-Chloroethoxy)methane	U	ND	1200	4000	ug/kg	10					
bis(2-Chloroethyl) ether	U	ND	1200	4000	ug/kg	10					
bis(2-Ethylhexyl)phthalate	U	ND	1200	4000	ug/kg	10					
m,p-Cresols	U	ND	1200	4000	ug/kg	10					
m-Nitroaniline	U	ND	1200	4000	ug/kg	10					
o-Cresol	U	ND	1200	4000	ug/kg	10					
o-Nitroaniline	U	ND	1320	4000	ug/kg	10					
p-Nitroaniline	U	ND	1200	4000	ug/kg	10					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.184	0.138	0.460	mg/kg	1	EXM3	07/18/14	1149	1404102	9

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

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Sample ID:	352745010	Client ID:	GEEL003

Volatile Organics

5035/8260B TCL in Solid "Dry Weight Corrected"

1,1,1-Trichloroethane	U	ND	0.275	0.827	ug/kg	1	ACJ	07/29/14	1314	1406788	10
1,1,2,2-Tetrachloroethane	U	ND	0.275	0.827	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.275	0.827	ug/kg	1					
1,1-Dichloroethane	U	ND	0.275	0.827	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.275	0.827	ug/kg	1					
1,2-Dichloroethane	U	ND	0.275	0.827	ug/kg	1					
1,2-Dichloropropane	U	ND	0.275	0.827	ug/kg	1					
2-Butanone	U	ND	1.38	4.14	ug/kg	1					
2-Hexanone	U	ND	1.38	4.14	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.38	4.14	ug/kg	1					
Acetone	U	ND	1.38	4.14	ug/kg	1					
Benzene	U	ND	0.275	0.827	ug/kg	1					
Bromodichloromethane	U	ND	0.275	0.827	ug/kg	1					
Bromoform	U	ND	0.275	0.827	ug/kg	1					
Bromomethane	U	ND	0.275	0.827	ug/kg	1					
Carbon disulfide	U	ND	1.38	4.14	ug/kg	1					
Carbon tetrachloride	U	ND	0.275	0.827	ug/kg	1					
Chlorobenzene	U	ND	0.275	0.827	ug/kg	1					
Chloroethane	U	ND	0.275	0.827	ug/kg	1					
Chloroform	U	ND	0.275	0.827	ug/kg	1					
Chloromethane	U	ND	0.275	0.827	ug/kg	1					
Dibromochloromethane	U	ND	0.275	0.827	ug/kg	1					
Ethylbenzene	U	ND	0.275	0.827	ug/kg	1					
Methylene chloride	U	ND	1.38	4.14	ug/kg	1					
Styrene	U	ND	0.275	0.827	ug/kg	1					
Tetrachloroethylene	U	ND	0.275	0.827	ug/kg	1					
Toluene	U	ND	0.275	0.827	ug/kg	1					
Trichloroethylene	U	ND	0.275	0.827	ug/kg	1					
Vinyl acetate	U	ND	1.38	4.14	ug/kg	1					
Vinyl chloride	U	ND	0.275	0.827	ug/kg	1					
Xylenes (total)	U	ND	0.827	2.48	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.275	0.827	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.275	0.827	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.275	0.827	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.275	0.827	ug/kg	1					

The following Prep Methods were performed:

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Client Sample ID:	SB-SS-29	Project:	SONO00514C
Sample ID:	352745010	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	JXM5	07/17/14	0730	1403877
SW846 3050B	SW846 3050B Prep for 6010C	JXM5	07/17/14	0730	1403880
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/17/14	1420	1404099
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 5035	5035/8260B Prep	ACJ	07/15/14	1220	1406787
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/17/14	1408	1404013
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6010C	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3050B/6020A	
8	SW846 3550C/8270D	
9	SW846 7196A	
10	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1960 ug/kg	2000	98.0	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1640 ug/kg	2000	82.0	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2700 ug/kg	2000	135*	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3140 ug/kg	4000	78.4	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3180 ug/kg	4000	79.6	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3220 ug/kg	4000	80.4	(18%-110%)
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	43.4 ug/kg	50.0	105	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	43.1 ug/kg	50.0	104	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	41.6 ug/kg	50.0	101	(80%-120%)

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Project:	Phase II investigation

Client Sample ID:	SB-SS-29	Project:	SONO00514C
Sample ID:	352745010	Client ID:	GEEL003

Notes:

QC Summary

Report Date: August 1, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **352745**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 1404556										
QC1203130268 352929001 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A			AXH3	07/24/14 11:49
QC1203130269 352745001 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A				07/24/14 11:36
QC1203130272 LCS										
Cyanide, Total	90600			92500	ug/kg		102	(68%-140%)		07/24/14 11:34
QC1203130267 MB										
Cyanide, Total			U	ND	ug/kg					07/24/14 11:34
QC1203130270 352929001 MS										
Cyanide, Total	4990	U	ND	2340	ug/kg		47*	(55%-125%)		07/24/14 11:49
QC1203130271 352745001 MS										
Cyanide, Total	5750	U	ND	4960	ug/kg		85.5	(55%-125%)		07/24/14 11:37
Metals Analysis - ICPMS										
Batch 1403878										
QC1203128593 352745001 DUP										
Aluminum		6180000		6940000	ug/kg	11.6		(0%-20%)	PRB	07/31/14 01:06
Arsenic		3580		2400	ug/kg	39.4 ^		(+/-1210)		
Barium		58200		65700	ug/kg	12.1		(0%-20%)		
Beryllium		575		560	ug/kg	2.52 ^		(+/-121)		07/29/14 02:49
Cadmium	J	101	J	77.2	ug/kg	26.2 ^		(+/-243)		07/31/14 01:06
Calcium		444000		421000	ug/kg	5.43		(0%-20%)		07/29/14 02:49
Chromium		6800		7180	ug/kg	5.40		(0%-20%)		07/31/14 01:06
Cobalt		1320		1310	ug/kg	0.607		(0%-20%)		
Copper		11100		9030	ug/kg	20.4*		(0%-20%)		
Iron		2190000		2070000	ug/kg	5.97		(0%-20%)		

QC Summary

Workorder: **352745**

Parmname	NOM		Sample	Qual	QC	Units	RPD%		REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS												
Batch 1403878												
Lead			5930		6070	ug/kg	2.39			(0%-20%)		
Magnesium			202000		204000	ug/kg	1.16			(0%-20%)	PRB	07/31/14 01:06
Manganese			15200		16300	ug/kg	6.71			(0%-20%)		
Nickel			4140		4010	ug/kg	3.22			(0%-20%)		
Potassium			361000		367000	ug/kg	1.52	^		(+/-72900)		08/01/14 08:25
Selenium		J	588	J	552	ug/kg	6.36	^		(+/-1210)		07/31/14 01:06
Sodium			79100		72700	ug/kg	8.33	^		(+/-60700)		07/29/14 02:49
Thallium		J	237	J	216	ug/kg	9.29	^		(+/-486)		07/31/14 01:06
Zinc			7350		6130	ug/kg	18.1	^		(+/-2430)		
QC1203128592 LCS												
Aluminum	189000				186000	ug/kg			98.3	(80%-120%)		07/31/14 00:43
Arsenic	4730				4470	ug/kg			94.5	(80%-120%)		
Barium	4730				4710	ug/kg			99.5	(80%-120%)		
Beryllium	4730				4730	ug/kg			100	(80%-120%)		07/29/14 02:22
Cadmium	4730				4670	ug/kg			98.7	(80%-120%)		07/31/14 00:43
Calcium	189000				182000	ug/kg			96.1	(80%-120%)		07/29/14 02:22
Chromium	4730				4810	ug/kg			102	(80%-120%)		07/31/14 00:43
Cobalt	4730				4840	ug/kg			102	(80%-120%)		
Copper	4730				4870	ug/kg			103	(80%-120%)		
Iron	189000				193000	ug/kg			102	(80%-120%)		
Lead	4730				4890	ug/kg			103	(80%-120%)		
Magnesium	189000				183000	ug/kg			96.5	(80%-120%)		
Manganese	4730				4760	ug/kg			101	(80%-120%)		

QC Summary

Workorder: **352745**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1403878										
Nickel	4730			4920	ug/kg		104	(80%-120%)	PRB	07/31/14 00:43
Potassium	189000			194000	ug/kg		102	(80%-120%)		08/01/14 08:18
Selenium	4730			4670	ug/kg		98.6	(80%-120%)		07/31/14 00:43
Sodium	189000			188000	ug/kg		99.3	(80%-120%)		07/29/14 02:22
Thallium	4730			4840	ug/kg		102	(80%-120%)		07/31/14 00:43
Zinc	4730			4890	ug/kg		103	(80%-120%)		
QC1203128591 MB										
Aluminum			U	ND	ug/kg					07/31/14 00:37
Arsenic			U	ND	ug/kg					
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					07/29/14 02:15
Cadmium			U	ND	ug/kg					07/31/14 00:37
Calcium			U	ND	ug/kg					07/29/14 02:15
Chromium			U	ND	ug/kg					07/31/14 00:37
Cobalt			U	ND	ug/kg					
Copper			U	ND	ug/kg					
Iron			U	ND	ug/kg					
Lead			U	ND	ug/kg					
Magnesium			U	ND	ug/kg					
Manganese			U	ND	ug/kg					
Nickel			U	ND	ug/kg					
Potassium			U	ND	ug/kg					08/01/14 08:14

QC Summary

Workorder: **352745**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1403878											
Selenium				U	ND	ug/kg				PRB	07/31/14 00:37
Sodium				U	ND	ug/kg					07/29/14 02:15
Thallium				U	ND	ug/kg					07/31/14 00:37
Zinc				U	ND	ug/kg					
QC1203128594 352745001 MS											
Aluminum	224000		6180000		8080000	ug/kg		N/A	(75%-125%)		07/31/14 01:12
Arsenic	5610		3580	N	6840	ug/kg		58.1*	(75%-125%)		
Barium	5610		58200		47300	ug/kg		N/A	(75%-125%)		
Beryllium	5610		575		5950	ug/kg		95.7	(75%-125%)		07/29/14 02:55
Cadmium	5610	J	101		5740	ug/kg		101	(75%-125%)		07/31/14 01:12
Calcium	224000		444000	N	558000	ug/kg		50.8*	(75%-125%)		07/29/14 02:55
Chromium	5610		6800		12800	ug/kg		106	(75%-125%)		07/31/14 01:12
Cobalt	5610		1320		6680	ug/kg		95.5	(75%-125%)		
Copper	5610		11100	N	12800	ug/kg		30.8*	(75%-125%)		
Iron	224000		2190000		1950000	ug/kg		N/A	(75%-125%)		
Lead	5610		5930		11500	ug/kg		100	(75%-125%)		
Magnesium	224000		202000		422000	ug/kg		98.3	(75%-125%)		
Manganese	5610		15200	N	17800	ug/kg		46.2*	(75%-125%)		
Nickel	5610		4140		9090	ug/kg		88.1	(75%-125%)		
Potassium	224000		361000	N	529000	ug/kg		74.7*	(75%-125%)		08/01/14 08:29
Selenium	5610	J	588		5200	ug/kg		82.2	(75%-125%)		07/31/14 01:12
Sodium	224000		79100		278000	ug/kg		88.6	(75%-125%)		07/29/14 02:55

QC Summary

Workorder: **352745**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1403878											
Thallium	5610	J	237		5700	ug/kg		97.3	(75%-125%)	PRB	07/31/14 01:12
Zinc	5610		7350	N	10900	ug/kg		63.5*	(75%-125%)		
QC1203137192 352745001 PS											
Arsenic	25.0		15.2		38.8	ug/L		94.6	(80%-120%)		07/31/14 01:18
Calcium	1000		1890		2750	ug/L		86.5	(80%-120%)		07/29/14 03:02
Copper	25.0		47.1		72.6	ug/L		102	(80%-120%)		07/31/14 01:18
Manganese	25.0		64.7		89.5	ug/L		99.1	(80%-120%)		
Potassium	1000		1530		2510	ug/L		97.3	(80%-120%)		08/01/14 08:32
Zinc	25.0		31.2		51.9	ug/L		82.7	(80%-120%)		07/31/14 01:18
QC1203128595 352745001 SDILT											
Aluminum			26200		5300	ug/L	.904		(0%-10%)		07/31/14 01:24
Arsenic			15.2	J	2.38	ug/L	21.9		(0%-10%)		
Barium			247		49.1	ug/L	.682		(0%-10%)		
Beryllium			2.44		0.559	ug/L	14.5		(0%-10%)		07/29/14 03:09
Cadmium		J	0.427	U	ND	ug/L	N/A		(0%-10%)		07/31/14 01:24
Calcium			1890		356	ug/L	5.63		(0%-10%)		07/29/14 03:09
Chromium			28.9		5.23	ug/L	9.49		(0%-10%)		07/31/14 01:24
Cobalt			5.60		1.16	ug/L	3.69		(0%-10%)		
Copper			47.1		9.84	ug/L	4.58		(0%-10%)		
Iron			9310		2000	ug/L	7.6		(0%-10%)		
Lead			25.2		5.04	ug/L	.131		(0%-10%)		
Magnesium			856		168	ug/L	1.73		(0%-10%)		
Manganese			64.7		13.4	ug/L	3.43		(0%-10%)		

QC Summary

Workorder: **352745**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1403878											
Nickel			17.6		3.71	ug/L	5.39		(0%-10%)	PRB	07/31/14 01:24
Potassium			1530	J	296	ug/L	3.53		(0%-10%)		08/01/14 08:36
Selenium		J	2.50	U	ND	ug/L	N/A		(0%-10%)		07/31/14 01:24
Sodium			336	U	ND	ug/L	N/A		(0%-10%)		07/29/14 03:09
Thallium		J	1.01	U	ND	ug/L	N/A		(0%-10%)		07/31/14 01:24
Zinc			31.2	J	6.19	ug/L	.794		(0%-10%)		
Metals Analysis-ICP											
Batch 1403882											
QC1203128599 352745001 DUP											
Antimony		U	ND	J	903	ug/kg	200			JWJ	07/29/14 00:05
Silver		U	ND	U	ND	ug/kg	N/A				
Vanadium			12700		12200	ug/kg	4.16		(0%-20%)		
QC1203128598 LCS											
Antimony	48200				49000	ug/kg		102	(80%-120%)		07/28/14 18:54
Silver	48200				49400	ug/kg		103	(80%-120%)		
Vanadium	48200				49600	ug/kg		103	(80%-120%)		
QC1203128597 MB											
Antimony				J	941	ug/kg					07/28/14 18:51
Silver				U	ND	ug/kg					
Vanadium				U	ND	ug/kg					
QC1203128600 352745001 MS											
Antimony	61200	U	ND		54200	ug/kg		88.6	(75%-125%)		07/29/14 00:08
Silver	61200	U	ND		59700	ug/kg		97.5	(75%-125%)		
Vanadium	61200		12700		86500	ug/kg		121	(75%-125%)		
QC1203128601 352745001 SDILT											

QC Summary

Workorder: 352745

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1403882											
Antimony		U	ND	U	ND	ug/L	N/A		(0%-10%)		07/29/14 00:11
Silver		U	ND	U	ND	ug/L	N/A		(0%-10%)	JWJ	
Vanadium			108		20.0	ug/L	7.17		(0%-10%)		
Metals Analysis-Mercury											
Batch 1404014											
QC1203128901 LCS											
Mercury	120				119	ug/Kg		99.6	(80%-120%)	MTM1	07/18/14 09:59
QC1203128900 MB											
Mercury				U	ND	ug/Kg					07/18/14 09:57
QC1203128902 352745001 MS											
Mercury	144		31.6		174	ug/Kg		98.9	(80%-120%)		07/18/14 10:02
QC1203128903 352745001 MSD											
Mercury	142		31.6		172	ug/Kg	1.33	98.3	(0%-20%)		07/18/14 10:04
QC1203128904 352745001 SDILT											
Mercury			0.425	J	0.077	ug/L	9.41		(0%-10%)		07/18/14 10:05
Semi-Volatile-GC/MS											
Batch 1404578											
QC1203130330 LCS											
2,4-Dinitrotoluene	1660				1280	ug/kg		76.7	(46%-117%)	JLD1	07/22/14 13:59
2-Chlorophenol	1660				1080	ug/kg		65.1	(30%-117%)		
4-Chloro-3-methylphenol	1660				1340	ug/kg		80.2	(34%-110%)		
4-Nitrophenol	1660				1480	ug/kg		88.9	(21%-118%)		
Acenaphthene	1660				1060	ug/kg		63.9	(30%-109%)		
N-Nitrosodipropylamine	1660				1000	ug/kg		60.2	(28%-121%)		
Pentachlorophenol	1660				1140	ug/kg		68.6	(29%-108%)		
Phenol	1660				1050	ug/kg		62.9	(31%-113%)		
Pyrene	1660				1020	ug/kg		61	(34%-113%)		
**2,4,6-Tribromophenol	3330				2560	ug/kg		77	(21%-117%)		

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
**2-Fluorobiphenyl	1660			1100	ug/kg		65.9	(18%-105%)	JLD1	07/22/14	13:59
**2-Fluorophenol	3330			2090	ug/kg		62.7	(20%-108%)			
**Nitrobenzene-d5	1660			1120	ug/kg		67.5	(20%-108%)			
**Phenol-d5	3330			2060	ug/kg		61.9	(18%-110%)			
**p-Terphenyl-d14	1660			1100	ug/kg		66.3	(32%-121%)			
QC1203130329 MB											
1,1'-Biphenyl			U	ND	ug/kg					07/22/14	13:28
1,2,4,5-Tetrachlorobenzene			U	ND	ug/kg						
1-Methylnaphthalene			U	ND	ug/kg						
2,3,4,6-Tetrachlorophenol			U	ND	ug/kg						
2,4,5-Trichlorophenol			U	ND	ug/kg						
2,4,6-Trichlorophenol			U	ND	ug/kg						
2,4-Dichlorophenol			U	ND	ug/kg						
2,4-Dimethylphenol			U	ND	ug/kg						
2,4-Dinitrophenol			U	ND	ug/kg						
2,4-Dinitrotoluene			U	ND	ug/kg						
2,6-Dinitrotoluene			U	ND	ug/kg						
2-Chloronaphthalene			U	ND	ug/kg						
2-Chlorophenol			U	ND	ug/kg						
2-Methyl-4,6-dinitrophenol			U	ND	ug/kg						
2-Methylnaphthalene			U	ND	ug/kg						
2-Nitrophenol			U	ND	ug/kg						

QC Summary

Workorder: **352745**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
3,3'-Dichlorobenzidine			U	ND	ug/kg				JLD1	07/22/14	13:28
4-Bromophenylphenylether			U	ND	ug/kg						
4-Chloro-3-methylphenol			U	ND	ug/kg						
4-Chloroaniline			U	ND	ug/kg						
4-Chlorophenylphenylether			U	ND	ug/kg						
4-Nitrophenol			U	ND	ug/kg						
Acenaphthene			U	ND	ug/kg						
Acenaphthylene			U	ND	ug/kg						
Acetophenone			U	ND	ug/kg						
Anthracene			U	ND	ug/kg						
Atrazine			U	ND	ug/kg						
Benzaldehyde			U	ND	ug/kg						
Benzo(a)anthracene			U	ND	ug/kg						
Benzo(a)pyrene			U	ND	ug/kg						
Benzo(b)fluoranthene			U	ND	ug/kg						
Benzo(ghi)perylene			U	ND	ug/kg						
Benzo(k)fluoranthene			U	ND	ug/kg						
Butylbenzylphthalate			U	ND	ug/kg						
Caprolactam			U	ND	ug/kg						
Carbazole			U	ND	ug/kg						
Chrysene			U	ND	ug/kg						

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
Di-n-butylphthalate			U	ND	ug/kg						
Di-n-octylphthalate			U	ND	ug/kg				JLD1	07/22/14	13:28
Dibenzo(a,h)anthracene			U	ND	ug/kg						
Dibenzofuran			U	ND	ug/kg						
Diethylphthalate			U	ND	ug/kg						
Dimethylphthalate			U	ND	ug/kg						
Diphenylamine			U	ND	ug/kg						
Fluoranthene			U	ND	ug/kg						
Fluorene			U	ND	ug/kg						
Hexachlorobenzene			U	ND	ug/kg						
Hexachlorobutadiene			U	ND	ug/kg						
Hexachlorocyclopentadiene			U	ND	ug/kg						
Hexachloroethane			U	ND	ug/kg						
Indeno(1,2,3-cd)pyrene			U	ND	ug/kg						
Isophorone			U	ND	ug/kg						
N-Nitrosodipropylamine			U	ND	ug/kg						
Naphthalene			U	ND	ug/kg						
Nitrobenzene			U	ND	ug/kg						
Pentachlorophenol			U	ND	ug/kg						
Phenanthrene			U	ND	ug/kg						
Phenol			U	ND	ug/kg						
Pyrene			U	ND	ug/kg						

QC Summary

Workorder: 352745

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS												
Batch 1404578												
bis(2-Chloro-1-methylethyl)ether				U	ND	ug/kg						
bis(2-Chloroethoxy)methane				U	ND	ug/kg				JLD1	07/22/14	13:28
bis(2-Chloroethyl) ether				U	ND	ug/kg						
bis(2-Ethylhexyl)phthalate				U	ND	ug/kg						
m,p-Cresols				U	ND	ug/kg						
m-Nitroaniline				U	ND	ug/kg						
o-Cresol				U	ND	ug/kg						
o-Nitroaniline				U	ND	ug/kg						
p-Nitroaniline				U	ND	ug/kg						
**2,4,6-Tribromophenol	3330				2590	ug/kg		77.8	(21%-117%)			
**2-Fluorobiphenyl	1670				1240	ug/kg		74.4	(18%-105%)			
**2-Fluorophenol	3330				2310	ug/kg		69.3	(20%-108%)			
**Nitrobenzene-d5	1670				1170	ug/kg		70.1	(20%-108%)			
**Phenol-d5	3330				2230	ug/kg		66.9	(18%-110%)			
**p-Terphenyl-d14	1670				1250	ug/kg		74.8	(32%-121%)			
QC1203130331 352745001 MS												
2,4-Dinitrotoluene	2060	U	ND		1210	ug/kg		58.9	(38%-112%)		07/22/14	15:01
2-Chlorophenol	2060	U	ND		1270	ug/kg		61.6	(29%-105%)			
4-Chloro-3-methylphenol	2060	U	ND		1420	ug/kg		69.2	(32%-110%)			
4-Nitrophenol	2060	U	ND		1390	ug/kg		67.6	(21%-120%)			
Acenaphthene	2060	J	22.2		1130	ug/kg		54.1	(18%-110%)			
N-Nitrosodipropylamine	2060	U	ND		1140	ug/kg		55.2	(26%-111%)			
Pentachlorophenol	2060	U	ND		1200	ug/kg		58.3	(26%-99%)			

QC Summary

Workorder: 352745

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS												
Batch 1404578												
Phenol	2060	U	ND		1270	ug/kg		61.8	(31%-113%)	JLD1	07/22/14	15:01
Pyrene	2060		400		1430	ug/kg		50	(30%-130%)			
**2,4,6-Tribromophenol	4110		2810		2560	ug/kg		62.2	(21%-117%)			
**2-Fluorobiphenyl	2060		1280		1170	ug/kg		57.1	(18%-105%)			
**2-Fluorophenol	4110		2380		2410	ug/kg		58.7	(20%-108%)			
**Nitrobenzene-d5	2060		1350		1220	ug/kg		59.3	(20%-108%)			
**Phenol-d5	4110		2420		2400	ug/kg		58.3	(18%-110%)			
**p-Terphenyl-d14	2060		1390		1250	ug/kg		60.8	(32%-121%)			
QC1203130332 352745001 MSD												
2,4-Dinitrotoluene	2060	U	ND		1450	ug/kg	18.2	70.7	(0%-30%)		07/22/14	15:32
2-Chlorophenol	2060	U	ND		1460	ug/kg	14.1	70.9	(0%-30%)			
4-Chloro-3-methylphenol	2060	U	ND		1610	ug/kg	12.3	78.2	(0%-30%)			
4-Nitrophenol	2060	U	ND		1720	ug/kg	21.0	83.4	(0%-30%)			
Acenaphthene	2060	J	22.2		1200	ug/kg	5.88	57.3	(0%-30%)			
N-Nitrosodipropylamine	2060	U	ND		1350	ug/kg	17.4	65.7	(0%-30%)			
Pentachlorophenol	2060	U	ND		1360	ug/kg	12.9	66.3	(0%-30%)			
Phenol	2060	U	ND		1520	ug/kg	18.0	73.9	(0%-30%)			
Pyrene	2060		400		1560	ug/kg	8.89	56.4	(0%-30%)			
**2,4,6-Tribromophenol	4120		2810		2890	ug/kg		70.2	(21%-117%)			
**2-Fluorobiphenyl	2060		1280		1150	ug/kg		55.7	(18%-105%)			
**2-Fluorophenol	4120		2380		2670	ug/kg		64.9	(20%-108%)			
**Nitrobenzene-d5	2060		1350		1170	ug/kg		57	(20%-108%)			

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 1404578										
**Phenol-d5	4120	2420		2810	ug/kg		68.3	(18%-110%)	JLD1	07/22/14 15:32
**p-Terphenyl-d14	2060	1390		1300	ug/kg		63.3	(32%-121%)		
Spectrometric Analysis										
Batch 1404102										
QC1203129133 352775001 DUP										
Hexavalent Chromium	J	0.152		1.01	mg/kg	148*^		(+/-0.393)	EXM3	07/18/14 12:05
QC1203129139 ILCS										
Hexavalent Chromium	7.20			7.01	mg/kg		97.3	(80%-120%)		07/18/14 11:20
QC1203129138 LCS										
Hexavalent Chromium	3.94			3.39	mg/kg		85.9	(80%-120%)		07/18/14 11:17
QC1203129132 MB										
Hexavalent Chromium			U	ND	mg/kg					07/18/14 11:17
QC1203129135 352775001 MS										
Hexavalent Chromium	3.91	J 0.152		1.59	mg/kg		36.9*	(75%-125%)		07/18/14 12:08
QC1203129137 352775001 MSD										
Hexavalent Chromium	3.61	J 0.152		3.47	mg/kg	74.1*	91.7	(0%-30%)		07/18/14 12:10
Volatile-GC/MS										
Batch 1405334										
QC1203132390 LCS										
1,1-Dichloroethylene	50.0			52.8	ug/L		106	(70%-130%)	RXY1	07/22/14 08:08
4-Methyl-2-pentanone	250			259	ug/L		103	(70%-130%)		
Benzene	50.0			47.8	ug/L		95.6	(70%-130%)		
Chlorobenzene	50.0			48.9	ug/L		97.8	(70%-130%)		
Chloroform	50.0			52.9	ug/L		106	(70%-130%)		
Toluene	50.0			46.7	ug/L		93.4	(70%-130%)		
Trichloroethylene	50.0			50.4	ug/L		101	(70%-130%)		
Vinyl chloride	50.0			48.6	ug/L		97.2	(70%-130%)		
**1,2-Dichloroethane-d4	50.0			56.0	ug/L		112	(78%-124%)		

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1405334											
**Bromofluorobenzene	50.0			50.4	ug/L		101	(80%-120%)	RXY1	07/22/14	08:08
**Toluene-d8	50.0			48.3	ug/L		96.6	(80%-120%)			
QC1203132387 MB											
1,1,1-Trichloroethane			U	ND	ug/L					07/22/14	10:57
1,1,2,2-Tetrachloroethane			U	ND	ug/L						
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						
2-Hexanone			U	ND	ug/L						
4-Methyl-2-pentanone			U	ND	ug/L						
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						
Carbon disulfide			U	ND	ug/L						
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1405334											
Chloroform			U	ND	ug/L				RXY1	07/22/14	10:57
Chloromethane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						
Tetrachloroethylene			U	ND	ug/L						
Toluene			U	ND	ug/L						
Trichloroethylene			U	ND	ug/L						
Vinyl acetate			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						
Xylenes (total)			U	ND	ug/L						
cis-1,2-Dichloroethylene			U	ND	ug/L						
cis-1,3-Dichloropropylene			U	ND	ug/L						
trans-1,2-Dichloroethylene			U	ND	ug/L						
trans-1,3-Dichloropropylene			U	ND	ug/L						
**1,2-Dichloroethane-d4	50.0			59.3	ug/L		119	(78%-124%)			
**Bromofluorobenzene	50.0			50.0	ug/L		99.9	(80%-120%)			
**Toluene-d8	50.0			49.4	ug/L		98.9	(80%-120%)			
QC1203132388 352906008 PS											
1,1-Dichloroethylene	50.0	U	ND	57.5	ug/L		115	(74%-130%)		07/22/14	17:30
4-Methyl-2-pentanone	250	U	ND	282	ug/L		113	(70%-132%)			

QC Summary

Workorder: 352745

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 1405334											
Benzene	50.0	U	ND		54.5	ug/L		109	(75%-120%)	RXY1	07/22/14 17:30
Chlorobenzene	50.0	U	ND		54.8	ug/L		110	(74%-120%)		
Chloroform	50.0		1.28		60.6	ug/L		119	(75%-123%)		
Toluene	50.0	U	ND		54.9	ug/L		110	(72%-120%)		
Trichloroethylene	50.0	J	0.760		57.6	ug/L		114	(75%-125%)		
Vinyl chloride	50.0	U	ND		49.1	ug/L		98.2	(52%-129%)		
**1,2-Dichloroethane-d4	50.0		58.8		57.8	ug/L		116	(78%-124%)		
**Bromofluorobenzene	50.0		50.2		50.1	ug/L		100	(80%-120%)		
**Toluene-d8	50.0		50.2		50.3	ug/L		101	(80%-120%)		
QC1203132389 352906008 PSD											
1,1-Dichloroethylene	50.0	U	ND		53.2	ug/L	7.75	106	(0%-20%)		07/22/14 17:59
4-Methyl-2-pentanone	250	U	ND		247	ug/L	13.0	98.9	(0%-20%)		
Benzene	50.0	U	ND		49.3	ug/L	9.93	98.6	(0%-20%)		
Chlorobenzene	50.0	U	ND		49.3	ug/L	10.5	98.6	(0%-20%)		
Chloroform	50.0		1.28		54.3	ug/L	10.9	106	(0%-20%)		
Toluene	50.0	U	ND		49.5	ug/L	10.3	99.1	(0%-20%)		
Trichloroethylene	50.0	J	0.760		52.9	ug/L	8.42	104	(0%-20%)		
Vinyl chloride	50.0	U	ND		47.1	ug/L	4.11	94.3	(0%-20%)		
**1,2-Dichloroethane-d4	50.0		58.8		56.9	ug/L		114	(78%-124%)		
**Bromofluorobenzene	50.0		50.2		50.1	ug/L		100	(80%-120%)		
**Toluene-d8	50.0		50.2		49.7	ug/L		99.3	(80%-120%)		
Batch 1406788											

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
QC1203135927 LCS											
1,1-Dichloroethylene	50.0			49.5	ug/kg		99	(70%-130%)	GRB2	07/25/14	14:40
4-Methyl-2-pentanone	250			309	ug/kg		124	(70%-130%)			
Benzene	50.0			48.8	ug/kg		97.5	(70%-130%)			
Chlorobenzene	50.0			48.2	ug/kg		96.4	(70%-130%)			
Chloroform	50.0			47.5	ug/kg		95	(70%-130%)			
Toluene	50.0			47.7	ug/kg		95.3	(70%-130%)			
Trichloroethylene	50.0			47.5	ug/kg		95	(70%-130%)			
Vinyl chloride	50.0			61.2	ug/kg		122	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			48.8	ug/L		97.6	(76%-122%)			
**Bromofluorobenzene	50.0			49.3	ug/L		98.5	(80%-120%)			
**Toluene-d8	50.0			48.2	ug/L		96.5	(80%-120%)			
QC1203138444 LCS											
1,1-Dichloroethylene	50.0			45.7	ug/kg		91.4	(70%-130%)	ACJ	07/28/14	10:31
4-Methyl-2-pentanone	250			236	ug/kg		94.6	(70%-130%)			
Benzene	50.0			46.5	ug/kg		93	(70%-130%)			
Chlorobenzene	50.0			45.1	ug/kg		90.2	(70%-130%)			
Chloroform	50.0			47.3	ug/kg		94.6	(70%-130%)			
Toluene	50.0			44.9	ug/kg		89.9	(70%-130%)			
Trichloroethylene	50.0			48.0	ug/kg		95.9	(70%-130%)			
Vinyl chloride	50.0			51.5	ug/kg		103	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			46.4	ug/L		92.8	(76%-122%)			
**Bromofluorobenzene	50.0			47.6	ug/L		95.2	(80%-120%)			
**Toluene-d8	50.0			46.4	ug/L		92.8	(80%-120%)			

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
QC1203138445 LCS											
1,1-Dichloroethylene	50.0			51.2	ug/kg		102	(70%-130%)	ACJ	07/29/14	10:54
4-Methyl-2-pentanone	250			237	ug/kg		94.8	(70%-130%)			
Benzene	50.0			50.2	ug/kg		100	(70%-130%)			
Chlorobenzene	50.0			49.2	ug/kg		98.4	(70%-130%)			
Chloroform	50.0			51.4	ug/kg		103	(70%-130%)			
Toluene	50.0			48.6	ug/kg		97.2	(70%-130%)			
Trichloroethylene	50.0			52.5	ug/kg		105	(70%-130%)			
Vinyl chloride	50.0			51.8	ug/kg		104	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			47.8	ug/L		95.6	(76%-122%)			
**Bromofluorobenzene	50.0			49.4	ug/L		98.9	(80%-120%)			
**Toluene-d8	50.0			48.2	ug/L		96.3	(80%-120%)			
QC1203135928 LCSD											
1,1-Dichloroethylene	50.0			46.4	ug/kg	6.53	92.8	(0%-20%)	GRB2	07/25/14	15:10
4-Methyl-2-pentanone	250			276	ug/kg	11.6	110	(0%-20%)			
Benzene	50.0			46.5	ug/kg	4.77	93	(0%-20%)			
Chlorobenzene	50.0			45.8	ug/kg	5.13	91.6	(0%-20%)			
Chloroform	50.0			45.2	ug/kg	4.92	90.4	(0%-20%)			
Toluene	50.0			45.2	ug/kg	5.39	90.3	(0%-20%)			
Trichloroethylene	50.0			45.1	ug/kg	5.14	90.3	(0%-20%)			
Vinyl chloride	50.0			61.7	ug/kg	0.813	123	(0%-20%)			
**1,2-Dichloroethane-d4	50.0			48.7	ug/L		97.5	(76%-122%)			
**Bromofluorobenzene	50.0			49.4	ug/L		98.7	(80%-120%)			

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
**Toluene-d8	50.0			48.1	ug/L		96.3	(80%-120%)	GRB2	07/25/14	15:10
QC1203135926 MB											
1,1,1-Trichloroethane			U	ND	ug/kg					07/25/14	16:09
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS										
Batch 1406788										
Chloromethane			U	ND	ug/kg				GRB2	07/25/14 16:09
Dibromochloromethane			U	ND	ug/kg					
Ethylbenzene			U	ND	ug/kg					
Methylene chloride			U	ND	ug/kg					
Styrene			U	ND	ug/kg					
Tetrachloroethylene			U	ND	ug/kg					
Toluene			U	ND	ug/kg					
Trichloroethylene			U	ND	ug/kg					
Vinyl acetate			U	ND	ug/kg					
Vinyl chloride			U	ND	ug/kg					
Xylenes (total)			U	ND	ug/kg					
cis-1,2-Dichloroethylene			U	ND	ug/kg					
cis-1,3-Dichloropropylene			U	ND	ug/kg					
trans-1,2-Dichloroethylene			U	ND	ug/kg					
trans-1,3-Dichloropropylene			U	ND	ug/kg					
**1,2-Dichloroethane-d4	50.0			47.4	ug/L		94.8	(76%-122%)		
**Bromofluorobenzene	50.0			51.0	ug/L		102	(80%-120%)		
**Toluene-d8	50.0			49.6	ug/L		99.2	(80%-120%)		
QC1203138442 MB										
1,1,1-Trichloroethane			U	ND	ug/kg				ACJ	07/28/14 11:55
1,1,2,2-Tetrachloroethane			U	ND	ug/kg					
1,1,2-Trichloroethane			U	ND	ug/kg					

QC Summary

Workorder: **352745**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
1,1-Dichloroethane			U	ND	ug/kg				ACJ	07/28/14	11:55
1,1-Dichloroethylene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						
Chloromethane			U	ND	ug/kg						
Dibromochloromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						

QC Summary

Workorder: **352745**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg				ACJ	07/28/14	11:55
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						
Vinyl acetate			U	ND	ug/kg						
Vinyl chloride			U	ND	ug/kg						
Xylenes (total)			U	ND	ug/kg						
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg						
trans-1,2-Dichloroethylene			U	ND	ug/kg						
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			50.9	ug/L		102	(76%-122%)			
**Bromofluorobenzene	50.0			48.1	ug/L		96.3	(80%-120%)			
**Toluene-d8	50.0			46.1	ug/L		92.1	(80%-120%)			
QC1203138443 MB											
1,1,1-Trichloroethane			U	ND	ug/kg					07/29/14	12:18
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						

QC Summary

Workorder: **352745**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
2-Hexanone			U	ND	ug/kg				ACJ	07/29/14	12:18
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						
Chloromethane			U	ND	ug/kg						
Dibromochloromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg						
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						
Vinyl acetate			U	ND	ug/kg						

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
Vinyl chloride			U	ND	ug/kg						
Xylenes (total)			U	ND	ug/kg				ACJ	07/29/14	12:18
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg						
trans-1,2-Dichloroethylene			U	ND	ug/kg						
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			49.4	ug/L		98.9	(76%-122%)			
**Bromofluorobenzene	50.0			50.4	ug/L		101	(80%-120%)			
**Toluene-d8	50.0			49.6	ug/L		99.1	(80%-120%)			

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- JNX Non Calibrated Compound

QC Summary

Workorder: 352745

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N	Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Compound cannot be extracted
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 01 August 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−14
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: _____ of _____
Project #: SDN000514
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 352745

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering LLC Phone #:
Project/Site Name: Sonoco Products Company Fax #:
Address: 1N. Second Street, Hartsville, SC
Collected by: Client (Kelt Olsen) Send Results To: T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TCL VOCs	<-- Preservative Type (6)	Comments
SB-SS-23	07-14-14	15:45	G	N	SO			4	X		Note: extra sample is required for sample specific QC
SB-SS-24	07-14-14	15:00	G	N	SO			4	X		
SB-SS-23-D	07-14-14	15:45	FD	N	SO			4	X		
TB-071514	07-15-14	09:04	TB	N	W			4	X		
SB-SS-25		09:25	G	N	SO			4	X		
SB-SS-26		10:05	G	N	SO			4	X		
SB-SS-26-D		10:05	FD	N	SO			4	X		
SB-SS-27		10:40	G	N	SO			4	X		
SB-SS-23		11:30	G	N	SO			4	X		
SB-SS-29		12:20	G	N	SO			4	X		

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone: Eastern Pacific Central Other _____ Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Kelt Olsen	7/15/14	16:20	FED EX		
2				P. Valent	7-16-14	09:05
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Page: _____ of _____
Project #: SDG00514
GEL Quote #: _____
COC Number [1]: _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering, LLC — Phone #:
Project/Site Name: Seneca Products Company — Fax #:
Address: 1 N. 2nd Street
Collected by: Client (Matt Olsen) — Send Results To: T. Putney

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TCL SVOCs	TAL Metals	Hg, CN, Cr6+	<-- Preservative Type (6)	Comments
SB-SS-24	07-14-14	15:00	C	N	SO			1	X	X	X		
SB-SS-28	↓	15:45	C	N	SO			1	X	X	X		
SB-SS-28-D	↓	15:45	FD	N	SO			1	X	X	X		
SB-SS-25	07-15-14	09:25	C	N	SO			1	X	X	X		
SB-SS-26	↓	10:05	C	N	SO			1	X	X	X		
SB-SS-26-D	↓	10:05	FD	N	SO			1	X	X	X		
SB-SS-27	↓	10:40	C	N	SO			1	X	X	X		
SB-SS-23	↓	11:30	C	N	SO			1	X	X	X		
SB-SS-29	↓	12:20	C	N	SO			1	X	X	X		

Comments: Note: extra sample is required for sample specific QC

TAT Requested: Normal: ____ Rush: ____ Specify: ____ (Subject to Surcharge) | Fax Results: Yes / No | Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone: Eastern / Central / Mountain / Pacific / Other _____

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Matt Olsen	7/15/14	16:20	Fed Ex		
2				Patient	7-16-14	0905
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: — Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SDMO	**SDG/AR/COC/Work Order:** 352745
Received By: P. Lant	**Date Received:** 7-16-14

Suspected Hazard Information	**Yes**	**No**	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0CPM
Classified Radioactive II or III by RSO?		X	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		X	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		X	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	X			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) 2C *all temperatures are recorded in Celsius
2a	Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): 130462966
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	X	X		Sample ID's and containers affected: 7-16-14
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Sample ID's affected:
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	X			
13	COC form is properly signed in relinquished/received sections?	X			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other 8055 8860 6261-2c

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials HA Date 072214 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
18−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
VIS SPECTROMETER	SW846 7196A	Solid	CBRA, SONO
Batch ID:	**Sample Numbers:**		
1404102	See Below		

Potentially affected work order(s)(SDG): 352745,352775

Application Issues:

Failed Recovery for MS/PS

Failed RPD for MS/MSD, or PS/PSD

Failed RPD for DUP

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203129135MS 2. Failed RPD for DUP: QC 1203129133DUP 3. Failed RPD for MS/MSD, or PS/PSD: QC 1203129137MSD	1. The spike recovery falls outside of the established acceptance limits due to matrix interference: 2.The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample: 3. The Relative Percent Difference (RPD) between the spike and spike duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Originator's Name:
Erin McCance 18−JUL−14

Data Validator/Group Leader:
Elzbieta Szulc 18−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
24−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LACHAT Flow Injection Analyzer	SW846 9012A	Solid	SONO
Batch ID:	**Sample Numbers:**		
1404556	See Below		

Potentially affected work order(s)(SDG): 352745,352929

Application Issues:

Failed Recovery for MS/PS

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203130270MS	1. The spike recovery falls outside of the established acceptance limits due to matrix interference.

Originator's Name:

Aubrey Kingsbury 24−JUL−14

Data Validator/Group Leader:

Kristen Parson 25−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
25−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
SEMIVOA GC/MS	SW846 3550C/8270D	Solid	SONO
Batch ID:	**Sample Numbers:**		
1404578	See Below		

Potentially affected work order(s)(SDG): 352745

Application Issues:

Failed Yield for Surrogates

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample 352745010(SB−SS−29) recovered p−Terphenyl−d14 at 135%. The limits are 32%−121%.	1. The sample was analyzed at a dilution due to the dark and viscous nature of the sample extract. As a result, the surrogate was diluted out of the acceptance limits. The data were reported.

Originator's Name:

Jennifer Dunagan Jones 25−JUL−14

Data Validator/Group Leader:

Barbara Bailey 28−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
29−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP	SW846 3050B/6010C	Solid	SONO
Batch ID:	**Sample Numbers:**		
1403882	See Below		

Potentially affected work order(s)(SDG): 352745

Application Issues:

Failed RPD for DUP

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed RPD for DUP: QC 1203128599(SB−SS−28)DUP	1. The sample and sample duplicate % RPD failed outside the control limits for antimony due to possible sample non−homogeneity and/or matrix interference.

Originator's Name:

Jerry Wigfall 30−JUL−14

Data Validator/Group Leader:

Louise Smith 30−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
01−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP/MS	SW846 3050B/6020A	Solid	SONO
Batch ID:	**Sample Numbers:**		
1403878	See Below		

Potentially affected work order(s)(SDG): 352745

Application Issues:

Failed Recovery for MS/PS

Failed RPD for DUP

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203128594(SB−SS−28)MS 2. Failed RPD for DUP: QC 1203128593(SB−SS−28)DUP	The matrix spike recovery failed outside of the control limits for arsenic, calcium, copper, manganese, potassium and zinc. The post spike passed the required control limits for all analytes. This verifies the absence of a matrix interference. The sample and sample duplicate % RPD failed outside the control limits for copper due to possible sample non−homogeneity and/or matrix interference.

Originator's Name:

Paul Boyd 01−AUG−14

Data Validator/Group Leader:

Elizabeth Janssen 01−AUG−14

GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

July 30, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 352928

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 18, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 352928 GEL Work Order: 352928

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

E Concentration of the target analyte exceeds the instrument calibration range

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by Jacob W Crook

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TB-071614
Sample ID: 352928001
Matrix: Water
Collect Date: 16-JUL-14 08:00
Receive Date: 18-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	RXY1	07/22/14	1153	1405334	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TB-071614	Project:	SONO00514C
Sample ID:	352928001	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	56.5 ug/L	50.0	113	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.5 ug/L	50.0	99.0	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	49.3 ug/L	50.0	98.7	(80%-120%)

Notes:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 P
Sample ID: 352928002
Matrix: Soil
Collect Date: 16-JUL-14 14:35
Receive Date: 18-JUL-14
Collector: Client
Moisture: 11.1%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.250	0.750	ug/kg	1	ACJ	07/28/14	1609	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.250	0.750	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.250	0.750	ug/kg	1					
1,1-Dichloroethane	U	ND	0.250	0.750	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.250	0.750	ug/kg	1					
1,2-Dichloroethane	U	ND	0.250	0.750	ug/kg	1					
1,2-Dichloropropane	U	ND	0.250	0.750	ug/kg	1					
2-Butanone		112	1.25	3.75	ug/kg	1					
2-Hexanone		6.02	1.25	3.75	ug/kg	1					
4-Methyl-2-pentanone	J	2.85	1.25	3.75	ug/kg	1					
Benzene	U	ND	0.250	0.750	ug/kg	1					
Bromodichloromethane	U	ND	0.250	0.750	ug/kg	1					
Bromoform	U	ND	0.250	0.750	ug/kg	1					
Bromomethane	U	ND	0.250	0.750	ug/kg	1					
Carbon disulfide		45.4	1.25	3.75	ug/kg	1					
Carbon tetrachloride	U	ND	0.250	0.750	ug/kg	1					
Chlorobenzene	U	ND	0.250	0.750	ug/kg	1					
Chloroethane	U	ND	0.250	0.750	ug/kg	1					
Chloroform	U	ND	0.250	0.750	ug/kg	1					
Chloromethane	U	ND	0.250	0.750	ug/kg	1					
Dibromochloromethane	U	ND	0.250	0.750	ug/kg	1					
Ethylbenzene		1.10	0.250	0.750	ug/kg	1					
Methylene chloride	J	1.74	1.25	3.75	ug/kg	1					
Styrene	U	ND	0.250	0.750	ug/kg	1					
Tetrachloroethylene	U	ND	0.250	0.750	ug/kg	1					
Toluene	J	0.262	0.250	0.750	ug/kg	1					
Trichloroethylene	U	ND	0.250	0.750	ug/kg	1					
Vinyl acetate	U	ND	1.25	3.75	ug/kg	1					
Vinyl chloride	U	ND	0.250	0.750	ug/kg	1					
Xylenes (total)	U	ND	0.750	2.25	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.250	0.750	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.250	0.750	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.250	0.750	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.250	0.750	ug/kg	1					
Acetone		478	125	375	ug/kg	50	ACJ	07/29/14	1824	1406788	2

The following Prep Methods were performed:

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-01 P	Project:	SONO00514C
Sample ID:	352928002	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1435	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	
2	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	39.9 ug/kg	50.0	106	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	38.3 ug/kg	50.0	102	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	37.0 ug/kg	50.0	98.7	(80%-120%)

Notes:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 R
Sample ID: 352928003
Matrix: Soil
Collect Date: 16-JUL-14 14:45
Receive Date: 18-JUL-14
Collector: Client
Moisture: 7.26%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.253	0.759	ug/kg	1	ACJ	07/28/14	1637	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.253	0.759	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.253	0.759	ug/kg	1					
1,1-Dichloroethane	U	ND	0.253	0.759	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.253	0.759	ug/kg	1					
1,2-Dichloroethane	U	ND	0.253	0.759	ug/kg	1					
1,2-Dichloropropane	U	ND	0.253	0.759	ug/kg	1					
2-Butanone		26.0	1.27	3.80	ug/kg	1					
2-Hexanone	U	ND	1.27	3.80	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.27	3.80	ug/kg	1					
Acetone		95.6	1.27	3.80	ug/kg	1					
Benzene	U	ND	0.253	0.759	ug/kg	1					
Bromodichloromethane	U	ND	0.253	0.759	ug/kg	1					
Bromoform	U	ND	0.253	0.759	ug/kg	1					
Bromomethane	U	ND	0.253	0.759	ug/kg	1					
Carbon disulfide		4.93	1.27	3.80	ug/kg	1					
Carbon tetrachloride	U	ND	0.253	0.759	ug/kg	1					
Chlorobenzene	U	ND	0.253	0.759	ug/kg	1					
Chloroethane	U	ND	0.253	0.759	ug/kg	1					
Chloroform	U	ND	0.253	0.759	ug/kg	1					
Chloromethane	U	ND	0.253	0.759	ug/kg	1					
Dibromochloromethane	U	ND	0.253	0.759	ug/kg	1					
Ethylbenzene	J	0.410	0.253	0.759	ug/kg	1					
Methylene chloride	J	2.75	1.27	3.80	ug/kg	1					
Styrene	U	ND	0.253	0.759	ug/kg	1					
Tetrachloroethylene	U	ND	0.253	0.759	ug/kg	1					
Toluene	U	ND	0.253	0.759	ug/kg	1					
Trichloroethylene	U	ND	0.253	0.759	ug/kg	1					
Vinyl acetate	U	ND	1.27	3.80	ug/kg	1					
Vinyl chloride	U	ND	0.253	0.759	ug/kg	1					
Xylenes (total)	U	ND	0.759	2.28	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.253	0.759	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.253	0.759	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.253	0.759	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.253	0.759	ug/kg	1					

The following Prep Methods were performed:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-01 R	Project:	SONO00514C
Sample ID:	352928003	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1445	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	39.9 ug/kg	50.0	105	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	41.6 ug/kg	50.0	109	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	39.1 ug/kg	50.0	103	(80%-120%)

Notes:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 P
Sample ID: 352928004
Matrix: Soil
Collect Date: 16-JUL-14 15:18
Receive Date: 18-JUL-14
Collector: Client
Moisture: 13.4%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.243	0.731	ug/kg	1	ACJ	07/28/14	1705	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.243	0.731	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.243	0.731	ug/kg	1					
1,1-Dichloroethane	U	ND	0.243	0.731	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.243	0.731	ug/kg	1					
1,2-Dichloroethane	U	ND	0.243	0.731	ug/kg	1					
1,2-Dichloropropane	U	ND	0.243	0.731	ug/kg	1					
2-Butanone		88.1	1.22	3.65	ug/kg	1					
2-Hexanone	J	1.32	1.22	3.65	ug/kg	1					
4-Methyl-2-pentanone		14.6	1.22	3.65	ug/kg	1					
Acetone		224	1.22	3.65	ug/kg	1					
Benzene	U	ND	0.243	0.731	ug/kg	1					
Bromodichloromethane	U	ND	0.243	0.731	ug/kg	1					
Bromoform	U	ND	0.243	0.731	ug/kg	1					
Bromomethane	U	ND	0.243	0.731	ug/kg	1					
Carbon disulfide		15.8	1.22	3.65	ug/kg	1					
Carbon tetrachloride	U	ND	0.243	0.731	ug/kg	1					
Chlorobenzene	U	ND	0.243	0.731	ug/kg	1					
Chloroethane	U	ND	0.243	0.731	ug/kg	1					
Chloroform	U	ND	0.243	0.731	ug/kg	1					
Chloromethane	U	ND	0.243	0.731	ug/kg	1					
Dibromochloromethane	U	ND	0.243	0.731	ug/kg	1					
Ethylbenzene		0.833	0.243	0.731	ug/kg	1					
Methylene chloride	U	ND	1.22	3.65	ug/kg	1					
Styrene	U	ND	0.243	0.731	ug/kg	1					
Tetrachloroethylene	U	ND	0.243	0.731	ug/kg	1					
Toluene	J	0.592	0.243	0.731	ug/kg	1					
Trichloroethylene	U	ND	0.243	0.731	ug/kg	1					
Vinyl acetate	U	ND	1.22	3.65	ug/kg	1					
Vinyl chloride	U	ND	0.243	0.731	ug/kg	1					
Xylenes (total)	U	ND	0.731	2.19	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.243	0.731	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.243	0.731	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.243	0.731	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.243	0.731	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-02 P	Project:	SONO00514C
Sample ID:	352928004	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1518	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	39.6 ug/kg	50.0	109	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	36.0 ug/kg	50.0	98.5	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	36.0 ug/kg	50.0	98.5	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 R
Sample ID: 352928005
Matrix: Soil
Collect Date: 16-JUL-14 15:30
Receive Date: 18-JUL-14
Collector: Client
Moisture: 4.07%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.275	0.827	ug/kg	1	ACJ	07/28/14	1733	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.275	0.827	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.275	0.827	ug/kg	1					
1,1-Dichloroethane	U	ND	0.275	0.827	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.275	0.827	ug/kg	1					
1,2-Dichloroethane	U	ND	0.275	0.827	ug/kg	1					
1,2-Dichloropropane	U	ND	0.275	0.827	ug/kg	1					
2-Butanone		5.72	1.38	4.14	ug/kg	1					
2-Hexanone	U	ND	1.38	4.14	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.38	4.14	ug/kg	1					
Acetone		10.3	1.38	4.14	ug/kg	1					
Benzene	U	ND	0.275	0.827	ug/kg	1					
Bromodichloromethane	U	ND	0.275	0.827	ug/kg	1					
Bromoform	U	ND	0.275	0.827	ug/kg	1					
Bromomethane	U	ND	0.275	0.827	ug/kg	1					
Carbon disulfide	J	2.75	1.38	4.14	ug/kg	1					
Carbon tetrachloride	U	ND	0.275	0.827	ug/kg	1					
Chlorobenzene	U	ND	0.275	0.827	ug/kg	1					
Chloroethane	U	ND	0.275	0.827	ug/kg	1					
Chloroform	U	ND	0.275	0.827	ug/kg	1					
Chloromethane	U	ND	0.275	0.827	ug/kg	1					
Dibromochloromethane	U	ND	0.275	0.827	ug/kg	1					
Ethylbenzene	J	0.298	0.275	0.827	ug/kg	1					
Methylene chloride	U	ND	1.38	4.14	ug/kg	1					
Styrene	U	ND	0.275	0.827	ug/kg	1					
Tetrachloroethylene	U	ND	0.275	0.827	ug/kg	1					
Toluene	J	0.496	0.275	0.827	ug/kg	1					
Trichloroethylene	U	ND	0.275	0.827	ug/kg	1					
Vinyl acetate	U	ND	1.38	4.14	ug/kg	1					
Vinyl chloride	U	ND	0.275	0.827	ug/kg	1					
Xylenes (total)	U	ND	0.827	2.48	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.275	0.827	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.275	0.827	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.275	0.827	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.275	0.827	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-02 R	Project:	SONO00514C
Sample ID:	352928005	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1530	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	41.3 ug/kg	50.0	100	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	47.9 ug/kg	50.0	116	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	42.4 ug/kg	50.0	103	(80%-120%)

Notes:

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Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 P
Sample ID: 352928006
Matrix: Soil
Collect Date: 16-JUL-14 16:20
Receive Date: 18-JUL-14
Collector: Client
Moisture: 9.43%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.252	0.756	ug/kg	1	ACJ	07/28/14	1801	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.252	0.756	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.252	0.756	ug/kg	1					
1,1-Dichloroethane	U	ND	0.252	0.756	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.252	0.756	ug/kg	1					
1,2-Dichloroethane	U	ND	0.252	0.756	ug/kg	1					
1,2-Dichloropropane	U	ND	0.252	0.756	ug/kg	1					
2-Butanone		281	1.26	3.78	ug/kg	1					
2-Hexanone	U	ND	1.26	3.78	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.26	3.78	ug/kg	1					
Acetone		63.1	1.26	3.78	ug/kg	1					
Benzene	U	ND	0.252	0.756	ug/kg	1					
Bromodichloromethane	U	ND	0.252	0.756	ug/kg	1					
Bromoform	U	ND	0.252	0.756	ug/kg	1					
Bromomethane	U	ND	0.252	0.756	ug/kg	1					
Carbon disulfide		31.0	1.26	3.78	ug/kg	1					
Carbon tetrachloride	U	ND	0.252	0.756	ug/kg	1					
Chlorobenzene	U	ND	0.252	0.756	ug/kg	1					
Chloroethane	U	ND	0.252	0.756	ug/kg	1					
Chloroform	U	ND	0.252	0.756	ug/kg	1					
Chloromethane	U	ND	0.252	0.756	ug/kg	1					
Dibromochloromethane	U	ND	0.252	0.756	ug/kg	1					
Ethylbenzene	U	ND	0.252	0.756	ug/kg	1					
Methylene chloride	J	1.53	1.26	3.78	ug/kg	1					
Styrene	U	ND	0.252	0.756	ug/kg	1					
Tetrachloroethylene	U	ND	0.252	0.756	ug/kg	1					
Toluene	U	ND	0.252	0.756	ug/kg	1					
Trichloroethylene	U	ND	0.252	0.756	ug/kg	1					
Vinyl acetate	U	ND	1.26	3.78	ug/kg	1					
Vinyl chloride	U	ND	0.252	0.756	ug/kg	1					
Xylenes (total)	U	ND	0.756	2.27	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.252	0.756	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.252	0.756	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.252	0.756	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.252	0.756	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 P
Sample ID: 352928006
Project: SONO00514C
Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1620	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	40.8 ug/kg	50.0	108	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	38.0 ug/kg	50.0	101	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	36.9 ug/kg	50.0	97.5	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 R
Sample ID: 352928007
Matrix: Soil
Collect Date: 16-JUL-14 16:32
Receive Date: 18-JUL-14
Collector: Client
Moisture: 10%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.240	0.722	ug/kg	1	ACJ	07/28/14	1829	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.240	0.722	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.240	0.722	ug/kg	1					
1,1-Dichloroethane	U	ND	0.240	0.722	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.240	0.722	ug/kg	1					
1,2-Dichloroethane	U	ND	0.240	0.722	ug/kg	1					
1,2-Dichloropropane	U	ND	0.240	0.722	ug/kg	1					
2-Hexanone	U	ND	1.20	3.61	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.20	3.61	ug/kg	1					
Acetone		74.2	1.20	3.61	ug/kg	1					
Benzene	U	ND	0.240	0.722	ug/kg	1					
Bromodichloromethane	U	ND	0.240	0.722	ug/kg	1					
Bromoform	U	ND	0.240	0.722	ug/kg	1					
Bromomethane	U	ND	0.240	0.722	ug/kg	1					
Carbon disulfide	U	ND	1.20	3.61	ug/kg	1					
Carbon tetrachloride	U	ND	0.240	0.722	ug/kg	1					
Chlorobenzene	U	ND	0.240	0.722	ug/kg	1					
Chloroethane	U	ND	0.240	0.722	ug/kg	1					
Chloroform	U	ND	0.240	0.722	ug/kg	1					
Chloromethane	U	ND	0.240	0.722	ug/kg	1					
Dibromochloromethane	U	ND	0.240	0.722	ug/kg	1					
Ethylbenzene	J	0.548	0.240	0.722	ug/kg	1					
Methylene chloride	J	2.32	1.20	3.61	ug/kg	1					
Styrene	U	ND	0.240	0.722	ug/kg	1					
Tetrachloroethylene	U	ND	0.240	0.722	ug/kg	1					
Toluene	J	0.332	0.240	0.722	ug/kg	1					
Trichloroethylene	U	ND	0.240	0.722	ug/kg	1					
Vinyl acetate	U	ND	1.20	3.61	ug/kg	1					
Vinyl chloride	U	ND	0.240	0.722	ug/kg	1					
Xylenes (total)	J	1.17	0.722	2.17	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.240	0.722	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.240	0.722	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.240	0.722	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.240	0.722	ug/kg	1					
2-Butanone		1000	124	370	ug/kg	50	ACJ	07/29/14	1852	1406788	2

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-03 R	Project:	SONO00514C
Sample ID:	352928007	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1632	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	
2	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	37.7 ug/kg	50.0	104	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	36.9 ug/kg	50.0	102	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	35.7 ug/kg	50.0	98.8	(80%-120%)

Notes:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02R-D
Sample ID: 352928008
Matrix: Soil
Collect Date: 16-JUL-14 15:30
Receive Date: 18-JUL-14
Collector: Client
Moisture: 4.45%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.295	0.887	ug/kg	1	ACJ	07/28/14	1857	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.295	0.887	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.295	0.887	ug/kg	1					
1,1-Dichloroethane	U	ND	0.295	0.887	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.295	0.887	ug/kg	1					
1,2-Dichloroethane	U	ND	0.295	0.887	ug/kg	1					
1,2-Dichloropropane	U	ND	0.295	0.887	ug/kg	1					
2-Butanone		5.22	1.48	4.43	ug/kg	1					
2-Hexanone	U	ND	1.48	4.43	ug/kg	1					
4-Methyl-2-pentanone	U	ND	1.48	4.43	ug/kg	1					
Acetone		8.58	1.48	4.43	ug/kg	1					
Benzene	U	ND	0.295	0.887	ug/kg	1					
Bromodichloromethane	U	ND	0.295	0.887	ug/kg	1					
Bromoform	U	ND	0.295	0.887	ug/kg	1					
Bromomethane	U	ND	0.295	0.887	ug/kg	1					
Carbon disulfide	J	2.52	1.48	4.43	ug/kg	1					
Carbon tetrachloride	U	ND	0.295	0.887	ug/kg	1					
Chlorobenzene	U	ND	0.295	0.887	ug/kg	1					
Chloroethane	U	ND	0.295	0.887	ug/kg	1					
Chloroform	U	ND	0.295	0.887	ug/kg	1					
Chloromethane	U	ND	0.295	0.887	ug/kg	1					
Dibromochloromethane	U	ND	0.295	0.887	ug/kg	1					
Ethylbenzene	U	ND	0.295	0.887	ug/kg	1					
Methylene chloride	J	1.85	1.48	4.43	ug/kg	1					
Styrene	U	ND	0.295	0.887	ug/kg	1					
Tetrachloroethylene	U	ND	0.295	0.887	ug/kg	1					
Toluene	J	0.435	0.295	0.887	ug/kg	1					
Trichloroethylene	U	ND	0.295	0.887	ug/kg	1					
Vinyl acetate	U	ND	1.48	4.43	ug/kg	1					
Vinyl chloride	U	ND	0.295	0.887	ug/kg	1					
Xylenes (total)	U	ND	0.887	2.66	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.295	0.887	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.295	0.887	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.295	0.887	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.295	0.887	ug/kg	1					

The following Prep Methods were performed:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02R-D
Sample ID: 352928008
Project: SONO00514C
Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/16/14	1530	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	45.1 ug/kg	50.0	102	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	51.4 ug/kg	50.0	116	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	46.4 ug/kg	50.0	105	(80%-120%)

Notes:

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TB-071714
Sample ID: 352928009
Matrix: Water
Collect Date: 17-JUL-14 10:43
Receive Date: 18-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	RXY1	07/22/14	1221	1405334	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TB-071714	Project:	SONO00514C
Sample ID:	352928009	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	60.0 ug/L	50.0	120	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	50.0 ug/L	50.0	99.9	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	49.7 ug/L	50.0	99.4	(80%-120%)

Notes:

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Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-30
Sample ID: 352928010
Matrix: Soil
Collect Date: 17-JUL-14 09:45
Receive Date: 18-JUL-14
Collector: Client
Moisture: 43.1%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.450	1.35	ug/kg	1	ACJ	07/29/14	1603	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.450	1.35	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.450	1.35	ug/kg	1					
1,1-Dichloroethane	U	ND	0.450	1.35	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.450	1.35	ug/kg	1					
1,2-Dichloroethane	U	ND	0.450	1.35	ug/kg	1					
1,2-Dichloropropane	U	ND	0.450	1.35	ug/kg	1					
2-Butanone	U	ND	2.25	6.76	ug/kg	1					
2-Hexanone	U	ND	2.25	6.76	ug/kg	1					
4-Methyl-2-pentanone	U	ND	2.25	6.76	ug/kg	1					
Acetone	J	4.35	2.25	6.76	ug/kg	1					
Benzene	U	ND	0.450	1.35	ug/kg	1					
Bromodichloromethane	U	ND	0.450	1.35	ug/kg	1					
Bromoform	U	ND	0.450	1.35	ug/kg	1					
Bromomethane	U	ND	0.450	1.35	ug/kg	1					
Carbon disulfide	U	ND	2.25	6.76	ug/kg	1					
Carbon tetrachloride	U	ND	0.450	1.35	ug/kg	1					
Chlorobenzene	U	ND	0.450	1.35	ug/kg	1					
Chloroethane	U	ND	0.450	1.35	ug/kg	1					
Chloroform	U	ND	0.450	1.35	ug/kg	1					
Chloromethane	U	ND	0.450	1.35	ug/kg	1					
Dibromochloromethane	U	ND	0.450	1.35	ug/kg	1					
Ethylbenzene	U	ND	0.450	1.35	ug/kg	1					
Methylene chloride	U	ND	2.25	6.76	ug/kg	1					
Styrene	U	ND	0.450	1.35	ug/kg	1					
Tetrachloroethylene	U	ND	0.450	1.35	ug/kg	1					
Toluene	U	ND	0.450	1.35	ug/kg	1					
Trichloroethylene	U	ND	0.450	1.35	ug/kg	1					
Vinyl acetate	U	ND	2.25	6.76	ug/kg	1					
Vinyl chloride	U	ND	0.450	1.35	ug/kg	1					
Xylenes (total)	U	ND	1.35	4.05	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.450	1.35	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.450	1.35	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.450	1.35	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.450	1.35	ug/kg	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30	Project:	SONO00514C
Sample ID:	352928010	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/17/14	0945	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	71.2 ug/kg	50.0	105	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	86.7 ug/kg	50.0	128*	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	75.7 ug/kg	50.0	112	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-30-D
Sample ID: 352928011
Matrix: Soil
Collect Date: 17-JUL-14 09:45
Receive Date: 18-JUL-14
Collector: Client
Moisture: 53.8%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	0.735	2.21	ug/kg	1	ACJ	07/28/14	1954	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	0.735	2.21	ug/kg	1					
1,1,2-Trichloroethane	U	ND	0.735	2.21	ug/kg	1					
1,1-Dichloroethane	U	ND	0.735	2.21	ug/kg	1					
1,1-Dichloroethylene	U	ND	0.735	2.21	ug/kg	1					
1,2-Dichloroethane	U	ND	0.735	2.21	ug/kg	1					
1,2-Dichloropropane	U	ND	0.735	2.21	ug/kg	1					
2-Butanone	U	ND	3.68	11.0	ug/kg	1					
2-Hexanone	U	ND	3.68	11.0	ug/kg	1					
4-Methyl-2-pentanone	U	ND	3.68	11.0	ug/kg	1					
Acetone	U	ND	3.68	11.0	ug/kg	1					
Benzene	U	ND	0.735	2.21	ug/kg	1					
Bromodichloromethane	U	ND	0.735	2.21	ug/kg	1					
Bromoform	U	ND	0.735	2.21	ug/kg	1					
Bromomethane	U	ND	0.735	2.21	ug/kg	1					
Carbon disulfide	U	ND	3.68	11.0	ug/kg	1					
Carbon tetrachloride	U	ND	0.735	2.21	ug/kg	1					
Chlorobenzene	U	ND	0.735	2.21	ug/kg	1					
Chloroethane	U	ND	0.735	2.21	ug/kg	1					
Chloroform	U	ND	0.735	2.21	ug/kg	1					
Chloromethane	U	ND	0.735	2.21	ug/kg	1					
Dibromochloromethane	U	ND	0.735	2.21	ug/kg	1					
Ethylbenzene	U	ND	0.735	2.21	ug/kg	1					
Methylene chloride	U	ND	3.68	11.0	ug/kg	1					
Styrene	U	ND	0.735	2.21	ug/kg	1					
Tetrachloroethylene	U	ND	0.735	2.21	ug/kg	1					
Toluene	U	ND	0.735	2.21	ug/kg	1					
Trichloroethylene	U	ND	0.735	2.21	ug/kg	1					
Vinyl acetate	U	ND	3.68	11.0	ug/kg	1					
Vinyl chloride	U	ND	0.735	2.21	ug/kg	1					
Xylenes (total)	U	ND	2.21	6.62	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	0.735	2.21	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	0.735	2.21	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	0.735	2.21	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	0.735	2.21	ug/kg	1					

The following Prep Methods were performed:

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Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30-D	Project:	SONO00514C
Sample ID:	352928011	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/17/14	0945	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	113 ug/kg	50.0	102	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	176 ug/kg	50.0	160*	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	138 ug/kg	50.0	125*	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-31
Sample ID: 352928012
Matrix: Soil
Collect Date: 17-JUL-14 10:10
Receive Date: 18-JUL-14
Collector: Client
Moisture: 75.3%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	1.46	4.39	ug/kg	1	ACJ	07/28/14	2022	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	1.46	4.39	ug/kg	1					
1,1,2-Trichloroethane	U	ND	1.46	4.39	ug/kg	1					
1,1-Dichloroethane	U	ND	1.46	4.39	ug/kg	1					
1,1-Dichloroethylene	U	ND	1.46	4.39	ug/kg	1					
1,2-Dichloroethane	U	ND	1.46	4.39	ug/kg	1					
1,2-Dichloropropane	U	ND	1.46	4.39	ug/kg	1					
2-Butanone		55.3	7.32	22.0	ug/kg	1					
2-Hexanone	U	ND	7.32	22.0	ug/kg	1					
4-Methyl-2-pentanone	U	ND	7.32	22.0	ug/kg	1					
Acetone		171	7.32	22.0	ug/kg	1					
Benzene	U	ND	1.46	4.39	ug/kg	1					
Bromodichloromethane	U	ND	1.46	4.39	ug/kg	1					
Bromoform	U	ND	1.46	4.39	ug/kg	1					
Bromomethane	U	ND	1.46	4.39	ug/kg	1					
Carbon disulfide	U	ND	7.32	22.0	ug/kg	1					
Carbon tetrachloride	U	ND	1.46	4.39	ug/kg	1					
Chlorobenzene	U	ND	1.46	4.39	ug/kg	1					
Chloroethane	U	ND	1.46	4.39	ug/kg	1					
Chloroform	U	ND	1.46	4.39	ug/kg	1					
Chloromethane	U	ND	1.46	4.39	ug/kg	1					
Dibromochloromethane	U	ND	1.46	4.39	ug/kg	1					
Ethylbenzene	U	ND	1.46	4.39	ug/kg	1					
Methylene chloride	U	ND	7.32	22.0	ug/kg	1					
Styrene	U	ND	1.46	4.39	ug/kg	1					
Tetrachloroethylene	U	ND	1.46	4.39	ug/kg	1					
Toluene	U	ND	1.46	4.39	ug/kg	1					
Trichloroethylene	U	ND	1.46	4.39	ug/kg	1					
Vinyl acetate	U	ND	7.32	22.0	ug/kg	1					
Vinyl chloride	U	ND	1.46	4.39	ug/kg	1					
Xylenes (total)	U	ND	4.39	13.2	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	1.46	4.39	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	1.46	4.39	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	1.46	4.39	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	1.46	4.39	ug/kg	1					

The following Prep Methods were performed:

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-31	Project:	SONO00514C
Sample ID:	352928012	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/17/14	1010	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	226 ug/kg	50.0	103	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	267 ug/kg	50.0	121*	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	252 ug/kg	50.0	115	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-32
Sample ID: 352928013
Matrix: Soil
Collect Date: 17-JUL-14 10:40
Receive Date: 18-JUL-14
Collector: Client
Moisture: 69.4%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5035/8260B TCL in Solid "Dry Weight Corrected"											
1,1,1-Trichloroethane	U	ND	1.11	3.33	ug/kg	1	ACJ	07/28/14	2050	1406788	1
1,1,2,2-Tetrachloroethane	U	ND	1.11	3.33	ug/kg	1					
1,1,2-Trichloroethane	U	ND	1.11	3.33	ug/kg	1					
1,1-Dichloroethane	U	ND	1.11	3.33	ug/kg	1					
1,1-Dichloroethylene	U	ND	1.11	3.33	ug/kg	1					
1,2-Dichloroethane	U	ND	1.11	3.33	ug/kg	1					
1,2-Dichloropropane	U	ND	1.11	3.33	ug/kg	1					
2-Butanone		20.3	5.56	16.7	ug/kg	1					
2-Hexanone	U	ND	5.56	16.7	ug/kg	1					
4-Methyl-2-pentanone	U	ND	5.56	16.7	ug/kg	1					
Acetone		67.7	5.56	16.7	ug/kg	1					
Benzene	U	ND	1.11	3.33	ug/kg	1					
Bromodichloromethane	U	ND	1.11	3.33	ug/kg	1					
Bromoform	U	ND	1.11	3.33	ug/kg	1					
Bromomethane	U	ND	1.11	3.33	ug/kg	1					
Carbon disulfide	U	ND	5.56	16.7	ug/kg	1					
Carbon tetrachloride	U	ND	1.11	3.33	ug/kg	1					
Chlorobenzene	U	ND	1.11	3.33	ug/kg	1					
Chloroethane	U	ND	1.11	3.33	ug/kg	1					
Chloroform	U	ND	1.11	3.33	ug/kg	1					
Chloromethane	U	ND	1.11	3.33	ug/kg	1					
Dibromochloromethane	U	ND	1.11	3.33	ug/kg	1					
Ethylbenzene	U	ND	1.11	3.33	ug/kg	1					
Methylene chloride	U	ND	5.56	16.7	ug/kg	1					
Styrene	U	ND	1.11	3.33	ug/kg	1					
Tetrachloroethylene	U	ND	1.11	3.33	ug/kg	1					
Toluene	U	ND	1.11	3.33	ug/kg	1					
Trichloroethylene	U	ND	1.11	3.33	ug/kg	1					
Vinyl acetate	U	ND	5.56	16.7	ug/kg	1					
Vinyl chloride	U	ND	1.11	3.33	ug/kg	1					
Xylenes (total)	U	ND	3.33	10.0	ug/kg	1					
cis-1,2-Dichloroethylene	U	ND	1.11	3.33	ug/kg	1					
cis-1,3-Dichloropropylene	U	ND	1.11	3.33	ug/kg	1					
trans-1,2-Dichloroethylene	U	ND	1.11	3.33	ug/kg	1					
trans-1,3-Dichloropropylene	U	ND	1.11	3.33	ug/kg	1					

The following Prep Methods were performed:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-32	Project:	SONO00514C
Sample ID:	352928013	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035/8260B Prep	ACJ	07/17/14	1040	1406787

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5035/8260B TCL in Solid "Dry Weight Corrected"	161 ug/kg	50.0	96.4	(76%-122%)
Bromofluorobenzene	5035/8260B TCL in Solid "Dry Weight Corrected"	247 ug/kg	50.0	148*	(80%-120%)
Toluene-d8	5035/8260B TCL in Solid "Dry Weight Corrected"	208 ug/kg	50.0	125*	(80%-120%)

Notes:

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: EB-071714
Sample ID: 352928014
Matrix: Water
Collect Date: 17-JUL-14 13:25
Receive Date: 18-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	RXY1	07/22/14	1250	1405334	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	J	1.16	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 30, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: EB-071714 Project: SONO00514C
Sample ID: 352928014 Client ID: GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	58.4 ug/L	50.0	117	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.7 ug/L	50.0	99.3	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	49.7 ug/L	50.0	99.4	(80%-120%)

Notes:

QC Summary

Report Date: July 30, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1405334											
QC1203132390 LCS											
1,1-Dichloroethylene	50.0			52.8	ug/L		106	(70%-130%)	RXY1	07/22/14	08:08
4-Methyl-2-pentanone	250			259	ug/L		103	(70%-130%)			
Benzene	50.0			47.8	ug/L		95.6	(70%-130%)			
Chlorobenzene	50.0			48.9	ug/L		97.8	(70%-130%)			
Chloroform	50.0			52.9	ug/L		106	(70%-130%)			
Toluene	50.0			46.7	ug/L		93.4	(70%-130%)			
Trichloroethylene	50.0			50.4	ug/L		101	(70%-130%)			
Vinyl chloride	50.0			48.6	ug/L		97.2	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			56.0	ug/L		112	(78%-124%)			
**Bromofluorobenzene	50.0			50.4	ug/L		101	(80%-120%)			
**Toluene-d8	50.0			48.3	ug/L		96.6	(80%-120%)			
QC1203132387 MB											
1,1,1-Trichloroethane			U	ND	ug/L					07/22/14	10:57
1,1,2,2-Tetrachloroethane			U	ND	ug/L						
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						

QC Summary

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1405334											
2-Hexanone			U	ND	ug/L						
4-Methyl-2-pentanone			U	ND	ug/L				RXY1	07/22/14	10:57
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						
Carbon disulfide			U	ND	ug/L						
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						
Chloroform			U	ND	ug/L						
Chloromethane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						
Tetrachloroethylene			U	ND	ug/L						
Toluene			U	ND	ug/L						
Trichloroethylene			U	ND	ug/L						
Vinyl acetate			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						

QC Summary

Workorder: 352928

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 1405334											
Xylenes (total)				U	ND	ug/L					
cis-1,2-Dichloroethylene				U	ND	ug/L				RXY1	07/22/14 10:57
cis-1,3-Dichloropropylene				U	ND	ug/L					
trans-1,2-Dichloroethylene				U	ND	ug/L					
trans-1,3-Dichloropropylene				U	ND	ug/L					
**1,2-Dichloroethane-d4	50.0				59.3	ug/L		119	(78%-124%)		
**Bromofluorobenzene	50.0				50.0	ug/L		99.9	(80%-120%)		
**Toluene-d8	50.0				49.4	ug/L		98.9	(80%-120%)		
QC1203132388 352906008 PS											
1,1-Dichloroethylene	50.0	U	ND		57.5	ug/L		115	(74%-130%)		07/22/14 17:30
4-Methyl-2-pentanone	250	U	ND		282	ug/L		113	(70%-132%)		
Benzene	50.0	U	ND		54.5	ug/L		109	(75%-120%)		
Chlorobenzene	50.0	U	ND		54.8	ug/L		110	(74%-120%)		
Chloroform	50.0		1.28		60.6	ug/L		119	(75%-123%)		
Toluene	50.0	U	ND		54.9	ug/L		110	(72%-120%)		
Trichloroethylene	50.0	J	0.760		57.6	ug/L		114	(75%-125%)		
Vinyl chloride	50.0	U	ND		49.1	ug/L		98.2	(52%-129%)		
**1,2-Dichloroethane-d4	50.0		58.8		57.8	ug/L		116	(78%-124%)		
**Bromofluorobenzene	50.0		50.2		50.1	ug/L		100	(80%-120%)		
**Toluene-d8	50.0		50.2		50.3	ug/L		101	(80%-120%)		
QC1203132389 352906008 PSD											
1,1-Dichloroethylene	50.0	U	ND		53.2	ug/L	7.75	106	(0%-20%)		07/22/14 17:59
4-Methyl-2-pentanone	250	U	ND		247	ug/L	13.0	98.9	(0%-20%)		
Benzene	50.0	U	ND		49.3	ug/L	9.93	98.6	(0%-20%)		

QC Summary

Workorder: 352928

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch 1405334												
Chlorobenzene	50.0	U	ND		49.3	ug/L	10.5	98.6	(0%-20%)	RXY1	07/22/14	17:59
Chloroform	50.0		1.28		54.3	ug/L	10.9	106	(0%-20%)			
Toluene	50.0	U	ND		49.5	ug/L	10.3	99.1	(0%-20%)			
Trichloroethylene	50.0	J	0.760		52.9	ug/L	8.42	104	(0%-20%)			
Vinyl chloride	50.0	U	ND		47.1	ug/L	4.11	94.3	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		58.8		56.9	ug/L		114	(78%-124%)			
**Bromofluorobenzene	50.0		50.2		50.1	ug/L		100	(80%-120%)			
**Toluene-d8	50.0		50.2		49.7	ug/L		99.3	(80%-120%)			
Batch 1406788												
QC1203135927 LCS												
1,1-Dichloroethylene	50.0				49.5	ug/kg		99	(70%-130%)	GRB2	07/25/14	14:40
4-Methyl-2-pentanone	250				309	ug/kg		124	(70%-130%)			
Benzene	50.0				48.8	ug/kg		97.5	(70%-130%)			
Chlorobenzene	50.0				48.2	ug/kg		96.4	(70%-130%)			
Chloroform	50.0				47.5	ug/kg		95	(70%-130%)			
Toluene	50.0				47.7	ug/kg		95.3	(70%-130%)			
Trichloroethylene	50.0				47.5	ug/kg		95	(70%-130%)			
Vinyl chloride	50.0				61.2	ug/kg		122	(70%-130%)			
**1,2-Dichloroethane-d4	50.0				48.8	ug/L		97.6	(76%-122%)			
**Bromofluorobenzene	50.0				49.3	ug/L		98.5	(80%-120%)			
**Toluene-d8	50.0				48.2	ug/L		96.5	(80%-120%)			
QC1203138444 LCS												
1,1-Dichloroethylene	50.0				45.7	ug/kg		91.4	(70%-130%)	ACJ	07/28/14	10:31

QC Summary

Workorder: 352928

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
4-Methyl-2-pentanone	250			236	ug/kg		94.6	(70%-130%)	ACJ	07/28/14	10:31
Benzene	50.0			46.5	ug/kg		93	(70%-130%)			
Chlorobenzene	50.0			45.1	ug/kg		90.2	(70%-130%)			
Chloroform	50.0			47.3	ug/kg		94.6	(70%-130%)			
Toluene	50.0			44.9	ug/kg		89.9	(70%-130%)			
Trichloroethylene	50.0			48.0	ug/kg		95.9	(70%-130%)			
Vinyl chloride	50.0			51.5	ug/kg		103	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			46.4	ug/L		92.8	(76%-122%)			
**Bromofluorobenzene	50.0			47.6	ug/L		95.2	(80%-120%)			
**Toluene-d8	50.0			46.4	ug/L		92.8	(80%-120%)			
QC1203138445 LCS											
1,1-Dichloroethylene	50.0			51.2	ug/kg		102	(70%-130%)		07/29/14	10:54
4-Methyl-2-pentanone	250			237	ug/kg		94.8	(70%-130%)			
Benzene	50.0			50.2	ug/kg		100	(70%-130%)			
Chlorobenzene	50.0			49.2	ug/kg		98.4	(70%-130%)			
Chloroform	50.0			51.4	ug/kg		103	(70%-130%)			
Toluene	50.0			48.6	ug/kg		97.2	(70%-130%)			
Trichloroethylene	50.0			52.5	ug/kg		105	(70%-130%)			
Vinyl chloride	50.0			51.8	ug/kg		104	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			47.8	ug/L		95.6	(76%-122%)			
**Bromofluorobenzene	50.0			49.4	ug/L		98.9	(80%-120%)			
**Toluene-d8	50.0			48.2	ug/L		96.3	(80%-120%)			

QC Summary

Workorder: 352928

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
QC1203135928 LCSD											
1,1-Dichloroethylene	50.0			46.4	ug/kg	6.53	92.8	(0%-20%)	GRB2	07/25/14	15:10
4-Methyl-2-pentanone	250			276	ug/kg	11.6	110	(0%-20%)			
Benzene	50.0			46.5	ug/kg	4.77	93	(0%-20%)			
Chlorobenzene	50.0			45.8	ug/kg	5.13	91.6	(0%-20%)			
Chloroform	50.0			45.2	ug/kg	4.92	90.4	(0%-20%)			
Toluene	50.0			45.2	ug/kg	5.39	90.3	(0%-20%)			
Trichloroethylene	50.0			45.1	ug/kg	5.14	90.3	(0%-20%)			
Vinyl chloride	50.0			61.7	ug/kg	0.813	123	(0%-20%)			
**1,2-Dichloroethane-d4	50.0			48.7	ug/L		97.5	(76%-122%)			
**Bromofluorobenzene	50.0			49.4	ug/L		98.7	(80%-120%)			
**Toluene-d8	50.0			48.1	ug/L		96.3	(80%-120%)			
QC1203135926 MB											
1,1,1-Trichloroethane			U	ND	ug/kg					07/25/14	16:09
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						

QC Summary

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
Acetone			U	ND	ug/kg				GRB2	07/25/14	16:09
Benzene			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						
Chloromethane			U	ND	ug/kg						
Dibromochloromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg						
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						
Vinyl acetate			U	ND	ug/kg						
Vinyl chloride			U	ND	ug/kg						
Xylenes (total)			U	ND	ug/kg						

QC Summary

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg				GRB2	07/25/14	16:09
trans-1,2-Dichloroethylene			U	ND	ug/kg						
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			47.4	ug/L		94.8	(76%-122%)			
**Bromofluorobenzene	50.0			51.0	ug/L		102	(80%-120%)			
**Toluene-d8	50.0			49.6	ug/L		99.2	(80%-120%)			
QC1203138442 MB											
1,1,1-Trichloroethane			U	ND	ug/kg				ACJ	07/28/14	11:55
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						

QC Summary

Workorder: 352928

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
Carbon disulfide			U	ND	ug/kg				ACJ	07/28/14	11:55
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						
Chloromethane			U	ND	ug/kg						
Dibromochloromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg						
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						
Vinyl acetate			U	ND	ug/kg						
Vinyl chloride			U	ND	ug/kg						
Xylenes (total)			U	ND	ug/kg						
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg						
trans-1,2-Dichloroethylene			U	ND	ug/kg						
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			50.9	ug/L		102	(76%-122%)			

QC Summary

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
**Bromofluorobenzene	50.0			48.1	ug/L		96.3	(80%-120%)			
**Toluene-d8	50.0			46.1	ug/L		92.1	(80%-120%)	ACJ	07/28/14	11:55
QC1203138443 MB											
1,1,1-Trichloroethane			U	ND	ug/kg					07/29/14	12:18
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						

QC Summary

Workorder: 352928

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1406788											
Chloromethane			U	ND	ug/kg				ACJ	07/29/14	12:18
Dibromochloromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg						
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						
Vinyl acetate			U	ND	ug/kg						
Vinyl chloride			U	ND	ug/kg						
Xylenes (total)			U	ND	ug/kg						
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg						
trans-1,2-Dichloroethylene			U	ND	ug/kg						
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			49.4	ug/L		98.9	(76%-122%)			
**Bromofluorobenzene	50.0			50.4	ug/L		101	(80%-120%)			
**Toluene-d8	50.0			49.6	ug/L		99.1	(80%-120%)			

Notes:

The Qualifiers in this report are defined as follows:

** Analyte is a Tracer compound

** Analyte is a surrogate compound

QC Summary

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	Concentration of the target analyte exceeds the instrument calibration range
FA	Failed analysis.
H	Analytical holding time was exceeded
J	Value is estimated
JNX	Non Calibrated Compound
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N	Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Compound cannot be extracted
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Y	QC Samples were not spiked with this compound
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **352928**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 30 July 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−13
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: _____ of _____
Project #: SDN000514
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 352928

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering LLC Phone #:
Project/Site Name: Seneca Products Company Fax #:
Address: 1 N. 2nd Street
Collected by: Client (Kit Olmen) Send Results To: T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TCL VOCs	<-- Preservative Type (6)	Comments
TB-071614	07-16-14	08:00	TB	N	W			x	4		Note: extra sample is required for sample specific QC
TP-SS-01P		14:35	G	N	SO			x	4		
TP-SS-01R		14:45	G	N	SO			x	4		
TP-SS-02P		15:18	G	N	SO			x	4		
TP-SS-02R		15:30	G	N	SO			x	4		
TP-SS-03P		16:20	G	N	SO			x	4		
TP-SS-03R		16:32	G	N	SO			x	4		
TP-SS-02R-D		15:30	FD	N	SO			x	4		
TB-071714	07-17-14	10:43	TB	N	W			x	4		
SB-SS-30		09:45	G	N	SO			x	4		

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge) Fax Results: Yes / No

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample secured in Lab GW cooler

Sample Collection Time Zone: Eastern / Central / Mountain / Pacific / Other _____

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	07/17/14	1830	1	7-18-14	0800
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: _____ Date Shipped: _____
Airbill #: _____
Airbill #: _____

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: _____ of _____
Project #: SDN0005514
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering LLC — Phone #:
Project/Site Name: Sonoco Products Company — Fax #:
Address: 1 N. 2nd St., Hartsville, SC
Collected by: Client (Ltr Ok) — Send Results To: T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TCL VOCs										<-- Preservative Type (6)	Comments
SB-SS-30-D	07-17-14	09:45	FD	N	SO			X	4											Note: extra sample is required for sample specific QC
SB-SS-31	↓	10:10	G	N	SO			X	4											
SB-SS-32	↓	10:40	G	N	SO			X	4											
EB-071714	07-17-14	13:25	EB	N	W			X	4											

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge)
Fax Results: Yes / No
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Samples secured in LAB GW Cooler

Sample Collection Time Zone
Eastern Pacific
Central Other _____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	07/17/14	1830	[signature]	7-18-14	0800
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SONO	**SDG/AR/COC/Work Order:** 352928/352929
Received By: JP	**Date Received:** 7-18-14

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 cpm
Classified Radioactive II or III by RSO?		✓	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		✓	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		✓	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Ice bags) Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius 2.
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: 130462961 Secondary Temperature Device Serial # (If Applicable):
3	~~Chain of custody documents included~~ with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS (Field Services) Courier Other

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials JP Date 7-21-14 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
30−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
VOA GC/MS	SW846 8260B	Solid	SONO
Batch ID:	**Sample Numbers:**		
1406788	See Below		

Potentially affected work order(s)(SDG): 352928

Application Issues:

Failed Recovery for Surrogate or Tracer

Other

Specification and Requirements Exception Description:	**DER Disposition:**
1. Samples 352928010(SB−SS−30), 352928011(SB−SS−30−D), 352928012(SB−SS−31) and 352928013(SB−SS−32) were outside the surrogate recovery acceptance limits. 2. Samples 352928011(SB−SS−30−D) and 352928013(SB−SS−32) were outside the internal standard response recovery acceptance criteria. 3. Samples 345745010 and 345928010 were analyzed using encore sampling devices that were out of temperature specifications.	1,2. Narrate and report data. The samples were analyzed twice with similar results. It is believed matrix interference has been demonstrated. 3. Due to instrument malfunction, the initial attempt to analyze the samples did not occur. The samples were not purged and were outside of frozen storage. Due to unacceptable results in the first reanalysis attempt, the samples had to be analyzed using the vials that were outside of frozen storage to report a neat analysis.

Originator's Name:

Amy Jamison 30−JUL−14

Data Validator/Group Leader:

Erin Haubert 30−JUL−14

GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

August 07, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 352929

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 18, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 352929 GEL Work Order: 352929

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

H Analytical holding time was exceeded

J Value is estimated

N Metals−−The Matrix spike sample recovery is not within specified control limits

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by Jacob W Crook

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 P
Sample ID: 352929001
Matrix: Soil
Collect Date: 16-JUL-14 14:35
Receive Date: 18-JUL-14
Collector: Client
Moisture: 15%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	83.3	249	ug/kg	1	AXH3	07/24/14	1148	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Nitrate-N	U	ND	3.88	11.8	mg/kg	10	RXB5	07/25/14	1143	1405551	2
Nitrite-N	U	ND	3.88	11.8	mg/kg	10					
Sulfate		411	15.7	47.1	mg/kg	10					
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	J	10.0	4.60	13.7	ug/Kg	1	MTM1	07/22/14	1331	1404981	3
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	339	1030	ug/kg	1	JWJ	07/31/14	1942	1404879	4
Silver	J	111	103	513	ug/kg	1					
Vanadium		4460	103	513	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic		1690	221	1110	ug/kg	2	PRB	08/04/14	2220	1404822	5
Barium		13300	111	442	ug/kg	2					
Cadmium	J	29.6	22.1	221	ug/kg	2					
Calcium		129000	7300	22100	ug/kg	2					
Cobalt		1090	66.4	221	ug/kg	2					
Copper		4280	73.0	221	ug/kg	2					
Lead		9040	111	442	ug/kg	2					
Magnesium		147000	2210	6640	ug/kg	2					
Manganese		28100	221	1110	ug/kg	2					
Nickel		3210	111	442	ug/kg	2					
Potassium		188000	17700	66400	ug/kg	2					
Selenium	U	ND	365	1110	ug/kg	2					
Thallium	J	209	66.4	442	ug/kg	2					
Zinc		4770	442	2210	ug/kg	2					
Beryllium	J	97.3	22.1	111	ug/kg	2	PRB	08/07/14	1425	1404822	6
Chromium		7280	221	664	ug/kg	2					
Iron		6010000	7300	22100	ug/kg	2					
Sodium		2460000	17700	55300	ug/kg	2					

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 P
Sample ID: 352929001
Project: SONO00514C
Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Aluminum		13000000	33200	111000	ug/kg	20	PRB	08/07/14	1543	1404822	7
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	117	390	ug/kg	1	JLD1	07/22/14	2010	1404578	8
1,2,4,5-Tetrachlorobenzene	U	ND	117	390	ug/kg	1					
1-Methylnaphthalene	U	ND	11.7	39.0	ug/kg	1					
2,3,4,6-Tetrachlorophenol	U	ND	117	390	ug/kg	1					
2,4,5-Trichlorophenol	U	ND	117	390	ug/kg	1					
2,4,6-Trichlorophenol	U	ND	117	390	ug/kg	1					
2,4-Dichlorophenol	U	ND	117	390	ug/kg	1					
2,4-Dimethylphenol	U	ND	117	390	ug/kg	1					
2,4-Dinitrophenol	U	ND	117	779	ug/kg	1					
2,4-Dinitrotoluene	U	ND	117	390	ug/kg	1					
2,6-Dinitrotoluene	U	ND	117	390	ug/kg	1					
2-Chloronaphthalene	U	ND	11.7	39.0	ug/kg	1					
2-Chlorophenol	U	ND	117	390	ug/kg	1					
2-Methyl-4,6-dinitrophenol	U	ND	117	390	ug/kg	1					
2-Methylnaphthalene	U	ND	11.7	39.0	ug/kg	1					
2-Nitrophenol	U	ND	117	390	ug/kg	1					
3,3'-Dichlorobenzidine	U	ND	117	390	ug/kg	1					
4-Bromophenylphenylether	U	ND	117	390	ug/kg	1					
4-Chloro-3-methylphenol	U	ND	156	390	ug/kg	1					
4-Chloroaniline	U	ND	117	390	ug/kg	1					
4-Chlorophenylphenylether	U	ND	117	390	ug/kg	1					
4-Nitrophenol	U	ND	117	390	ug/kg	1					
Acenaphthene	U	ND	11.7	39.0	ug/kg	1					
Acenaphthylene	U	ND	11.7	39.0	ug/kg	1					
Acetophenone	U	ND	117	390	ug/kg	1					
Anthracene	U	ND	11.7	39.0	ug/kg	1					
Atrazine	U	ND	156	390	ug/kg	1					
Benzaldehyde	U	ND	117	390	ug/kg	1					
Benzo(a)anthracene	U	ND	11.7	39.0	ug/kg	1					
Benzo(a)pyrene	U	ND	11.7	39.0	ug/kg	1					
Benzo(b)fluoranthene	U	ND	11.7	39.0	ug/kg	1					
Benzo(ghi)perylene	U	ND	11.7	39.0	ug/kg	1					
Benzo(k)fluoranthene	U	ND	11.7	39.0	ug/kg	1					

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 P
Sample ID: 352929001
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	117	390	ug/kg	1
Caprolactam	U	ND	117	390	ug/kg	1
Carbazole	U	ND	11.7	39.0	ug/kg	1
Chrysene	U	ND	11.7	39.0	ug/kg	1
Di-n-butylphthalate	U	ND	117	390	ug/kg	1
Di-n-octylphthalate	U	ND	117	390	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	11.7	39.0	ug/kg	1
Dibenzofuran	U	ND	117	390	ug/kg	1
Diethylphthalate	U	ND	117	390	ug/kg	1
Dimethylphthalate	U	ND	117	390	ug/kg	1
Diphenylamine	U	ND	117	390	ug/kg	1
Fluoranthene	U	ND	11.7	39.0	ug/kg	1
Fluorene	U	ND	11.7	39.0	ug/kg	1
Hexachlorobenzene	U	ND	117	390	ug/kg	1
Hexachlorobutadiene	U	ND	117	390	ug/kg	1
Hexachlorocyclopentadiene	U	ND	117	390	ug/kg	1
Hexachloroethane	U	ND	117	390	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	11.7	39.0	ug/kg	1
Isophorone	U	ND	117	390	ug/kg	1
N-Nitrosodipropylamine	U	ND	117	390	ug/kg	1
Naphthalene	U	ND	11.7	39.0	ug/kg	1
Nitrobenzene	U	ND	117	390	ug/kg	1
Pentachlorophenol	U	ND	117	390	ug/kg	1
Phenanthrene	U	ND	11.7	39.0	ug/kg	1
Phenol	U	ND	117	390	ug/kg	1
Pyrene	U	ND	11.7	39.0	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	117	390	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	117	390	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	117	390	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	117	390	ug/kg	1
m,p-Cresols		890	117	390	ug/kg	1
m-Nitroaniline	U	ND	117	390	ug/kg	1
o-Cresol	U	ND	117	390	ug/kg	1
o-Nitroaniline	U	ND	129	390	ug/kg	1
p-Nitroaniline	U	ND	117	390	ug/kg	1

Spectrometric Analysis

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Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 P
Sample ID: 352929001
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.127	0.424	mg/kg	1	SXC5	07/31/14	1128	1407154	9

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.6C	H	9.13	0.010	0.100	SU	1	PXO1	07/22/14	1333	1405362	10

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	H	2370	26.6	53.2	mg/kg		EXM3	07/29/14	1447	1406917	11

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 7471B	
4	SW846 3050B/6010C	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3050B/6020A	
8	SW846 3550C/8270D	
9	SW846 7196A	
10	SW846 9045D	
11	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	994 ug/kg	1950	51.0	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	614 ug/kg	1950	31.5	(20%-108%)

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Client Sample ID: TP-SS-01 P
Sample ID: 352929001
Project: SONO00514C
Client ID: GEEL003

p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1450 ug/kg	1950	74.4	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2410 ug/kg	3900	61.8	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1260 ug/kg	3900	32.2	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1620 ug/kg	3900	41.5	(18%-110%)

Notes:

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Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 R
Sample ID: 352929002
Matrix: Soil
Collect Date: 16-JUL-14 14:45
Receive Date: 18-JUL-14
Collector: Client
Moisture: 6.98%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	76.1	228	ug/kg	1	AXH3	07/24/14	1154	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Sulfate		3200	35.7	108	mg/kg	25	RXB5	07/24/14	1017	1405551	2
Nitrate-N	U	ND	3.55	10.8	mg/kg	10	RXB5	07/25/14	1316	1405551	3
Nitrite-N	U	ND	3.55	10.8	mg/kg	10					
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	U	ND	4.03	12.0	ug/Kg	1	MTM1	07/22/14	1332	1404981	4
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	347	1050	ug/kg	1	JWJ	07/31/14	2002	1404879	5
Silver	U	ND	105	526	ug/kg	1					
Vanadium	U	ND	105	526	ug/kg	1	JWJ	07/31/14	2310	1404879	6
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	U	ND	207	1030	ug/kg	2	PRB	08/04/14	2307	1404822	7
Barium		3950	103	413	ug/kg	2					
Cadmium	J	62.8	20.7	207	ug/kg	2					
Calcium	J	9690	6820	20700	ug/kg	2					
Cobalt	J	111	62.0	207	ug/kg	2					
Copper		3530	68.2	207	ug/kg	2					
Lead		3550	103	413	ug/kg	2					
Magnesium		15900	2070	6200	ug/kg	2					
Manganese		1420	207	1030	ug/kg	2					
Nickel	J	276	103	413	ug/kg	2					
Potassium	J	17600	16500	62000	ug/kg	2					
Selenium	U	ND	341	1030	ug/kg	2					
Thallium	U	ND	62.0	413	ug/kg	2					
Zinc		11000	413	2070	ug/kg	2					
Aluminum		584000	3100	10300	ug/kg	2	PRB	08/07/14	1500	1404822	8
Beryllium	U	ND	20.7	103	ug/kg	2					
Chromium	J	510	207	620	ug/kg	2					
Iron		77200	6820	20700	ug/kg	2					

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 R
Sample ID: 352929002
Project: SONO00514C
Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Sodium		1720000	16500	51700	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	107	356	ug/kg	1	JLD1	07/22/14	2041	1404578	9
1,2,4,5-Tetrachlorobenzene	U	ND	107	356	ug/kg	1					
1-Methylnaphthalene	U	ND	10.7	35.6	ug/kg	1					
2,3,4,6-Tetrachlorophenol	U	ND	107	356	ug/kg	1					
2,4,5-Trichlorophenol	U	ND	107	356	ug/kg	1					
2,4,6-Trichlorophenol	U	ND	107	356	ug/kg	1					
2,4-Dichlorophenol	U	ND	107	356	ug/kg	1					
2,4-Dimethylphenol	U	ND	107	356	ug/kg	1					
2,4-Dinitrophenol	U	ND	107	711	ug/kg	1					
2,4-Dinitrotoluene	U	ND	107	356	ug/kg	1					
2,6-Dinitrotoluene	U	ND	107	356	ug/kg	1					
2-Chloronaphthalene	U	ND	10.7	35.6	ug/kg	1					
2-Chlorophenol	U	ND	107	356	ug/kg	1					
2-Methyl-4,6-dinitrophenol	U	ND	107	356	ug/kg	1					
2-Methylnaphthalene	U	ND	10.7	35.6	ug/kg	1					
2-Nitrophenol	U	ND	107	356	ug/kg	1					
3,3'-Dichlorobenzidine	U	ND	107	356	ug/kg	1					
4-Bromophenylphenylether	U	ND	107	356	ug/kg	1					
4-Chloro-3-methylphenol	U	ND	142	356	ug/kg	1					
4-Chloroaniline	U	ND	107	356	ug/kg	1					
4-Chlorophenylphenylether	U	ND	107	356	ug/kg	1					
4-Nitrophenol	U	ND	107	356	ug/kg	1					
Acenaphthene	U	ND	10.7	35.6	ug/kg	1					
Acenaphthylene	U	ND	10.7	35.6	ug/kg	1					
Acetophenone	U	ND	107	356	ug/kg	1					
Anthracene	U	ND	10.7	35.6	ug/kg	1					
Atrazine	U	ND	142	356	ug/kg	1					
Benzaldehyde	U	ND	107	356	ug/kg	1					
Benzo(a)anthracene	U	ND	10.7	35.6	ug/kg	1					
Benzo(a)pyrene	U	ND	10.7	35.6	ug/kg	1					
Benzo(b)fluoranthene	U	ND	10.7	35.6	ug/kg	1					
Benzo(ghi)perylene	U	ND	10.7	35.6	ug/kg	1					
Benzo(k)fluoranthene	U	ND	10.7	35.6	ug/kg	1					

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Company :	GEL Engineering
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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-01 R	Project:	SONO00514C
Sample ID:	352929002	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	107	356	ug/kg	1
Caprolactam	U	ND	107	356	ug/kg	1
Carbazole	U	ND	10.7	35.6	ug/kg	1
Chrysene	U	ND	10.7	35.6	ug/kg	1
Di-n-butylphthalate	U	ND	107	356	ug/kg	1
Di-n-octylphthalate	U	ND	107	356	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	10.7	35.6	ug/kg	1
Dibenzofuran	U	ND	107	356	ug/kg	1
Diethylphthalate	U	ND	107	356	ug/kg	1
Dimethylphthalate	U	ND	107	356	ug/kg	1
Diphenylamine	U	ND	107	356	ug/kg	1
Fluoranthene	U	ND	10.7	35.6	ug/kg	1
Fluorene	U	ND	10.7	35.6	ug/kg	1
Hexachlorobenzene	U	ND	107	356	ug/kg	1
Hexachlorobutadiene	U	ND	107	356	ug/kg	1
Hexachlorocyclopentadiene	U	ND	107	356	ug/kg	1
Hexachloroethane	U	ND	107	356	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	10.7	35.6	ug/kg	1
Isophorone	U	ND	107	356	ug/kg	1
N-Nitrosodipropylamine	U	ND	107	356	ug/kg	1
Naphthalene	U	ND	10.7	35.6	ug/kg	1
Nitrobenzene	U	ND	107	356	ug/kg	1
Pentachlorophenol	U	ND	107	356	ug/kg	1
Phenanthrene	U	ND	10.7	35.6	ug/kg	1
Phenol	J	232	107	356	ug/kg	1
Pyrene	U	ND	10.7	35.6	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	107	356	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	107	356	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	107	356	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	107	356	ug/kg	1
m,p-Cresols		371	107	356	ug/kg	1
m-Nitroaniline	U	ND	107	356	ug/kg	1
o-Cresol	U	ND	107	356	ug/kg	1
o-Nitroaniline	U	ND	117	356	ug/kg	1
p-Nitroaniline	U	ND	107	356	ug/kg	1

Spectrometric Analysis

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Company : GEL Engineering
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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-01 R
Sample ID: 352929002
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.117	0.391	mg/kg	1	SXC5	07/31/14	1128	1407154	10

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.7C	H	9.46	0.010	0.100	SU	1	PXO1	07/22/14	1336	1405362	11

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	HU	ND	22.9	45.9	mg/kg		EXM3	07/29/14	1458	1406917	12

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7471B	
5	SW846 3050B/6010C	
6	SW846 3050B/6010C	
7	SW846 3050B/6020A	
8	SW846 3050B/6020A	
9	SW846 3550C/8270D	
10	SW846 7196A	
11	SW846 9045D	
12	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1210 ug/kg	1780	68.2	(18%-105%)

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Project: SONO00514C
Client ID: GEEL003

Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1100 ug/kg	1780	61.7	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1600 ug/kg	1780	89.8	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2220 ug/kg	3560	62.5	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2230 ug/kg	3560	62.8	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2320 ug/kg	3560	65.2	(18%-110%)

Notes:

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Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 P
Sample ID: 352929003
Matrix: Soil
Collect Date: 16-JUL-14 15:18
Receive Date: 18-JUL-14
Collector: Client
Moisture: 13.2%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	84.4	253	ug/kg	1	AXH3	07/24/14	1352	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Sulfate		980	38.3	115	mg/kg	25	RXB5	07/24/14	1048	1405551	2
Nitrate-N	U	ND	3.80	11.5	mg/kg	10	RXB5	07/25/14	1347	1405551	3
Nitrite-N	U	ND	3.80	11.5	mg/kg	10					
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	J	8.29	4.24	12.7	ug/Kg	1	MTM1	07/22/14	1334	1404981	4
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Silver	U	ND	110	549	ug/kg	1	JWJ	07/31/14	2005	1404879	5
Vanadium		2090	110	549	ug/kg	1					
Antimony		1150	362	1100	ug/kg	1	JWJ	08/01/14	0038	1404879	6
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	U	ND	224	1120	ug/kg	2	PRB	08/04/14	2313	1404822	7
Barium		7260	112	448	ug/kg	2					
Cadmium	U	ND	22.4	224	ug/kg	2					
Calcium		221000	7400	22400	ug/kg	2					
Cobalt	J	221	67.2	224	ug/kg	2					
Copper		1600	74.0	224	ug/kg	2					
Lead		3380	112	448	ug/kg	2					
Magnesium		62100	2240	6720	ug/kg	2					
Manganese		14500	224	1120	ug/kg	2					
Nickel		1090	112	448	ug/kg	2					
Potassium		77000	17900	67200	ug/kg	2					
Selenium	U	ND	370	1120	ug/kg	2					
Thallium	U	ND	67.2	448	ug/kg	2					
Zinc	J	2120	448	2240	ug/kg	2					
Aluminum		3990000	3360	11200	ug/kg	2	PRB	08/07/14	1504	1404822	8
Beryllium	J	35.6	22.4	112	ug/kg	2					
Chromium		3180	224	672	ug/kg	2					
Iron		1360000	7400	22400	ug/kg	2					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 P
Sample ID: 352929003
Project: SONO00514C
Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Sodium		2810000	17900	56000	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	114	381	ug/kg	1	JLD1	07/24/14	0048	1404578	9
1,2,4,5-Tetrachlorobenzene	U	ND	114	381	ug/kg	1					
1-Methylnaphthalene	U	ND	11.4	38.1	ug/kg	1					
2,3,4,6-Tetrachlorophenol	U	ND	114	381	ug/kg	1					
2,4,5-Trichlorophenol	U	ND	114	381	ug/kg	1					
2,4,6-Trichlorophenol	U	ND	114	381	ug/kg	1					
2,4-Dichlorophenol	U	ND	114	381	ug/kg	1					
2,4-Dimethylphenol	U	ND	114	381	ug/kg	1					
2,4-Dinitrophenol	U	ND	114	763	ug/kg	1					
2,4-Dinitrotoluene	U	ND	114	381	ug/kg	1					
2,6-Dinitrotoluene	U	ND	114	381	ug/kg	1					
2-Chloronaphthalene	U	ND	11.4	38.1	ug/kg	1					
2-Chlorophenol	U	ND	114	381	ug/kg	1					
2-Methyl-4,6-dinitrophenol	U	ND	114	381	ug/kg	1					
2-Methylnaphthalene	U	ND	11.4	38.1	ug/kg	1					
2-Nitrophenol	U	ND	114	381	ug/kg	1					
3,3'-Dichlorobenzidine	U	ND	114	381	ug/kg	1					
4-Bromophenylphenylether	U	ND	114	381	ug/kg	1					
4-Chloro-3-methylphenol	U	ND	153	381	ug/kg	1					
4-Chloroaniline	U	ND	114	381	ug/kg	1					
4-Chlorophenylphenylether	U	ND	114	381	ug/kg	1					
4-Nitrophenol	U	ND	114	381	ug/kg	1					
Acenaphthene	U	ND	11.4	38.1	ug/kg	1					
Acenaphthylene	U	ND	11.4	38.1	ug/kg	1					
Acetophenone	U	ND	114	381	ug/kg	1					
Anthracene	U	ND	11.4	38.1	ug/kg	1					
Atrazine	U	ND	153	381	ug/kg	1					
Benzaldehyde	U	ND	114	381	ug/kg	1					
Benzo(a)anthracene	U	ND	11.4	38.1	ug/kg	1					
Benzo(a)pyrene	U	ND	11.4	38.1	ug/kg	1					
Benzo(b)fluoranthene	U	ND	11.4	38.1	ug/kg	1					
Benzo(ghi)perylene	U	ND	11.4	38.1	ug/kg	1					
Benzo(k)fluoranthene	U	ND	11.4	38.1	ug/kg	1					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 P
Sample ID: 352929003
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	114	381	ug/kg	1
Caprolactam	U	ND	114	381	ug/kg	1
Carbazole	U	ND	11.4	38.1	ug/kg	1
Chrysene	U	ND	11.4	38.1	ug/kg	1
Di-n-butylphthalate	U	ND	114	381	ug/kg	1
Di-n-octylphthalate	U	ND	114	381	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	11.4	38.1	ug/kg	1
Dibenzofuran	U	ND	114	381	ug/kg	1
Diethylphthalate	U	ND	114	381	ug/kg	1
Dimethylphthalate	U	ND	114	381	ug/kg	1
Diphenylamine	U	ND	114	381	ug/kg	1
Fluoranthene	U	ND	11.4	38.1	ug/kg	1
Fluorene	U	ND	11.4	38.1	ug/kg	1
Hexachlorobenzene	U	ND	114	381	ug/kg	1
Hexachlorobutadiene	U	ND	114	381	ug/kg	1
Hexachlorocyclopentadiene	U	ND	114	381	ug/kg	1
Hexachloroethane	U	ND	114	381	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	11.4	38.1	ug/kg	1
Isophorone	U	ND	114	381	ug/kg	1
N-Nitrosodipropylamine	U	ND	114	381	ug/kg	1
Naphthalene	U	ND	11.4	38.1	ug/kg	1
Nitrobenzene	U	ND	114	381	ug/kg	1
Pentachlorophenol	U	ND	114	381	ug/kg	1
Phenanthrene	U	ND	11.4	38.1	ug/kg	1
Phenol	J	228	114	381	ug/kg	1
Pyrene	U	ND	11.4	38.1	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	114	381	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	114	381	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	114	381	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	114	381	ug/kg	1
m,p-Cresols	J	238	114	381	ug/kg	1
m-Nitroaniline	U	ND	114	381	ug/kg	1
o-Cresol	U	ND	114	381	ug/kg	1
o-Nitroaniline	U	ND	126	381	ug/kg	1
p-Nitroaniline	U	ND	114	381	ug/kg	1

Spectrometric Analysis

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Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 P
Sample ID: 352929003
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.0998	0.333	mg/kg	1	SXC5	07/31/14	1128	1407154	10

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.6C	H	9.40	0.010	0.100	SU	1	PXO1	07/22/14	1338	1405362	11

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	H	346	28.8	57.6	mg/kg		EXM3	07/29/14	1458	1406917	12

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7471B	
5	SW846 3050B/6010C	
6	SW846 3050B/6010C	
7	SW846 3050B/6020A	
8	SW846 3050B/6020A	
9	SW846 3550C/8270D	
10	SW846 7196A	
11	SW846 9045D	
12	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1210 ug/kg	1910	63.3	(18%-105%)

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Client Sample ID: TP-SS-02 P
Sample ID: 352929003
Project: SONO00514C
Client ID: GEEL003

Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1050 ug/kg	1910	54.9	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1200 ug/kg	1910	62.9	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1830 ug/kg	3810	48.0	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2100 ug/kg	3810	55.0	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2180 ug/kg	3810	57.1	(18%-110%)

Notes:

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Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 R
Sample ID: 352929004
Matrix: Soil
Collect Date: 16-JUL-14 15:30
Receive Date: 18-JUL-14
Collector: Client
Moisture: 5.36%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	74.8	224	ug/kg	1	AXH3	07/24/14	1353	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Sulfate		3830	35.1	106	mg/kg	25	RXB5	07/24/14	1119	1405551	2
Nitrate-N	U	ND	3.49	10.6	mg/kg	10	RXB5	07/25/14	1418	1405551	3
Nitrite-N	U	ND	3.49	10.6	mg/kg	10					
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	U	ND	3.81	11.4	ug/Kg	1	MTM1	07/22/14	1336	1404981	4
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	331	1000	ug/kg	1	JWJ	07/31/14	2008	1404879	5
Silver	U	ND	100	502	ug/kg	1					
Vanadium	J	213	100	502	ug/kg	1	JWJ	07/31/14	2313	1404879	6
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	U	ND	209	1050	ug/kg	2	PRB	08/04/14	2319	1404822	7
Barium		13300	105	418	ug/kg	2					
Cadmium	J	32.6	20.9	209	ug/kg	2					
Calcium		55300	6900	20900	ug/kg	2					
Cobalt	J	173	62.8	209	ug/kg	2					
Copper		2330	69.0	209	ug/kg	2					
Lead		1920	105	418	ug/kg	2					
Magnesium		9250	2090	6280	ug/kg	2					
Manganese	J	595	209	1050	ug/kg	2					
Nickel	J	273	105	418	ug/kg	2					
Potassium	U	ND	16700	62800	ug/kg	2					
Selenium	U	ND	345	1050	ug/kg	2					
Thallium	U	ND	62.8	418	ug/kg	2					
Zinc		6020	418	2090	ug/kg	2					
Aluminum		620000	3140	10500	ug/kg	2	PRB	08/07/14	1509	1404822	8
Beryllium	U	ND	20.9	105	ug/kg	2					
Chromium		658	209	628	ug/kg	2					
Iron		48300	6900	20900	ug/kg	2					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 R
Sample ID: 352929004
Project: SONO00514C
Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Sodium		2550000	16700	52300	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	106	352	ug/kg	1	JLD1	07/24/14	0119	1404578	9
1,2,4,5-Tetrachlorobenzene	U	ND	106	352	ug/kg	1					
1-Methylnaphthalene	U	ND	10.6	35.2	ug/kg	1					
2,3,4,6-Tetrachlorophenol	U	ND	106	352	ug/kg	1					
2,4,5-Trichlorophenol	U	ND	106	352	ug/kg	1					
2,4,6-Trichlorophenol	U	ND	106	352	ug/kg	1					
2,4-Dichlorophenol	U	ND	106	352	ug/kg	1					
2,4-Dimethylphenol	U	ND	106	352	ug/kg	1					
2,4-Dinitrophenol	U	ND	106	704	ug/kg	1					
2,4-Dinitrotoluene	U	ND	106	352	ug/kg	1					
2,6-Dinitrotoluene	U	ND	106	352	ug/kg	1					
2-Chloronaphthalene	U	ND	10.6	35.2	ug/kg	1					
2-Chlorophenol	U	ND	106	352	ug/kg	1					
2-Methyl-4,6-dinitrophenol	U	ND	106	352	ug/kg	1					
2-Methylnaphthalene	U	ND	10.6	35.2	ug/kg	1					
2-Nitrophenol	U	ND	106	352	ug/kg	1					
3,3'-Dichlorobenzidine	U	ND	106	352	ug/kg	1					
4-Bromophenylphenylether	U	ND	106	352	ug/kg	1					
4-Chloro-3-methylphenol	U	ND	141	352	ug/kg	1					
4-Chloroaniline	U	ND	106	352	ug/kg	1					
4-Chlorophenylphenylether	U	ND	106	352	ug/kg	1					
4-Nitrophenol	U	ND	106	352	ug/kg	1					
Acenaphthene	U	ND	10.6	35.2	ug/kg	1					
Acenaphthylene	U	ND	10.6	35.2	ug/kg	1					
Acetophenone	U	ND	106	352	ug/kg	1					
Anthracene	U	ND	10.6	35.2	ug/kg	1					
Atrazine	U	ND	141	352	ug/kg	1					
Benzaldehyde	U	ND	106	352	ug/kg	1					
Benzo(a)anthracene	U	ND	10.6	35.2	ug/kg	1					
Benzo(a)pyrene	U	ND	10.6	35.2	ug/kg	1					
Benzo(b)fluoranthene	U	ND	10.6	35.2	ug/kg	1					
Benzo(ghi)perylene	U	ND	10.6	35.2	ug/kg	1					
Benzo(k)fluoranthene	U	ND	10.6	35.2	ug/kg	1					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 R
Sample ID: 352929004
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	106	352	ug/kg	1
Caprolactam	U	ND	106	352	ug/kg	1
Carbazole	U	ND	10.6	35.2	ug/kg	1
Chrysene	U	ND	10.6	35.2	ug/kg	1
Di-n-butylphthalate	U	ND	106	352	ug/kg	1
Di-n-octylphthalate	U	ND	106	352	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	10.6	35.2	ug/kg	1
Dibenzofuran	U	ND	106	352	ug/kg	1
Diethylphthalate	U	ND	106	352	ug/kg	1
Dimethylphthalate	U	ND	106	352	ug/kg	1
Diphenylamine	U	ND	106	352	ug/kg	1
Fluoranthene	U	ND	10.6	35.2	ug/kg	1
Fluorene	U	ND	10.6	35.2	ug/kg	1
Hexachlorobenzene	U	ND	106	352	ug/kg	1
Hexachlorobutadiene	U	ND	106	352	ug/kg	1
Hexachlorocyclopentadiene	U	ND	106	352	ug/kg	1
Hexachloroethane	U	ND	106	352	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	10.6	35.2	ug/kg	1
Isophorone	U	ND	106	352	ug/kg	1
N-Nitrosodipropylamine	U	ND	106	352	ug/kg	1
Naphthalene	U	ND	10.6	35.2	ug/kg	1
Nitrobenzene	U	ND	106	352	ug/kg	1
Pentachlorophenol	U	ND	106	352	ug/kg	1
Phenanthrene	U	ND	10.6	35.2	ug/kg	1
Phenol		483	106	352	ug/kg	1
Pyrene	U	ND	10.6	35.2	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	106	352	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	106	352	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	106	352	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	106	352	ug/kg	1
m,p-Cresols		370	106	352	ug/kg	1
m-Nitroaniline	U	ND	106	352	ug/kg	1
o-Cresol	U	ND	106	352	ug/kg	1
o-Nitroaniline	U	ND	116	352	ug/kg	1
p-Nitroaniline	U	ND	106	352	ug/kg	1

Spectrometric Analysis

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Company : GEL Engineering
Address : 111 Smith Hines Road
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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02 R
Sample ID: 352929004
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.273	0.105	0.351	mg/kg	1	SXC5	07/31/14	1128	1407154	10

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.8C	H	6.33	0.010	0.100	SU	1	PXO1	07/22/14	1341	1405362	11

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	HJ	23.5	23.5	47.0	mg/kg		EXM3	07/29/14	1459	1406917	12

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7471B	
5	SW846 3050B/6010C	
6	SW846 3050B/6010C	
7	SW846 3050B/6020A	
8	SW846 3050B/6020A	
9	SW846 3550C/8270D	
10	SW846 7196A	
11	SW846 9045D	
12	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1390 ug/kg	1760	79.0	(18%-105%)

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-02 R	Project:	SONO00514C
Sample ID:	352929004	Client ID:	GEEL003

Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1290 ug/kg	1760	73.1	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1820 ug/kg	1760	104	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2420 ug/kg	3520	68.8	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2530 ug/kg	3520	71.8	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2640 ug/kg	3520	75.0	(18%-110%)

Notes:

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Report Date: August 7, 2014

Company : GEL Engineering
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 P
Sample ID: 352929005
Matrix: Soil
Collect Date: 16-JUL-14 16:20
Receive Date: 18-JUL-14
Collector: Client
Moisture: 12.8%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	95.7	287	ug/kg	1	AXH3	07/24/14	1354	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Nitrate-N	U	ND	3.78	11.5	mg/kg	10	RXB5	07/25/14	1448	1405551	2
Nitrite-N	U	ND	3.78	11.5	mg/kg	10					
Sulfate		46400	381	1150	mg/kg	250	RXB5	07/25/14	1519	1405551	3
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	J	10.7	3.91	11.7	ug/Kg	1	MTM1	07/22/14	1337	1404981	4
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	360	1090	ug/kg	1	JWJ	07/31/14	2011	1404879	5
Silver	U	ND	109	545	ug/kg	1					
Vanadium		3070	109	545	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	U	ND	203	1020	ug/kg	2	PRB	08/04/14	2325	1404822	6
Barium		26200	102	407	ug/kg	2					
Cadmium	J	27.9	20.3	203	ug/kg	2					
Calcium		757000	6710	20300	ug/kg	2					
Cobalt		288	61.0	203	ug/kg	2					
Copper		2670	67.1	203	ug/kg	2					
Lead		1960	102	407	ug/kg	2					
Magnesium		99900	2030	6100	ug/kg	2					
Manganese		6590	203	1020	ug/kg	2					
Nickel		1600	102	407	ug/kg	2					
Potassium		134000	16300	61000	ug/kg	2					
Selenium	U	ND	335	1020	ug/kg	2					
Thallium	U	ND	61.0	407	ug/kg	2					
Zinc		4340	407	2030	ug/kg	2					
Aluminum		5260000	3050	10200	ug/kg	2	PRB	08/07/14	1513	1404822	7
Beryllium	J	33.7	20.3	102	ug/kg	2					
Chromium		3390	203	610	ug/kg	2					
Iron		2100000	6710	20300	ug/kg	2					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 P
Sample ID: 352929005
Project: SONO00514C
Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Sodium		26300000	163000	508000	ug/kg	20	PRB	08/07/14	1526	1404822	8
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	114	379	ug/kg	1	JLD1	07/24/14	0150	1404578	9
1,2,4,5-Tetrachlorobenzene	U	ND	114	379	ug/kg	1					
1-Methylnaphthalene	U	ND	11.4	37.9	ug/kg	1					
2,3,4,6-Tetrachlorophenol	U	ND	114	379	ug/kg	1					
2,4,5-Trichlorophenol	U	ND	114	379	ug/kg	1					
2,4,6-Trichlorophenol	U	ND	114	379	ug/kg	1					
2,4-Dichlorophenol	U	ND	114	379	ug/kg	1					
2,4-Dimethylphenol	U	ND	114	379	ug/kg	1					
2,4-Dinitrophenol	U	ND	114	758	ug/kg	1					
2,4-Dinitrotoluene	U	ND	114	379	ug/kg	1					
2,6-Dinitrotoluene	U	ND	114	379	ug/kg	1					
2-Chloronaphthalene	U	ND	11.4	37.9	ug/kg	1					
2-Chlorophenol	U	ND	114	379	ug/kg	1					
2-Methyl-4,6-dinitrophenol	U	ND	114	379	ug/kg	1					
2-Methylnaphthalene	U	ND	11.4	37.9	ug/kg	1					
2-Nitrophenol	U	ND	114	379	ug/kg	1					
3,3'-Dichlorobenzidine	U	ND	114	379	ug/kg	1					
4-Bromophenylphenylether	U	ND	114	379	ug/kg	1					
4-Chloro-3-methylphenol	U	ND	152	379	ug/kg	1					
4-Chloroaniline	U	ND	114	379	ug/kg	1					
4-Chlorophenylphenylether	U	ND	114	379	ug/kg	1					
4-Nitrophenol	U	ND	114	379	ug/kg	1					
Acenaphthene	U	ND	11.4	37.9	ug/kg	1					
Acenaphthylene	U	ND	11.4	37.9	ug/kg	1					
Acetophenone	U	ND	114	379	ug/kg	1					
Anthracene	U	ND	11.4	37.9	ug/kg	1					
Atrazine	U	ND	152	379	ug/kg	1					
Benzaldehyde	U	ND	114	379	ug/kg	1					
Benzo(a)anthracene	U	ND	11.4	37.9	ug/kg	1					
Benzo(a)pyrene	U	ND	11.4	37.9	ug/kg	1					
Benzo(b)fluoranthene	U	ND	11.4	37.9	ug/kg	1					
Benzo(ghi)perylene	U	ND	11.4	37.9	ug/kg	1					
Benzo(k)fluoranthene	U	ND	11.4	37.9	ug/kg	1					

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Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 P
Sample ID: 352929005
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	114	379	ug/kg	1
Caprolactam	U	ND	114	379	ug/kg	1
Carbazole	U	ND	11.4	37.9	ug/kg	1
Chrysene	U	ND	11.4	37.9	ug/kg	1
Di-n-butylphthalate	U	ND	114	379	ug/kg	1
Di-n-octylphthalate	U	ND	114	379	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	11.4	37.9	ug/kg	1
Dibenzofuran	U	ND	114	379	ug/kg	1
Diethylphthalate	U	ND	114	379	ug/kg	1
Dimethylphthalate	U	ND	114	379	ug/kg	1
Diphenylamine	U	ND	114	379	ug/kg	1
Fluoranthene	U	ND	11.4	37.9	ug/kg	1
Fluorene	U	ND	11.4	37.9	ug/kg	1
Hexachlorobenzene	U	ND	114	379	ug/kg	1
Hexachlorobutadiene	U	ND	114	379	ug/kg	1
Hexachlorocyclopentadiene	U	ND	114	379	ug/kg	1
Hexachloroethane	U	ND	114	379	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	11.4	37.9	ug/kg	1
Isophorone	U	ND	114	379	ug/kg	1
N-Nitrosodipropylamine	U	ND	114	379	ug/kg	1
Naphthalene	U	ND	11.4	37.9	ug/kg	1
Nitrobenzene	U	ND	114	379	ug/kg	1
Pentachlorophenol	U	ND	114	379	ug/kg	1
Phenanthrene	U	ND	11.4	37.9	ug/kg	1
Phenol	U	ND	114	379	ug/kg	1
Pyrene	U	ND	11.4	37.9	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	114	379	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	114	379	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	114	379	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	114	379	ug/kg	1
m,p-Cresols	U	ND	114	379	ug/kg	1
m-Nitroaniline	U	ND	114	379	ug/kg	1
o-Cresol	U	ND	114	379	ug/kg	1
o-Nitroaniline	U	ND	125	379	ug/kg	1
p-Nitroaniline	U	ND	114	379	ug/kg	1

Spectrometric Analysis

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Project: Phase II investigation

Client Sample ID: TP-SS-03 P
Sample ID: 352929005
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.272	0.131	0.438	mg/kg	1	SXC5	07/31/14	1129	1407154	10

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.8C	H	9.35	0.010	0.100	SU	1	PXO1	07/22/14	1343	1405362	11

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	HU	ND	28.1	56.3	mg/kg		EXM3	07/29/14	1500	1406917	12

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7471B	
5	SW846 3050B/6010C	
6	SW846 3050B/6020A	
7	SW846 3050B/6020A	
8	SW846 3050B/6020A	
9	SW846 3550C/8270D	
10	SW846 7196A	
11	SW846 9045D	
12	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1140 ug/kg	1890	60.3	(18%-105%)

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Client Sample ID: TP-SS-03 P
Sample ID: 352929005
Project: SONO00514C
Client ID: GEEL003

Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	965 ug/kg	1890	50.9	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1330 ug/kg	1890	70.4	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2300 ug/kg	3790	60.6	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1940 ug/kg	3790	51.3	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2110 ug/kg	3790	55.7	(18%-110%)

Notes:

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Certificate of Analysis

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Company : GEL Engineering
Address : 111 Smith Hines Road
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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 R
Sample ID: 352929006
Matrix: Soil
Collect Date: 16-JUL-14 16:32
Receive Date: 18-JUL-14
Collector: Client
Moisture: 16.7%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	98.3	294	ug/kg	1	AXH3	07/24/14	1355	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Nitrate-N	U	ND	3.96	12.0	mg/kg	10	RXB5	07/25/14	1550	1405551	2
Nitrite-N	U	ND	3.96	12.0	mg/kg	10					
Sulfate		14400	160	480	mg/kg	100	RXB5	07/25/14	1621	1405551	3
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	U	ND	4.36	13.0	ug/Kg	1	MTM1	07/22/14	1339	1404981	4
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	363	1100	ug/kg	1	JWJ	07/31/14	2014	1404879	5
Silver	U	ND	110	550	ug/kg	1					
Vanadium		4980	110	550	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	J	724	231	1160	ug/kg	2	PRB	08/04/14	2331	1404822	6
Barium		12300	116	463	ug/kg	2					
Cadmium	U	ND	23.1	231	ug/kg	2					
Calcium		107000	7640	23100	ug/kg	2					
Cobalt		273	69.4	231	ug/kg	2					
Copper		2880	76.4	231	ug/kg	2					
Lead		2790	116	463	ug/kg	2					
Magnesium		146000	2310	6940	ug/kg	2					
Manganese		5730	231	1160	ug/kg	2					
Nickel		2020	116	463	ug/kg	2					
Potassium		199000	18500	69400	ug/kg	2					
Selenium	U	ND	382	1160	ug/kg	2					
Thallium	U	ND	69.4	463	ug/kg	2					
Zinc		4410	463	2310	ug/kg	2					
Aluminum		8370000	3470	11600	ug/kg	2	PRB	08/07/14	1517	1404822	7
Beryllium	J	52.1	23.1	116	ug/kg	2					
Chromium		5250	231	694	ug/kg	2					
Iron		855000	7640	23100	ug/kg	2					

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TP-SS-03 R	Project:	SONO00514C
Sample ID:	352929006	Client ID:	GEEL003

Metals Analysis-ICP-MS												
SW846 3050B/6020A Solid "Dry Weight Corrected"												
Sodium		8860000	18500	57800	ug/kg	2						
Semi-Volatile-GC/MS												
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	120	400	ug/kg	1	JLD1	07/24/14	0221	1404578	8	
1,2,4,5-Tetrachlorobenzene	U	ND	120	400	ug/kg	1						
1-Methylnaphthalene	U	ND	12.0	40.0	ug/kg	1						
2,3,4,6-Tetrachlorophenol	U	ND	120	400	ug/kg	1						
2,4,5-Trichlorophenol	U	ND	120	400	ug/kg	1						
2,4,6-Trichlorophenol	U	ND	120	400	ug/kg	1						
2,4-Dichlorophenol	U	ND	120	400	ug/kg	1						
2,4-Dimethylphenol	U	ND	120	400	ug/kg	1						
2,4-Dinitrophenol	U	ND	120	800	ug/kg	1						
2,4-Dinitrotoluene	U	ND	120	400	ug/kg	1						
2,6-Dinitrotoluene	U	ND	120	400	ug/kg	1						
2-Chloronaphthalene	U	ND	12.0	40.0	ug/kg	1						
2-Chlorophenol	U	ND	120	400	ug/kg	1						
2-Methyl-4,6-dinitrophenol	U	ND	120	400	ug/kg	1						
2-Methylnaphthalene	U	ND	12.0	40.0	ug/kg	1						
2-Nitrophenol	U	ND	120	400	ug/kg	1						
3,3'-Dichlorobenzidine	U	ND	120	400	ug/kg	1						
4-Bromophenylphenylether	U	ND	120	400	ug/kg	1						
4-Chloro-3-methylphenol	U	ND	160	400	ug/kg	1						
4-Chloroaniline	U	ND	120	400	ug/kg	1						
4-Chlorophenylphenylether	U	ND	120	400	ug/kg	1						
4-Nitrophenol	U	ND	120	400	ug/kg	1						
Acenaphthene	U	ND	12.0	40.0	ug/kg	1						
Acenaphthylene	U	ND	12.0	40.0	ug/kg	1						
Acetophenone	U	ND	120	400	ug/kg	1						
Anthracene	U	ND	12.0	40.0	ug/kg	1						
Atrazine	U	ND	160	400	ug/kg	1						
Benzaldehyde	U	ND	120	400	ug/kg	1						
Benzo(a)anthracene	U	ND	12.0	40.0	ug/kg	1						
Benzo(a)pyrene	U	ND	12.0	40.0	ug/kg	1						
Benzo(b)fluoranthene	U	ND	12.0	40.0	ug/kg	1						
Benzo(ghi)perylene	U	ND	12.0	40.0	ug/kg	1						
Benzo(k)fluoranthene	U	ND	12.0	40.0	ug/kg	1						

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-03 R
Sample ID: 352929006
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	120	400	ug/kg	1
Caprolactam	U	ND	120	400	ug/kg	1
Carbazole	U	ND	12.0	40.0	ug/kg	1
Chrysene	U	ND	12.0	40.0	ug/kg	1
Di-n-butylphthalate	U	ND	120	400	ug/kg	1
Di-n-octylphthalate	U	ND	120	400	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	12.0	40.0	ug/kg	1
Dibenzofuran	U	ND	120	400	ug/kg	1
Diethylphthalate	U	ND	120	400	ug/kg	1
Dimethylphthalate	U	ND	120	400	ug/kg	1
Diphenylamine	U	ND	120	400	ug/kg	1
Fluoranthene	U	ND	12.0	40.0	ug/kg	1
Fluorene	U	ND	12.0	40.0	ug/kg	1
Hexachlorobenzene	U	ND	120	400	ug/kg	1
Hexachlorobutadiene	U	ND	120	400	ug/kg	1
Hexachlorocyclopentadiene	U	ND	120	400	ug/kg	1
Hexachloroethane	U	ND	120	400	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	12.0	40.0	ug/kg	1
Isophorone	U	ND	120	400	ug/kg	1
N-Nitrosodipropylamine	U	ND	120	400	ug/kg	1
Naphthalene	U	ND	12.0	40.0	ug/kg	1
Nitrobenzene	U	ND	120	400	ug/kg	1
Pentachlorophenol	U	ND	120	400	ug/kg	1
Phenanthrene	U	ND	12.0	40.0	ug/kg	1
Phenol	U	ND	120	400	ug/kg	1
Pyrene	U	ND	12.0	40.0	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	120	400	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	120	400	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	120	400	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	120	400	ug/kg	1
m,p-Cresols	U	ND	120	400	ug/kg	1
m-Nitroaniline	U	ND	120	400	ug/kg	1
o-Cresol	U	ND	120	400	ug/kg	1
o-Nitroaniline	U	ND	132	400	ug/kg	1
p-Nitroaniline	U	ND	120	400	ug/kg	1

Spectrometric Analysis

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Project: Phase II investigation

Client Sample ID: TP-SS-03 R
Sample ID: 352929006
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.203	0.131	0.437	mg/kg	1	SXC5	07/31/14	1129	1407154	9

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.7C	H	5.10	0.010	0.100	SU	1	PXO1	07/22/14	1345	1405362	10

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	HU	ND	28.6	57.2	mg/kg		EXM3	07/29/14	1501	1406917	11

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7471B	
5	SW846 3050B/6010C	
6	SW846 3050B/6020A	
7	SW846 3050B/6020A	
8	SW846 3550C/8270D	
9	SW846 7196A	
10	SW846 9045D	
11	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1490 ug/kg	2000	74.8	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	963 ug/kg	2000	48.2	(20%-108%)

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Project: SONO00514C
Client ID: GEEL003

p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1720 ug/kg	2000	86.1	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2920 ug/kg	4000	73.1	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2570 ug/kg	4000	64.2	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1910 ug/kg	4000	47.8	(18%-110%)

Notes:

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Company : GEL Engineering
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02R-D
Sample ID: 352929007
Matrix: Soil
Collect Date: 16-JUL-14 15:30
Receive Date: 18-JUL-14
Collector: Client
Moisture: 5.5%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	U	ND	78.9	236	ug/kg	1	AXH3	07/24/14	1356	1404556	1
Ion Chromatography											
SW846 9056A Anions "Dry Weight Corrected"											
Sulfate		3760	35.2	106	mg/kg	25	RXB5	07/24/14	1353	1405551	2
Nitrate-N	U	ND	3.49	10.6	mg/kg	10	RXB5	07/25/14	1754	1405551	3
Nitrite-N	U	ND	3.49	10.6	mg/kg	10					
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury	U	ND	4.05	12.1	ug/Kg	1	MTM1	07/22/14	1341	1404981	4
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	343	1040	ug/kg	1	JWJ	07/31/14	2017	1404879	5
Silver	U	ND	104	520	ug/kg	1					
Vanadium	J	359	104	520	ug/kg	1	JWJ	07/31/14	2315	1404879	6
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	U	ND	199	993	ug/kg	2	PRB	08/04/14	2355	1404822	7
Barium		11000	99.3	397	ug/kg	2					
Cadmium	J	38.5	19.9	199	ug/kg	2					
Calcium		35200	6550	19900	ug/kg	2					
Cobalt	J	150	59.6	199	ug/kg	2					
Copper		2240	65.5	199	ug/kg	2					
Lead		1890	99.3	397	ug/kg	2					
Magnesium		8360	1990	5960	ug/kg	2					
Manganese	J	550	199	993	ug/kg	2					
Nickel	J	235	99.3	397	ug/kg	2					
Potassium	U	ND	15900	59600	ug/kg	2					
Selenium	U	ND	328	993	ug/kg	2					
Thallium	U	ND	59.6	397	ug/kg	2					
Zinc		5570	397	1990	ug/kg	2					
Aluminum		563000	2980	9930	ug/kg	2	PRB	08/07/14	1521	1404822	8
Beryllium	U	ND	19.9	99.3	ug/kg	2					
Chromium	J	566	199	596	ug/kg	2					
Iron		41100	6550	19900	ug/kg	2					

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Project: Phase II investigation

Client Sample ID: TP-SS-02R-D
Sample ID: 352929007
Project: SONO00514C
Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Sodium		2050000	15900	49600	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	106	352	ug/kg	1	JLD1	07/24/14	0252	1404578	9
1,2,4,5-Tetrachlorobenzene	U	ND	106	352	ug/kg	1					
1-Methylnaphthalene	U	ND	10.6	35.2	ug/kg	1					
2,3,4,6-Tetrachlorophenol	U	ND	106	352	ug/kg	1					
2,4,5-Trichlorophenol	U	ND	106	352	ug/kg	1					
2,4,6-Trichlorophenol	U	ND	106	352	ug/kg	1					
2,4-Dichlorophenol	U	ND	106	352	ug/kg	1					
2,4-Dimethylphenol	U	ND	106	352	ug/kg	1					
2,4-Dinitrophenol	U	ND	106	704	ug/kg	1					
2,4-Dinitrotoluene	U	ND	106	352	ug/kg	1					
2,6-Dinitrotoluene	U	ND	106	352	ug/kg	1					
2-Chloronaphthalene	U	ND	10.6	35.2	ug/kg	1					
2-Chlorophenol	U	ND	106	352	ug/kg	1					
2-Methyl-4,6-dinitrophenol	U	ND	106	352	ug/kg	1					
2-Methylnaphthalene	U	ND	10.6	35.2	ug/kg	1					
2-Nitrophenol	U	ND	106	352	ug/kg	1					
3,3'-Dichlorobenzidine	U	ND	106	352	ug/kg	1					
4-Bromophenylphenylether	U	ND	106	352	ug/kg	1					
4-Chloro-3-methylphenol	U	ND	141	352	ug/kg	1					
4-Chloroaniline	U	ND	106	352	ug/kg	1					
4-Chlorophenylphenylether	U	ND	106	352	ug/kg	1					
4-Nitrophenol	U	ND	106	352	ug/kg	1					
Acenaphthene	U	ND	10.6	35.2	ug/kg	1					
Acenaphthylene	U	ND	10.6	35.2	ug/kg	1					
Acetophenone	U	ND	106	352	ug/kg	1					
Anthracene	U	ND	10.6	35.2	ug/kg	1					
Atrazine	U	ND	141	352	ug/kg	1					
Benzaldehyde	U	ND	106	352	ug/kg	1					
Benzo(a)anthracene	U	ND	10.6	35.2	ug/kg	1					
Benzo(a)pyrene	U	ND	10.6	35.2	ug/kg	1					
Benzo(b)fluoranthene	U	ND	10.6	35.2	ug/kg	1					
Benzo(ghi)perylene	U	ND	10.6	35.2	ug/kg	1					
Benzo(k)fluoranthene	U	ND	10.6	35.2	ug/kg	1					

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Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02R-D
Sample ID: 352929007
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Butylbenzylphthalate	U	ND	106	352	ug/kg	1
Caprolactam	U	ND	106	352	ug/kg	1
Carbazole	J	13.7	10.6	35.2	ug/kg	1
Chrysene	U	ND	10.6	35.2	ug/kg	1
Di-n-butylphthalate	U	ND	106	352	ug/kg	1
Di-n-octylphthalate	U	ND	106	352	ug/kg	1
Dibenzo(a,h)anthracene	U	ND	10.6	35.2	ug/kg	1
Dibenzofuran	U	ND	106	352	ug/kg	1
Diethylphthalate	U	ND	106	352	ug/kg	1
Dimethylphthalate	U	ND	106	352	ug/kg	1
Diphenylamine	U	ND	106	352	ug/kg	1
Fluoranthene	U	ND	10.6	35.2	ug/kg	1
Fluorene	U	ND	10.6	35.2	ug/kg	1
Hexachlorobenzene	U	ND	106	352	ug/kg	1
Hexachlorobutadiene	U	ND	106	352	ug/kg	1
Hexachlorocyclopentadiene	U	ND	106	352	ug/kg	1
Hexachloroethane	U	ND	106	352	ug/kg	1
Indeno(1,2,3-cd)pyrene	U	ND	10.6	35.2	ug/kg	1
Isophorone	U	ND	106	352	ug/kg	1
N-Nitrosodipropylamine	U	ND	106	352	ug/kg	1
Naphthalene	U	ND	10.6	35.2	ug/kg	1
Nitrobenzene	U	ND	106	352	ug/kg	1
Pentachlorophenol	U	ND	106	352	ug/kg	1
Phenanthrene	U	ND	10.6	35.2	ug/kg	1
Phenol		487	106	352	ug/kg	1
Pyrene	U	ND	10.6	35.2	ug/kg	1
bis(2-Chloro-1-methylethyl)ether	U	ND	106	352	ug/kg	1
bis(2-Chloroethoxy)methane	U	ND	106	352	ug/kg	1
bis(2-Chloroethyl) ether	U	ND	106	352	ug/kg	1
bis(2-Ethylhexyl)phthalate	U	ND	106	352	ug/kg	1
m,p-Cresols		359	106	352	ug/kg	1
m-Nitroaniline	U	ND	106	352	ug/kg	1
o-Cresol	U	ND	106	352	ug/kg	1
o-Nitroaniline	U	ND	116	352	ug/kg	1
p-Nitroaniline	U	ND	106	352	ug/kg	1

Spectrometric Analysis

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TP-SS-02R-D
Sample ID: 352929007
Project: SONO00514C
Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.259	0.125	0.417	mg/kg	1	SXC5	07/31/14	1129	1407154	10

Titration and Ion Analysis

SW9045D pH "As Received"

pH at Temp 21.7C	H	6.24	0.010	0.100	SU	1	PXO1	07/22/14	1346	1405362	11

SM4500 Sulfite Soil "Dry Weight Corrected"

Sulfite	HU	ND	24.4	48.8	mg/kg		EXM3	07/29/14	1502	1406917	12

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555
SW846 9056A	SW846 9056A Total Anions in Soil	RXB5	07/23/14	1850	1405550

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7471B	
5	SW846 3050B/6010C	
6	SW846 3050B/6010C	
7	SW846 3050B/6020A	
8	SW846 3050B/6020A	
9	SW846 3550C/8270D	
10	SW846 7196A	
11	SW846 9045D	
12	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1450 ug/kg	1760	82.5	(18%-105%)

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Client Sample ID: TP-SS-02R-D
Sample ID: 352929007
Project: SONO00514C
Client ID: GEEL003

Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1370 ug/kg	1760	77.8	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2120 ug/kg	1760	120	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2770 ug/kg	3520	78.8	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2570 ug/kg	3520	73.1	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2690 ug/kg	3520	76.4	(18%-110%)

Notes:

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Company : GEL Engineering
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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-30
Sample ID: 352929008
Matrix: Soil
Collect Date: 17-JUL-14 09:45
Receive Date: 18-JUL-14
Collector: Client
Moisture: 40.3%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total		516	118	355	ug/kg	1	AXH3	07/24/14	1408	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		103	6.65	19.8	ug/Kg	1	MTM1	07/22/14	1342	1404981	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	542	1640	ug/kg	1	JWJ	07/31/14	2020	1404879	3
Silver	U	ND	164	821	ug/kg	1					
Vanadium		3850	164	821	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	J	526	296	1480	ug/kg	2	PRB	08/05/14	0001	1404822	4
Barium		17800	148	593	ug/kg	2					
Cadmium	J	106	29.6	296	ug/kg	2					
Calcium		734000	9780	29600	ug/kg	2					
Cobalt	J	282	88.9	296	ug/kg	2					
Copper		18500	97.8	296	ug/kg	2					
Lead		9510	148	593	ug/kg	2					
Magnesium		186000	2960	8890	ug/kg	2					
Manganese		10600	296	1480	ug/kg	2					
Nickel		980	148	593	ug/kg	2					
Potassium		187000	23700	88900	ug/kg	2					
Selenium	U	ND	489	1480	ug/kg	2					
Thallium	U	ND	88.9	593	ug/kg	2					
Zinc		16100	593	2960	ug/kg	2					
Aluminum		3420000	4440	14800	ug/kg	2	PRB	08/07/14	1600	1404822	5
Beryllium		171	29.6	148	ug/kg	2					
Chromium		28300	296	889	ug/kg	2					
Iron		2680000	9780	29600	ug/kg	2					
Sodium		331000	23700	74100	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	833	2780	ug/kg	5	JLD1	07/24/14	1609	1404578	6
1,2,4,5-Tetrachlorobenzene	U	ND	833	2780	ug/kg	5					

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30	Project:	SONO00514C
Sample ID:	352929008	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	83.3	278	ug/kg	5
2,3,4,6-Tetrachlorophenol	U	ND	833	2780	ug/kg	5
2,4,5-Trichlorophenol	U	ND	833	2780	ug/kg	5
2,4,6-Trichlorophenol	U	ND	833	2780	ug/kg	5
2,4-Dichlorophenol	U	ND	833	2780	ug/kg	5
2,4-Dimethylphenol	U	ND	833	2780	ug/kg	5
2,4-Dinitrophenol	U	ND	833	5550	ug/kg	5
2,4-Dinitrotoluene	U	ND	833	2780	ug/kg	5
2,6-Dinitrotoluene	U	ND	833	2780	ug/kg	5
2-Chloronaphthalene	U	ND	83.3	278	ug/kg	5
2-Chlorophenol	U	ND	833	2780	ug/kg	5
2-Methyl-4,6-dinitrophenol	U	ND	833	2780	ug/kg	5
2-Methylnaphthalene	U	ND	83.3	278	ug/kg	5
2-Nitrophenol	U	ND	833	2780	ug/kg	5
3,3'-Dichlorobenzidine	U	ND	833	2780	ug/kg	5
4-Bromophenylphenylether	U	ND	833	2780	ug/kg	5
4-Chloro-3-methylphenol	U	ND	1110	2780	ug/kg	5
4-Chloroaniline	U	ND	833	2780	ug/kg	5
4-Chlorophenylphenylether	U	ND	833	2780	ug/kg	5
4-Nitrophenol	U	ND	833	2780	ug/kg	5
Acenaphthene	U	ND	83.3	278	ug/kg	5
Acenaphthylene	U	ND	83.3	278	ug/kg	5
Acetophenone	U	ND	833	2780	ug/kg	5
Anthracene	U	ND	83.3	278	ug/kg	5
Atrazine	U	ND	1110	2780	ug/kg	5
Benzaldehyde	U	ND	833	2780	ug/kg	5
Benzo(a)anthracene	J	167	83.3	278	ug/kg	5
Benzo(a)pyrene	J	105	83.3	278	ug/kg	5
Benzo(b)fluoranthene	J	169	83.3	278	ug/kg	5
Benzo(ghi)perylene	U	ND	83.3	278	ug/kg	5
Benzo(k)fluoranthene	U	ND	83.3	278	ug/kg	5
Butylbenzylphthalate	U	ND	833	2780	ug/kg	5
Caprolactam	U	ND	833	2780	ug/kg	5
Carbazole	U	ND	83.3	278	ug/kg	5
Chrysene	J	128	83.3	278	ug/kg	5
Di-n-butylphthalate	U	ND	833	2780	ug/kg	5

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Certificate of Analysis

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30	Project:	SONO00514C
Sample ID:	352929008	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	833	2780	ug/kg	5						
Dibenzo(a,h)anthracene	U	ND	83.3	278	ug/kg	5						
Dibenzofuran	U	ND	833	2780	ug/kg	5						
Diethylphthalate	U	ND	833	2780	ug/kg	5						
Dimethylphthalate	U	ND	833	2780	ug/kg	5						
Diphenylamine	U	ND	833	2780	ug/kg	5						
Fluoranthene	J	172	83.3	278	ug/kg	5						
Fluorene	U	ND	83.3	278	ug/kg	5						
Hexachlorobenzene	U	ND	833	2780	ug/kg	5						
Hexachlorobutadiene	U	ND	833	2780	ug/kg	5						
Hexachlorocyclopentadiene	U	ND	833	2780	ug/kg	5						
Hexachloroethane	U	ND	833	2780	ug/kg	5						
Indeno(1,2,3-cd)pyrene	U	ND	83.3	278	ug/kg	5						
Isophorone	U	ND	833	2780	ug/kg	5						
N-Nitrosodipropylamine	U	ND	833	2780	ug/kg	5						
Naphthalene	U	ND	83.3	278	ug/kg	5						
Nitrobenzene	U	ND	833	2780	ug/kg	5						
Pentachlorophenol	U	ND	833	2780	ug/kg	5						
Phenanthrene	J	86.1	83.3	278	ug/kg	5						
Phenol	U	ND	833	2780	ug/kg	5						
Pyrene	J	194	83.3	278	ug/kg	5						
bis(2-Chloro-1-methylethyl)ether	U	ND	833	2780	ug/kg	5						
bis(2-Chloroethoxy)methane	U	ND	833	2780	ug/kg	5						
bis(2-Chloroethyl) ether	U	ND	833	2780	ug/kg	5						
bis(2-Ethylhexyl)phthalate		3610	833	2780	ug/kg	5						
m,p-Cresols	U	ND	833	2780	ug/kg	5						
m-Nitroaniline	U	ND	833	2780	ug/kg	5						
o-Cresol	U	ND	833	2780	ug/kg	5						
o-Nitroaniline	U	ND	916	2780	ug/kg	5						
p-Nitroaniline	U	ND	833	2780	ug/kg	5						

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	J	0.259	0.167	0.557	mg/kg	1	SXC5	07/31/14	1129	1407154	7	

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30	Project:	SONO00514C
Sample ID:	352929008	Client ID:	GEEL003

SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3550C/8270D	
7	SW846 7196A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1710 ug/kg	2780	61.6	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	1370 ug/kg	2780	49.3	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2130 ug/kg	2780	76.9	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3250 ug/kg	5550	58.5	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2350 ug/kg	5550	42.3	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2520 ug/kg	5550	45.4	(18%-110%)

Notes:

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-30-D
Project: SONO00514C
Sample ID: 352929009
Client ID: GEEL003
Matrix: Soil
Collect Date: 17-JUL-14 09:45
Receive Date: 18-JUL-14
Collector: Client
Moisture: 64.4%

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total		2740	235	703	ug/kg	1	AXH3	07/24/14	1357	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		1190	11.3	33.7	ug/Kg	1	MTM1	07/22/14	1344	1404981	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony		20400	906	2750	ug/kg	1	JWJ	07/31/14	2022	1404879	3
Silver	J	369	275	1370	ug/kg	1					
Vanadium		18800	275	1370	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic	J	2330	493	2460	ug/kg	2	PRB	08/05/14	0007	1404822	4
Barium		57400	246	985	ug/kg	2					
Cadmium		865	49.3	493	ug/kg	2					
Calcium		1890000	16300	49300	ug/kg	2					
Cobalt		1140	148	493	ug/kg	2					
Copper		69500	163	493	ug/kg	2					
Lead		40700	246	985	ug/kg	2					
Magnesium		372000	4930	14800	ug/kg	2					
Manganese		23000	493	2460	ug/kg	2					
Nickel		3520	246	985	ug/kg	2					
Potassium		387000	39400	148000	ug/kg	2					
Selenium	U	ND	813	2460	ug/kg	2					
Thallium	J	213	148	985	ug/kg	2					
Zinc		37800	985	4930	ug/kg	2					
Aluminum		8460000	7390	24600	ug/kg	2	PRB	08/07/14	1605	1404822	5
Beryllium		470	49.3	246	ug/kg	2					
Chromium		167000	493	1480	ug/kg	2					
Iron		8230000	16300	49300	ug/kg	2					
Sodium		617000	39400	123000	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	1400	4660	ug/kg	5	JLD1	07/24/14	1641	1404578	6
1,2,4,5-Tetrachlorobenzene	U	ND	1400	4660	ug/kg	5					

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30-D	Project:	SONO00514C
Sample ID:	352929009	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	140	466	ug/kg	5
2,3,4,6-Tetrachlorophenol	U	ND	1400	4660	ug/kg	5
2,4,5-Trichlorophenol	U	ND	1400	4660	ug/kg	5
2,4,6-Trichlorophenol	U	ND	1400	4660	ug/kg	5
2,4-Dichlorophenol	U	ND	1400	4660	ug/kg	5
2,4-Dimethylphenol	U	ND	1400	4660	ug/kg	5
2,4-Dinitrophenol	U	ND	1400	9320	ug/kg	5
2,4-Dinitrotoluene	U	ND	1400	4660	ug/kg	5
2,6-Dinitrotoluene	U	ND	1400	4660	ug/kg	5
2-Chloronaphthalene	U	ND	140	466	ug/kg	5
2-Chlorophenol	U	ND	1400	4660	ug/kg	5
2-Methyl-4,6-dinitrophenol	U	ND	1400	4660	ug/kg	5
2-Methylnaphthalene	U	ND	140	466	ug/kg	5
2-Nitrophenol	U	ND	1400	4660	ug/kg	5
3,3'-Dichlorobenzidine	U	ND	1400	4660	ug/kg	5
4-Bromophenylphenylether	U	ND	1400	4660	ug/kg	5
4-Chloro-3-methylphenol	U	ND	1860	4660	ug/kg	5
4-Chloroaniline	U	ND	1400	4660	ug/kg	5
4-Chlorophenylphenylether	U	ND	1400	4660	ug/kg	5
4-Nitrophenol	U	ND	1400	4660	ug/kg	5
Acenaphthene	U	ND	140	466	ug/kg	5
Acenaphthylene	U	ND	140	466	ug/kg	5
Acetophenone	U	ND	1400	4660	ug/kg	5
Anthracene		606	140	466	ug/kg	5
Atrazine	U	ND	1860	4660	ug/kg	5
Benzaldehyde	U	ND	1400	4660	ug/kg	5
Benzo(a)anthracene		1640	140	466	ug/kg	5
Benzo(a)pyrene		1420	140	466	ug/kg	5
Benzo(b)fluoranthene		2300	140	466	ug/kg	5
Benzo(ghi)perylene		541	140	466	ug/kg	5
Benzo(k)fluoranthene		839	140	466	ug/kg	5
Butylbenzylphthalate	U	ND	1400	4660	ug/kg	5
Caprolactam	U	ND	1400	4660	ug/kg	5
Carbazole	U	ND	140	466	ug/kg	5
Chrysene		2000	140	466	ug/kg	5
Di-n-butylphthalate	U	ND	1400	4660	ug/kg	5

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Certificate of Analysis

Report Date: August 7, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30-D	Project:	SONO00514C
Sample ID:	352929009	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	1400	4660	ug/kg	5						
Dibenzo(a,h)anthracene	J	270	140	466	ug/kg	5						
Dibenzofuran	U	ND	1400	4660	ug/kg	5						
Diethylphthalate	U	ND	1400	4660	ug/kg	5						
Dimethylphthalate	U	ND	1400	4660	ug/kg	5						
Diphenylamine	U	ND	1400	4660	ug/kg	5						
Fluoranthene		895	140	466	ug/kg	5						
Fluorene	U	ND	140	466	ug/kg	5						
Hexachlorobenzene	U	ND	1400	4660	ug/kg	5						
Hexachlorobutadiene	U	ND	1400	4660	ug/kg	5						
Hexachlorocyclopentadiene	U	ND	1400	4660	ug/kg	5						
Hexachloroethane	U	ND	1400	4660	ug/kg	5						
Indeno(1,2,3-cd)pyrene		718	140	466	ug/kg	5						
Isophorone	U	ND	1400	4660	ug/kg	5						
N-Nitrosodipropylamine	U	ND	1400	4660	ug/kg	5						
Naphthalene	U	ND	140	466	ug/kg	5						
Nitrobenzene	U	ND	1400	4660	ug/kg	5						
Pentachlorophenol	U	ND	1400	4660	ug/kg	5						
Phenanthrene		732	140	466	ug/kg	5						
Phenol	U	ND	1400	4660	ug/kg	5						
Pyrene		993	140	466	ug/kg	5						
bis(2-Chloro-1-methylethyl)ether	U	ND	1400	4660	ug/kg	5						
bis(2-Chloroethoxy)methane	U	ND	1400	4660	ug/kg	5						
bis(2-Chloroethyl) ether	U	ND	1400	4660	ug/kg	5						
bis(2-Ethylhexyl)phthalate	U	ND	1400	4660	ug/kg	5						
m,p-Cresols	U	ND	1400	4660	ug/kg	5						
m-Nitroaniline	U	ND	1400	4660	ug/kg	5						
o-Cresol	U	ND	1400	4660	ug/kg	5						
o-Nitroaniline	U	ND	1540	4660	ug/kg	5						
p-Nitroaniline	U	ND	1400	4660	ug/kg	5						

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	2.26	0.241	0.805	mg/kg	1	SXC5	07/31/14	1129	1407154	7

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch

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Certificate of Analysis

Report Date: August 7, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-30-D	Project:	SONO00514C
Sample ID:	352929009	Client ID:	GEEL003

SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3550C/8270D	
7	SW846 7196A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3170 ug/kg	4660	67.9	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2570 ug/kg	4660	55.2	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	4980 ug/kg	4660	107	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	8440 ug/kg	9320	90.5	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	5080 ug/kg	9320	54.4	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	5380 ug/kg	9320	57.7	(18%-110%)

Notes:

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Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-32
Sample ID: 352929010
Matrix: Soil
Collect Date: 17-JUL-14 10:40
Receive Date: 18-JUL-14
Collector: Client
Moisture: 65.5%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total		1860	220	659	ug/kg	1	AXH3	07/24/14	1409	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		297	11.2	33.3	ug/Kg	1	MTM1	07/22/14	1349	1404981	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony	U	ND	930	2820	ug/kg	1	JWJ	07/31/14	2025	1404879	3
Silver	U	ND	282	1410	ug/kg	1					
Vanadium		57800	282	1410	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic		17100	545	2730	ug/kg	2	PRB	08/05/14	0013	1404822	4
Barium		127000	273	1090	ug/kg	2					
Cadmium		744	54.5	545	ug/kg	2					
Calcium		806000	18000	54500	ug/kg	2					
Cobalt		4830	164	545	ug/kg	2					
Copper		68300	180	545	ug/kg	2					
Lead		78400	273	1090	ug/kg	2					
Magnesium		485000	5450	16400	ug/kg	2					
Manganese		63500	545	2730	ug/kg	2					
Nickel		12600	273	1090	ug/kg	2					
Potassium		482000	43600	164000	ug/kg	2					
Selenium	J	1910	900	2730	ug/kg	2					
Thallium	J	366	164	1090	ug/kg	2					
Zinc		76600	1090	5450	ug/kg	2					
Aluminum		20100000	8180	27300	ug/kg	2	PRB	08/07/14	1609	1404822	5
Beryllium		1490	54.5	273	ug/kg	2					
Chromium		44000	545	1640	ug/kg	2					
Sodium	J	81400	43600	136000	ug/kg	2					
Iron		27500000	180000	545000	ug/kg	20	PRB	08/07/14	1617	1404822	6
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	290	966	ug/kg	1	JLD1	07/24/14	0424	1404578	7
1,2,4,5-Tetrachlorobenzene	U	ND	290	966	ug/kg	1					

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Report Date: August 7, 2014

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-32	Project:	SONO00514C
Sample ID:	352929010	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	29.0	96.6	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	290	966	ug/kg	1
2,4,5-Trichlorophenol	U	ND	290	966	ug/kg	1
2,4,6-Trichlorophenol	U	ND	290	966	ug/kg	1
2,4-Dichlorophenol	U	ND	290	966	ug/kg	1
2,4-Dimethylphenol	U	ND	290	966	ug/kg	1
2,4-Dinitrophenol	U	ND	290	1930	ug/kg	1
2,4-Dinitrotoluene	U	ND	290	966	ug/kg	1
2,6-Dinitrotoluene	U	ND	290	966	ug/kg	1
2-Chloronaphthalene	U	ND	29.0	96.6	ug/kg	1
2-Chlorophenol	U	ND	290	966	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	290	966	ug/kg	1
2-Methylnaphthalene	U	ND	29.0	96.6	ug/kg	1
2-Nitrophenol	U	ND	290	966	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	290	966	ug/kg	1
4-Bromophenylphenylether	U	ND	290	966	ug/kg	1
4-Chloro-3-methylphenol	U	ND	387	966	ug/kg	1
4-Chloroaniline	U	ND	290	966	ug/kg	1
4-Chlorophenylphenylether	U	ND	290	966	ug/kg	1
4-Nitrophenol	U	ND	290	966	ug/kg	1
Acenaphthene	J	35.8	29.0	96.6	ug/kg	1
Acenaphthylene	U	ND	29.0	96.6	ug/kg	1
Acetophenone	U	ND	290	966	ug/kg	1
Anthracene		121	29.0	96.6	ug/kg	1
Atrazine	U	ND	387	966	ug/kg	1
Benzaldehyde	U	ND	290	966	ug/kg	1
Benzo(a)anthracene		762	29.0	96.6	ug/kg	1
Benzo(a)pyrene		841	29.0	96.6	ug/kg	1
Benzo(b)fluoranthene		1180	29.0	96.6	ug/kg	1
Benzo(ghi)perylene		366	29.0	96.6	ug/kg	1
Benzo(k)fluoranthene		394	29.0	96.6	ug/kg	1
Butylbenzylphthalate	U	ND	290	966	ug/kg	1
Caprolactam	U	ND	290	966	ug/kg	1
Carbazole	J	93.7	29.0	96.6	ug/kg	1
Chrysene		998	29.0	96.6	ug/kg	1
Di-n-butylphthalate	U	ND	290	966	ug/kg	1

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-32	Project:	SONO00514C
Sample ID:	352929010	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	290	966	ug/kg	1						
Dibenzo(a,h)anthracene		133	29.0	96.6	ug/kg	1						
Dibenzofuran	U	ND	290	966	ug/kg	1						
Diethylphthalate	U	ND	290	966	ug/kg	1						
Dimethylphthalate	U	ND	290	966	ug/kg	1						
Diphenylamine	U	ND	290	966	ug/kg	1						
Fluoranthene		1010	29.0	96.6	ug/kg	1						
Fluorene	J	36.7	29.0	96.6	ug/kg	1						
Hexachlorobenzene	U	ND	290	966	ug/kg	1						
Hexachlorobutadiene	U	ND	290	966	ug/kg	1						
Hexachlorocyclopentadiene	U	ND	290	966	ug/kg	1						
Hexachloroethane	U	ND	290	966	ug/kg	1						
Indeno(1,2,3-cd)pyrene		336	29.0	96.6	ug/kg	1						
Isophorone	U	ND	290	966	ug/kg	1						
N-Nitrosodipropylamine	U	ND	290	966	ug/kg	1						
Naphthalene	U	ND	29.0	96.6	ug/kg	1						
Nitrobenzene	U	ND	290	966	ug/kg	1						
Pentachlorophenol	U	ND	290	966	ug/kg	1						
Phenanthrene		524	29.0	96.6	ug/kg	1						
Phenol	U	ND	290	966	ug/kg	1						
Pyrene		1680	29.0	96.6	ug/kg	1						
bis(2-Chloro-1-methylethyl)ether	U	ND	290	966	ug/kg	1						
bis(2-Chloroethoxy)methane	U	ND	290	966	ug/kg	1						
bis(2-Chloroethyl) ether	U	ND	290	966	ug/kg	1						
bis(2-Ethylhexyl)phthalate	U	ND	290	966	ug/kg	1						
m,p-Cresols	U	ND	290	966	ug/kg	1						
m-Nitroaniline	U	ND	290	966	ug/kg	1						
o-Cresol	U	ND	290	966	ug/kg	1						
o-Nitroaniline	U	ND	319	966	ug/kg	1						
p-Nitroaniline	U	ND	290	966	ug/kg	1						

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	2.57	0.274	0.914	mg/kg	1	SXC5	07/31/14	1129	1407154	8

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch

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Certificate of Analysis

Report Date: August 7, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-32	Project:	SONO00514C
Sample ID:	352929010	Client ID:	GEEL003

SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3050B/6020A	
7	SW846 3550C/8270D	
8	SW846 7196A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2590 ug/kg	4830	53.6	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	2090 ug/kg	4830	43.2	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	5860 ug/kg	4830	121	(32%-121%)
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	6520 ug/kg	9660	67.5	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	4230 ug/kg	9660	43.7	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	4610 ug/kg	9660	47.7	(18%-110%)

Notes:

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Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SB-SS-31
Sample ID: 352929011
Matrix: Soil
Collect Date: 17-JUL-14 10:10
Receive Date: 18-JUL-14
Collector: Client
Moisture: 77.4%

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total		4750	233	699	ug/kg	1	AXH3	07/24/14	1359	1404556	1
Mercury Analysis-CVAA											
SW846 7471B Mercury in Solid "Dry Weight Corrected"											
Mercury		534	16.9	50.5	ug/Kg	1	MTM1	07/22/14	1351	1404981	2
Metals Analysis-ICP											
SW846 3050B/6010C Solid "Dry Weight Corrected"											
Antimony		14600	1360	4140	ug/kg	1	JWJ	07/31/14	2028	1404879	3
Silver	U	ND	414	2070	ug/kg	1					
Vanadium		65700	414	2070	ug/kg	1					
Metals Analysis-ICP-MS											
SW846 3050B/6020A Solid "Dry Weight Corrected"											
Arsenic		27300	856	4280	ug/kg	2	PRB	08/05/14	0019	1404822	4
Barium		153000	428	1710	ug/kg	2					
Cadmium		4090	85.6	856	ug/kg	2					
Calcium		5080000	28200	85600	ug/kg	2					
Cobalt		9680	257	856	ug/kg	2					
Copper		206000	282	856	ug/kg	2					
Lead		109000	428	1710	ug/kg	2					
Magnesium		608000	8560	25700	ug/kg	2					
Manganese		63000	856	4280	ug/kg	2					
Nickel		22600	428	1710	ug/kg	2					
Potassium		873000	68500	257000	ug/kg	2					
Selenium	J	2130	1410	4280	ug/kg	2					
Thallium	J	992	257	1710	ug/kg	2					
Zinc		319000	1710	8560	ug/kg	2					
Aluminum		16300000	12800	42800	ug/kg	2	PRB	08/07/14	1613	1404822	5
Beryllium		2290	85.6	428	ug/kg	2					
Chromium		220000	856	2570	ug/kg	2					
Iron		30700000	28200	85600	ug/kg	2					
Sodium		298000	68500	214000	ug/kg	2					
Semi-Volatile-GC/MS											
SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"											
1,1'-Biphenyl	U	ND	439	1460	ug/kg	1	JLD1	07/24/14	1743	1404578	6
1,2,4,5-Tetrachlorobenzene	U	ND	439	1460	ug/kg	1					

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Certificate of Analysis

Report Date: August 7, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-31	Project:	SONO00514C
Sample ID:	352929011	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

1-Methylnaphthalene	U	ND	43.9	146	ug/kg	1
2,3,4,6-Tetrachlorophenol	U	ND	439	1460	ug/kg	1
2,4,5-Trichlorophenol	U	ND	439	1460	ug/kg	1
2,4,6-Trichlorophenol	U	ND	439	1460	ug/kg	1
2,4-Dichlorophenol	U	ND	439	1460	ug/kg	1
2,4-Dimethylphenol	U	ND	439	1460	ug/kg	1
2,4-Dinitrophenol	U	ND	439	2930	ug/kg	1
2,4-Dinitrotoluene	U	ND	439	1460	ug/kg	1
2,6-Dinitrotoluene	U	ND	439	1460	ug/kg	1
2-Chloronaphthalene	U	ND	43.9	146	ug/kg	1
2-Chlorophenol	U	ND	439	1460	ug/kg	1
2-Methyl-4,6-dinitrophenol	U	ND	439	1460	ug/kg	1
2-Methylnaphthalene	U	ND	43.9	146	ug/kg	1
2-Nitrophenol	U	ND	439	1460	ug/kg	1
3,3'-Dichlorobenzidine	U	ND	439	1460	ug/kg	1
4-Bromophenylphenylether	U	ND	439	1460	ug/kg	1
4-Chloro-3-methylphenol	U	ND	586	1460	ug/kg	1
4-Chloroaniline	U	ND	439	1460	ug/kg	1
4-Chlorophenylphenylether	U	ND	439	1460	ug/kg	1
4-Nitrophenol	U	ND	439	1460	ug/kg	1
Acenaphthene	J	73.2	43.9	146	ug/kg	1
Acenaphthylene	U	ND	43.9	146	ug/kg	1
Acetophenone	U	ND	439	1460	ug/kg	1
Anthracene	J	127	43.9	146	ug/kg	1
Atrazine	U	ND	586	1460	ug/kg	1
Benzaldehyde	U	ND	439	1460	ug/kg	1
Benzo(a)anthracene		995	43.9	146	ug/kg	1
Benzo(a)pyrene		1150	43.9	146	ug/kg	1
Benzo(b)fluoranthene		1620	43.9	146	ug/kg	1
Benzo(ghi)perylene		451	43.9	146	ug/kg	1
Benzo(k)fluoranthene		560	43.9	146	ug/kg	1
Butylbenzylphthalate	U	ND	439	1460	ug/kg	1
Caprolactam	U	ND	439	1460	ug/kg	1
Carbazole	J	87.9	43.9	146	ug/kg	1
Chrysene		1030	43.9	146	ug/kg	1
Di-n-butylphthalate	U	ND	439	1460	ug/kg	1

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Certificate of Analysis

Report Date: August 7, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-31	Project:	SONO00514C
Sample ID:	352929011	Client ID:	GEEL003

Semi-Volatile-GC/MS

SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"

Di-n-octylphthalate	U	ND	439	1460	ug/kg	1						
Dibenzo(a,h)anthracene		170	43.9	146	ug/kg	1						
Dibenzofuran	U	ND	439	1460	ug/kg	1						
Diethylphthalate	U	ND	439	1460	ug/kg	1						
Dimethylphthalate	U	ND	439	1460	ug/kg	1						
Diphenylamine	U	ND	439	1460	ug/kg	1						
Fluoranthene		1290	43.9	146	ug/kg	1						
Fluorene	J	63.0	43.9	146	ug/kg	1						
Hexachlorobenzene	U	ND	439	1460	ug/kg	1						
Hexachlorobutadiene	U	ND	439	1460	ug/kg	1						
Hexachlorocyclopentadiene	U	ND	439	1460	ug/kg	1						
Hexachloroethane	U	ND	439	1460	ug/kg	1						
Indeno(1,2,3-cd)pyrene		603	43.9	146	ug/kg	1						
Isophorone	U	ND	439	1460	ug/kg	1						
N-Nitrosodipropylamine	U	ND	439	1460	ug/kg	1						
Naphthalene	U	ND	43.9	146	ug/kg	1						
Nitrobenzene	U	ND	439	1460	ug/kg	1						
Pentachlorophenol	U	ND	439	1460	ug/kg	1						
Phenanthrene		539	43.9	146	ug/kg	1						
Phenol	U	ND	439	1460	ug/kg	1						
Pyrene		1790	43.9	146	ug/kg	1						
bis(2-Chloro-1-methylethyl)ether	U	ND	439	1460	ug/kg	1						
bis(2-Chloroethoxy)methane	U	ND	439	1460	ug/kg	1						
bis(2-Chloroethyl) ether	U	ND	439	1460	ug/kg	1						
bis(2-Ethylhexyl)phthalate	J	680	439	1460	ug/kg	1						
m,p-Cresols	U	ND	439	1460	ug/kg	1						
m-Nitroaniline	U	ND	439	1460	ug/kg	1						
o-Cresol	U	ND	439	1460	ug/kg	1						
o-Nitroaniline	U	ND	483	1460	ug/kg	1						
p-Nitroaniline	U	ND	439	1460	ug/kg	1						

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "Dry Weight Corrected"

Hexavalent Chromium	U	ND	0.504	1.68	mg/kg	1	SXC5	07/31/14	1129	1407154	7

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SB-SS-31	Project:	SONO00514C
Sample ID:	352929011	Client ID:	GEEL003

SW846 3050B	ICP-MS 3050BS PREP	KXP3	07/22/14	1000	1404821
SW846 3050B	SW846 3050B Prep for 6010C	JXO1	07/21/14	2200	1404878
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	EXM3	07/30/14	0911	1407036
SW846 3550C	3550C BNA Soil Prep for 8270D	AXV1	07/18/14	1855	1404576
SW846 7471B Prep	SW846 7471B Mercury Prep Soil	AXS5	07/21/14	1719	1404969
SW846 9010B Prep	SW846 9010B Prep	AXH3	07/24/14	1026	1404555

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012A	
2	SW846 7471B	
3	SW846 3050B/6010C	
4	SW846 3050B/6020A	
5	SW846 3050B/6020A	
6	SW846 3550C/8270D	
7	SW846 7196A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2,4,6-Tribromophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	10300 ug/kg	14600	70.3	(21%-117%)
2-Fluorophenol	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	6290 ug/kg	14600	42.9	(20%-108%)
Phenol-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	6550 ug/kg	14600	44.7	(18%-110%)
2-Fluorobiphenyl	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3910 ug/kg	7320	53.4	(18%-105%)
Nitrobenzene-d5	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	3170 ug/kg	7320	43.3	(20%-108%)
p-Terphenyl-d14	SW846 3550C/8270D Semivolatile Analysis "Dry Weight Corrected"	6710 ug/kg	7320	91.6	(32%-121%)

Notes:

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Certificate of Analysis

Report Date: August 7, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: EB-071714
Sample ID: 352929012
Matrix: Water
Collect Date: 17-JUL-14 13:25
Receive Date: 18-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/24/14	1445	1404466	1
Ion Chromatography											
SW846 9056A Anions "As Received"											
Nitrate-N		0.332	0.033	0.100	mg/L	1	MAR1	07/18/14	1430	1404447	2
Nitrite-N	U	ND	0.038	0.100	mg/L	1					
Sulfate		31.5	0.665	2.00	mg/L	5	MAR1	07/18/14	1508	1404447	3
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/21/14	1357	1404406	4
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	U	ND	1.00	5.00	ug/L	1	LS	07/22/14	1641	1404884	5
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum	U	ND	15.0	50.0	ug/L	1	BAJ	08/02/14	0453	1404848	6
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		16.1	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		17600	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt	U	ND	0.100	1.00	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		2360	10.0	30.0	ug/L	1					
Manganese	J	2.59	1.00	5.00	ug/L	1					
Potassium		1900	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		11900	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Copper	U	ND	0.350	1.00	ug/L	1	BAJ	08/03/14	1201	1404848	7
Iron	J	42.2	33.0	100	ug/L	1					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: EB-071714 Project: SONO00514C
Sample ID: 352929012 Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Nickel	U	ND	0.500	2.00	ug/L	1					
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.91	9.71	ug/L	1	JLD1	07/23/14	1723	1404953	8
1,2,4,5-Tetrachlorobenzene	U	ND	2.91	9.71	ug/L	1					
1-Methylnaphthalene	U	ND	0.291	0.971	ug/L	1					
2,3,4,6-Tetrachlorophenol	U	ND	2.91	9.71	ug/L	1					
2,4,5-Trichlorophenol	U	ND	2.91	9.71	ug/L	1					
2,4,6-Trichlorophenol	U	ND	2.91	9.71	ug/L	1					
2,4-Dichlorophenol	U	ND	2.91	9.71	ug/L	1					
2,4-Dimethylphenol	U	ND	2.91	9.71	ug/L	1					
2,4-Dinitrophenol	U	ND	4.85	19.4	ug/L	1					
2,4-Dinitrotoluene	U	ND	2.91	9.71	ug/L	1					
2,6-Dinitrotoluene	U	ND	2.91	9.71	ug/L	1					
2-Chloronaphthalene	U	ND	0.398	0.971	ug/L	1					
2-Chlorophenol	U	ND	2.91	9.71	ug/L	1					
2-Methyl-4,6-dinitrophenol	U	ND	2.91	9.71	ug/L	1					
2-Methylnaphthalene	U	ND	0.291	0.971	ug/L	1					
2-Nitrophenol	U	ND	2.91	9.71	ug/L	1					
3,3'-Dichlorobenzidine	U	ND	2.91	9.71	ug/L	1					
4-Bromophenylphenylether	U	ND	2.91	9.71	ug/L	1					
4-Chloro-3-methylphenol	U	ND	2.91	9.71	ug/L	1					
4-Chloroaniline	U	ND	3.20	9.71	ug/L	1					
4-Chlorophenylphenylether	U	ND	2.91	9.71	ug/L	1					
4-Nitrophenol	U	ND	2.91	9.71	ug/L	1					
Acenaphthene	U	ND	0.291	0.971	ug/L	1					
Acenaphthylene	U	ND	0.291	0.971	ug/L	1					
Acetophenone	U	ND	2.91	9.71	ug/L	1					
Anthracene	U	ND	0.291	0.971	ug/L	1					
Atrazine	U	ND	2.91	9.71	ug/L	1					
Benzaldehyde	U	ND	2.91	9.71	ug/L	1					
Benzo(a)anthracene	U	ND	0.291	0.971	ug/L	1					
Benzo(a)pyrene	U	ND	0.291	0.971	ug/L	1					
Benzo(b)fluoranthene	U	ND	0.291	0.971	ug/L	1					
Benzo(ghi)perylene	U	ND	0.291	0.971	ug/L	1					
Benzo(k)fluoranthene	U	ND	0.291	0.971	ug/L	1					

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Certificate of Analysis

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: EB-071714 Project: SONO00514C
Sample ID: 352929012 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Butylbenzylphthalate	U	ND	2.91	9.71	ug/L	1
Caprolactam	U	ND	2.91	9.71	ug/L	1
Carbazole	U	ND	0.291	0.971	ug/L	1
Chrysene	U	ND	0.291	0.971	ug/L	1
Di-n-butylphthalate	U	ND	2.91	9.71	ug/L	1
Di-n-octylphthalate	U	ND	2.91	9.71	ug/L	1
Dibenzo(a,h)anthracene	U	ND	0.291	0.971	ug/L	1
Dibenzofuran	U	ND	2.91	9.71	ug/L	1
Diethylphthalate	U	ND	2.91	9.71	ug/L	1
Dimethylphthalate	U	ND	2.91	9.71	ug/L	1
Diphenylamine	U	ND	2.91	9.71	ug/L	1
Fluoranthene	U	ND	0.291	0.971	ug/L	1
Fluorene	U	ND	0.291	0.971	ug/L	1
Hexachlorobenzene	U	ND	2.91	9.71	ug/L	1
Hexachlorobutadiene	U	ND	2.91	9.71	ug/L	1
Hexachlorocyclopentadiene	U	ND	2.91	9.71	ug/L	1
Hexachloroethane	U	ND	2.91	9.71	ug/L	1
Indeno(1,2,3-cd)pyrene	U	ND	0.291	0.971	ug/L	1
Isophorone	U	ND	3.40	9.71	ug/L	1
N-Nitrosodipropylamine	U	ND	2.91	9.71	ug/L	1
Naphthalene	U	ND	0.291	0.971	ug/L	1
Nitrobenzene	U	ND	2.91	9.71	ug/L	1
Pentachlorophenol	U	ND	2.91	9.71	ug/L	1
Phenanthrene	U	ND	0.291	0.971	ug/L	1
Phenol	U	ND	2.91	9.71	ug/L	1
Pyrene	U	ND	0.291	0.971	ug/L	1
bis(2-Chloro-1-methylethyl)ether	U	ND	2.91	9.71	ug/L	1
bis(2-Chloroethoxy)methane	U	ND	2.91	9.71	ug/L	1
bis(2-Chloroethyl) ether	U	ND	2.91	9.71	ug/L	1
bis(2-Ethylhexyl)phthalate	U	ND	2.91	9.71	ug/L	1
m,p-Cresols	U	ND	3.59	9.71	ug/L	1
m-Nitroaniline	U	ND	2.91	9.71	ug/L	1
o-Cresol	U	ND	2.91	9.71	ug/L	1
o-Nitroaniline	U	ND	2.91	9.71	ug/L	1
p-Nitroaniline	U	ND	2.91	9.71	ug/L	1

Spectrometric Analysis

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Project: Phase II investigation

Client Sample ID: EB-071714 Project: SONO00514C
Sample ID: 352929012 Client ID: GEEL003

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	J	0.00473	0.003	0.010	mg/L	1	EXM3	07/18/14	0941	1404391	9

Titration and Ion Analysis

SM4500 Sulfite Liquid "As Received"

Sulfite	HU	ND	0.500	1.00	mg/L		PXO1	07/25/14	1911	1406210	10

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXO1	07/21/14	1750	1404847
SW846 3005A	SW846 3005A for 6010C	JXO1	07/21/14	1750	1404883
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	AXW1	07/21/14	1430	1404952
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/18/14	1551	1404402
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/24/14	1304	1404464

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7470A	
5	SW846 3005A/6010C	
6	SW846 3005A/6020A	
7	SW846 3005A/6020A	
8	SW846 3510C/8270D	
9	SW846 7196A	
10	SM 4500-SO3 (2-) B	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	34.3 ug/L	48.5	70.8	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	34.3 ug/L	48.5	70.6	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	46.4 ug/L	48.5	95.6	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	76.1 ug/L	97.1	78.4	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	35.0 ug/L	97.1	36.1	(10%-78%)

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Project:	Phase II investigation

Client Sample ID:	EB-071714	Project:	SONO00514C
Sample ID:	352929012	Client ID:	GEEL003

Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	21.6 ug/L	97.1	22.2	(10%-104%)	

Notes:

QC Summary

Report Date: August 7, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 1404466										
QC1203130103 352611001 DUP										
Cyanide, Total	U	ND	U	ND	ug/L	N/A			AXH3	07/24/14 14:22
QC1203130106 LCS										
Cyanide, Total	50.0		J	52.9	ug/L		106	(90%-110%)		07/24/14 14:20
QC1203130101 MB										
Cyanide, Total			U	ND	ug/L					07/24/14 14:19
QC1203130105 352611001 MS										
Cyanide, Total	100 U	ND	J	110	ug/L		110	(60%-124%)		07/24/14 14:23
Batch 1404556										
QC1203130268 352929001 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A			AXH3	07/24/14 11:49
QC1203130269 352745001 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A				07/24/14 11:36
QC1203130272 LCS										
Cyanide, Total	90600			92500	ug/kg		102	(68%-140%)		07/24/14 11:34
QC1203130267 MB										
Cyanide, Total			U	ND	ug/kg					07/24/14 11:34
QC1203130270 352929001 MS										
Cyanide, Total	4990 U	ND		2340	ug/kg		47*	(55%-125%)		07/24/14 11:49
QC1203130271 352745001 MS										
Cyanide, Total	5750 U	ND		4960	ug/kg		85.5	(55%-125%)		07/24/14 11:37
Ion Chromatography										
Batch 1404447										
QC1203130046 LCS										
Nitrate-N				2.61	mg/L			(90%-110%)	MAR1	07/18/14 13:24
Nitrite-N				2.60	mg/L			(90%-110%)		
Sulfate				10.3	mg/L			(90%-110%)		
QC1203130047 LCSD										
Nitrate-N				2.61	mg/L	0.207		(0%-20%)		07/18/14 13:57

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Ion Chromatography												
Batch 1404447												
Nitrite-N					2.60	mg/L	0.208		(0%-20%)	MAR1	07/18/14	13:57
Sulfate					10.3	mg/L	0.0979		(0%-20%)			
QC1203130045 MB												
Nitrate-N				U	ND	mg/L					07/18/14	12:51
Nitrite-N				U	ND	mg/L						
Sulfate				U	ND	mg/L						
Batch 1405551												
QC1203134039 352929001 DUP												
Nitrate-N		U	ND	U	ND	mg/kg	N/A			RXB5	07/25/14	12:45
Nitrite-N		U	ND	U	ND	mg/kg	N/A					
Sulfate			411		408	mg/kg	0.799		(0%-20%)			
QC1203132917 LCS												
Nitrate-N	25.0				25.1	mg/kg		101	(90%-110%)		07/24/14	08:13
Nitrite-N	25.0				26.0	mg/kg		104	(90%-110%)			
Sulfate	100				102	mg/kg		102	(90%-110%)			
QC1203132915 MB												
Nitrate-N				U	ND	mg/kg					07/24/14	07:42
Nitrite-N				U	ND	mg/kg						
Sulfate				U	ND	mg/kg						
QC1203132916 352929001 MS												
Nitrate-N	29.4	U	ND		29.9	mg/kg		102	(68%-129%)		07/25/14	12:14
Nitrite-N	29.4	U	ND		28.8	mg/kg		98	(68%-130%)			
Sulfate	118		411		486	mg/kg		63.6	(50%-151%)			
Metals Analysis - ICPMS												
Batch 1404822												
QC1203131056 352929001 DUP												

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1404822											
Aluminum			13000000		7460000	ug/kg	53.9*		(0%-20%)	PRB	08/07/14 15:47
Arsenic			1690	J	746	ug/kg	77.5 ^		(+/-1110)		08/04/14 22:26
Barium			13300		39700	ug/kg	99.5*		(0%-20%)		
Beryllium		J	97.3	J	67.3	ug/kg	36.5 ^		(+/-111)		08/07/14 14:30
Cadmium		J	29.6	J	63.7	ug/kg	73.0 ^		(+/-223)		08/04/14 22:26
Calcium			129000		465000	ug/kg	113*		(0%-20%)		
Chromium			7280		4480	ug/kg	47.6*		(0%-20%)		08/07/14 14:30
Cobalt			1090		513	ug/kg	72.2*^		(+/-223)		08/04/14 22:26
Copper			4280		4110	ug/kg	4.16		(0%-20%)		
Iron			6010000		4110000	ug/kg	37.6*		(0%-20%)		08/07/14 14:30
Lead			9040		5050	ug/kg	56.7*		(0%-20%)		08/04/14 22:26
Magnesium			147000		105000	ug/kg	33.3*		(0%-20%)		
Manganese			28100		16300	ug/kg	53.3*		(0%-20%)		
Nickel			3210		2120	ug/kg	41.1*^		(+/-446)		
Potassium			188000		130000	ug/kg	36.6 ^		(+/-66900)		
Selenium		U	ND	U	ND	ug/kg	N/A				
Sodium			2460000		2850000	ug/kg	15.0		(0%-20%)		08/07/14 14:30
Thallium		J	209	J	138	ug/kg	41.0 ^		(+/-446)		08/04/14 22:26
Zinc			4770		6020	ug/kg	23.3 ^		(+/-2230)		
QC1203131055 LCS											
Aluminum	189000				212000	ug/kg		112	(80%-120%)		08/07/14 14:21
Arsenic	4730				4570	ug/kg		96.6	(80%-120%)		08/04/14 22:02
Barium	4730				5000	ug/kg		106	(80%-120%)		

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1404822										
Beryllium	4730			4800	ug/kg		101	(80%-120%)	PRB	08/07/14 14:21
Cadmium	4730			4910	ug/kg		104	(80%-120%)		08/04/14 22:02
Calcium	189000			196000	ug/kg		104	(80%-120%)		
Chromium	4730			5300	ug/kg		112	(80%-120%)		08/07/14 14:21
Cobalt	4730			5060	ug/kg		107	(80%-120%)		08/04/14 22:02
Copper	4730			5250	ug/kg		111	(80%-120%)		
Iron	189000			212000	ug/kg		112	(80%-120%)		08/07/14 14:21
Lead	4730			5060	ug/kg		107	(80%-120%)		08/04/14 22:02
Magnesium	189000			198000	ug/kg		105	(80%-120%)		
Manganese	4730			5090	ug/kg		107	(80%-120%)		
Nickel	4730			5160	ug/kg		109	(80%-120%)		
Potassium	189000			201000	ug/kg		106	(80%-120%)		
Selenium	4730			4560	ug/kg		96.3	(80%-120%)		
Sodium	189000			213000	ug/kg		113	(80%-120%)		08/07/14 14:21
Thallium	4730			5040	ug/kg		107	(80%-120%)		08/04/14 22:02
Zinc	4730			5110	ug/kg		108	(80%-120%)		
QC1203131054 MB										
Aluminum			U	ND	ug/kg					08/07/14 14:17
Arsenic			U	ND	ug/kg					08/04/14 21:56
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					08/07/14 14:17
Cadmium			U	ND	ug/kg					08/04/14 21:56

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1404822											
Calcium				U	ND	ug/kg				PRB	08/04/14 21:56
Chromium				U	ND	ug/kg					08/07/14 14:17
Cobalt				U	ND	ug/kg					08/04/14 21:56
Copper				U	ND	ug/kg					
Iron				U	ND	ug/kg					08/07/14 14:17
Lead				U	ND	ug/kg					08/04/14 21:56
Magnesium				U	ND	ug/kg					
Manganese				U	ND	ug/kg					
Nickel				U	ND	ug/kg					
Potassium				U	ND	ug/kg					
Selenium				U	ND	ug/kg					
Sodium				U	ND	ug/kg					08/07/14 14:17
Thallium				U	ND	ug/kg					08/04/14 21:56
Zinc				U	ND	ug/kg					
QC1203131057 352929001 MS											
Aluminum	209000		13000000		10400000	ug/kg		N/A	(75%-125%)		08/07/14 15:52
Arsenic	5230		1690	N	4770	ug/kg		58.8*	(75%-125%)		08/04/14 22:32
Barium	5230		13300	N	17000	ug/kg		71.1*	(75%-125%)		
Beryllium	5230	J	97.3		5300	ug/kg		99.5	(75%-125%)		08/07/14 14:34
Cadmium	5230	J	29.6		5000	ug/kg		94.9	(75%-125%)		08/04/14 22:32
Calcium	209000		129000		320000	ug/kg		91.3	(75%-125%)		
Chromium	5230		7280	N	11000	ug/kg		71.2*	(75%-125%)		08/07/14 14:34

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1404822											
Cobalt	5230		1090		5390	ug/kg		82.2	(75%-125%)	PRB	08/04/14 22:32
Copper	5230		4280		8500	ug/kg		80.5	(75%-125%)		
Iron	209000		6010000		4120000	ug/kg		N/A	(75%-125%)		08/07/14 14:34
Lead	5230		9040	N	10800	ug/kg		34.4*	(75%-125%)		08/04/14 22:32
Magnesium	209000		147000		338000	ug/kg		91.5	(75%-125%)		
Manganese	5230		28100	N	18300	ug/kg		N/A	(75%-125%)		
Nickel	5230		3210		7270	ug/kg		77.5	(75%-125%)		
Potassium	209000		188000	N	335000	ug/kg		69.8*	(75%-125%)		
Selenium	5230	U	ND		4220	ug/kg		76.9	(75%-125%)		
Sodium	209000		2460000		2440000	ug/kg		N/A	(75%-125%)		08/07/14 14:34
Thallium	5230	J	209		5320	ug/kg		97.6	(75%-125%)		08/04/14 22:32
Zinc	5230		4770		9530	ug/kg		90.9	(75%-125%)		
QC1203141413 352929001 PS											
Arsenic	25.0		7.64		32.6	ug/L		99.9	(80%-120%)		08/04/14 22:38
Barium	25.0		60.2		88.7	ug/L		114	(80%-120%)		
Chromium	25.0		32.9		58.1	ug/L		101	(80%-120%)		08/07/14 14:38
Lead	25.0		40.9		69.6	ug/L		115	(80%-120%)		08/04/14 22:38
Potassium	1000		852		1960	ug/L		110	(80%-120%)		
QC1203131058 352929001 SDILT											
Aluminum			5860		1180	ug/L	.605		(0%-10%)		08/07/14 15:56
Arsenic			7.64	J	2.00	ug/L	30.6		(0%-10%)		08/04/14 22:44
Barium			60.2		11.2	ug/L	7.01		(0%-10%)		
Beryllium		J	0.440	U	ND	ug/L	N/A		(0%-10%)		08/07/14 14:43

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1404822										
Cadmium	J	0.134	U	ND	ug/L	N/A		(0%-10%)	PRB	08/04/14 22:44
Calcium		583		113	ug/L	3.32		(0%-10%)		
Chromium		32.9		7.08	ug/L	7.52		(0%-10%)		08/07/14 14:43
Cobalt		4.94	J	0.946	ug/L	4.21		(0%-10%)		08/04/14 22:44
Copper		19.4		3.71	ug/L	4.17		(0%-10%)		
Iron		27200		4690	ug/L	13.7*		(0%-10%)		08/07/14 14:43
Lead		40.9		7.70	ug/L	5.8		(0%-10%)		08/04/14 22:44
Magnesium		663		131	ug/L	1.53		(0%-10%)		
Manganese		127		24.8	ug/L	2.47		(0%-10%)		
Nickel		14.5		2.75	ug/L	5.37		(0%-10%)		
Potassium		852	J	144	ug/L	15.4		(0%-10%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Sodium		11100		2240	ug/L	.929		(0%-10%)		08/07/14 14:43
Thallium	J	0.945	U	ND	ug/L	N/A		(0%-10%)		08/04/14 22:44
Zinc		21.5	J	5.91	ug/L	37.2		(0%-10%)		
Batch 1404848										
QC1203131119 352929012 DUP										
Aluminum	U	ND	U	ND	ug/L	N/A			BAJ	08/02/14 04:59
Antimony	U	ND	U	ND	ug/L	N/A				
Arsenic	U	ND	U	ND	ug/L	N/A				
Barium		16.1		15.6	ug/L	3.36		(0%-20%)		
Beryllium	U	ND	U	ND	ug/L	N/A				

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1404848											
Cadmium		U	ND	U	ND	ug/L	N/A				
Calcium			17600		17300	ug/L	1.67		(0%-20%)	BAJ	08/02/14 04:59
Chromium		U	ND	U	ND	ug/L	N/A				
Cobalt		U	ND	U	ND	ug/L	N/A				
Copper		U	ND	U	ND	ug/L	N/A				08/03/14 12:04
Iron		J	42.2	J	38.0	ug/L	10.6 ^		(+/-100)		
Lead		U	ND	U	ND	ug/L	N/A				08/02/14 04:59
Magnesium			2360		2330	ug/L	1.23		(0%-20%)		
Manganese		J	2.59	J	2.62	ug/L	1.11 ^		(+/-5.00)		
Nickel		U	ND	J	0.509	ug/L	200				08/03/14 12:04
Potassium			1900		1950	ug/L	2.42		(0%-20%)		08/02/14 04:59
Selenium		U	ND	U	ND	ug/L	N/A				
Silver		U	ND	U	ND	ug/L	N/A				
Sodium			11900		11600	ug/L	2.90		(0%-20%)		
Thallium		U	ND	U	ND	ug/L	N/A				
Zinc		U	ND	U	ND	ug/L	N/A				
QC1203131118 LCS											
Aluminum	2000				2190	ug/L		109	(80%-120%)		08/02/14 04:33
Antimony	50.0				52.3	ug/L		105	(80%-120%)		
Arsenic	50.0				50.9	ug/L		102	(80%-120%)		
Barium	50.0				53.2	ug/L		106	(80%-120%)		
Beryllium	50.0				56.9	ug/L		114	(80%-120%)		
Cadmium	50.0				54.9	ug/L		110	(80%-120%)		

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1404848										
Calcium	2000			2050	ug/L		102	(80%-120%)	BAJ	08/02/14 04:33
Chromium	50.0			52.0	ug/L		104	(80%-120%)		
Cobalt	50.0			51.4	ug/L		103	(80%-120%)		
Copper	50.0			52.7	ug/L		105	(80%-120%)		08/03/14 11:58
Iron	2000			1860	ug/L		93.1	(80%-120%)		
Lead	50.0			52.9	ug/L		106	(80%-120%)		08/02/14 04:33
Magnesium	2000			2240	ug/L		112	(80%-120%)		
Manganese	50.0			52.6	ug/L		105	(80%-120%)		
Nickel	50.0			53.9	ug/L		108	(80%-120%)		08/03/14 11:58
Potassium	2000			2260	ug/L		113	(80%-120%)		08/02/14 04:33
Selenium	50.0			56.4	ug/L		113	(80%-120%)		
Silver	50.0			53.0	ug/L		106	(80%-120%)		
Sodium	2000			2380	ug/L		119	(80%-120%)		
Thallium	50.0			51.2	ug/L		102	(80%-120%)		
Zinc	50.0			59.9	ug/L		120	(80%-120%)		
QC1203131117 MB										
Aluminum			U	ND	ug/L					08/02/14 04:26
Antimony			U	ND	ug/L					
Arsenic			U	ND	ug/L					
Barium			U	ND	ug/L					
Beryllium			U	ND	ug/L					
Cadmium			U	ND	ug/L					

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1404848											
Calcium				U	ND	ug/L				BAJ	08/02/14 04:26
Chromium				U	ND	ug/L					
Cobalt				U	ND	ug/L					
Copper				U	ND	ug/L					08/03/14 11:54
Iron				U	ND	ug/L					
Lead				U	ND	ug/L					08/02/14 04:26
Magnesium				U	ND	ug/L					
Manganese				U	ND	ug/L					
Nickel				U	ND	ug/L					08/03/14 11:54
Potassium				U	ND	ug/L					08/02/14 04:26
Selenium				U	ND	ug/L					
Silver				U	ND	ug/L					
Sodium				U	ND	ug/L					
Thallium				U	ND	ug/L					
Zinc				U	ND	ug/L					
QC1203131120 352929012 MS											
Aluminum	2000	U	ND		2070	ug/L		103	(75%-125%)		08/02/14 05:06
Antimony	50.0	U	ND		53.5	ug/L		107	(75%-125%)		
Arsenic	50.0	U	ND		53.6	ug/L		107	(75%-125%)		
Barium	50.0		16.1		66.4	ug/L		101	(75%-125%)		
Beryllium	50.0	U	ND		52.5	ug/L		105	(75%-125%)		
Cadmium	50.0	U	ND		53.4	ug/L		107	(75%-125%)		

QC Summary

Workorder: **352929**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1404848											
Calcium	2000		17600		20100	ug/L		N/A	(75%-125%)	BAJ	08/02/14 05:06
Chromium	50.0	U	ND		52.2	ug/L		104	(75%-125%)		
Cobalt	50.0	U	ND		52.6	ug/L		105	(75%-125%)		
Copper	50.0	U	ND		52.2	ug/L		104	(75%-125%)		08/03/14 12:08
Iron	2000	J	42.2		2120	ug/L		104	(75%-125%)		
Lead	50.0	U	ND		52.4	ug/L		105	(75%-125%)		08/02/14 05:06
Magnesium	2000		2360		4480	ug/L		106	(75%-125%)		
Manganese	50.0	J	2.59		55.0	ug/L		105	(75%-125%)		
Nickel	50.0	U	ND		52.7	ug/L		105	(75%-125%)		08/03/14 12:08
Potassium	2000		1900		4020	ug/L		106	(75%-125%)		08/02/14 05:06
Selenium	50.0	U	ND		59.2	ug/L		118	(75%-125%)		
Silver	50.0	U	ND		51.1	ug/L		102	(75%-125%)		
Sodium	2000		11900		14600	ug/L		N/A	(75%-125%)		
Thallium	50.0	U	ND		50.1	ug/L		100	(75%-125%)		
Zinc	50.0	U	ND		61.2	ug/L		116	(75%-125%)		
QC1203131121 352929012 SDILT											
Aluminum		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/02/14 05:19
Antimony		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Barium			16.1		2.92	ug/L	9.43		(0%-10%)		
Beryllium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Cadmium		U	ND	U	ND	ug/L	N/A		(0%-10%)		

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1404848										
Calcium		17600		3400	ug/L	3.3		(0%-10%)	BAJ	08/02/14 05:19
Chromium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Copper	U	ND	U	ND	ug/L	N/A		(0%-10%)		08/03/14 12:14
Iron	J	42.2	U	ND	ug/L	N/A		(0%-10%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-10%)		08/02/14 05:19
Magnesium		2360		413	ug/L	12.6*		(0%-10%)		
Manganese	J	2.59	U	ND	ug/L	N/A		(0%-10%)		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-10%)		08/03/14 12:14
Potassium		1900		331	ug/L	13.1		(0%-10%)		08/02/14 05:19
Selenium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Sodium		11900		2230	ug/L	6.64		(0%-10%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Zinc	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Metals Analysis-ICP										
Batch 1404879										
QC1203131196 352929001 DUP										
Antimony	U	ND	J	773	ug/kg	200			JWJ	07/31/14 19:45
Silver	J	111	U	ND	ug/kg	200 ^				
Vanadium		4460		3140	ug/kg	34.8*		(0%-20%)		
QC1203131195 LCS										
Antimony	49700			53400	ug/kg		107	(80%-120%)		07/31/14 19:39

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 1404879										
Silver	49700			54400	ug/kg		109	(80%-120%)		
Vanadium	49700			55600	ug/kg		112	(80%-120%)	JWJ	07/31/14 19:39
QC1203131194 MB										
Antimony			U	ND	ug/kg					07/31/14 19:36
Silver			U	ND	ug/kg					
Vanadium			U	ND	ug/kg					
QC1203131197 352929001 MS										
Antimony	54500	U ND		46300	ug/kg		85	(75%-125%)		07/31/14 19:48
Silver	54500	J 111		59000	ug/kg		108	(75%-125%)		
Vanadium	54500	4460		68300	ug/kg		117	(75%-125%)		
QC1203131198 352929001 SDILT										
Antimony		U ND	U	ND	ug/L	N/A		(0%-10%)		07/31/14 19:51
Silver		J 1.08	U	ND	ug/L	N/A		(0%-10%)		
Vanadium		43.4		6.97	ug/L	19.7		(0%-10%)		
Batch 1404884										
QC1203131206 352929012 DUP										
Vanadium		U ND	U	ND	ug/L	N/A			LS	07/22/14 16:44
QC1203131205 LCS										
Vanadium	500			500	ug/L		100	(80%-120%)		07/22/14 16:38
QC1203131204 MB										
Vanadium			U	ND	ug/L					07/22/14 16:35
QC1203131207 352929012 MS										
Vanadium	500	U ND		535	ug/L		107	(75%-125%)		07/22/14 16:47
QC1203131208 352929012 SDILT										
Vanadium		U ND	U	ND	ug/L	N/A		(0%-10%)		07/22/14 16:50
Metals Analysis-Mercury										
Batch 1404406										
QC1203129909 352125002 DUP										
Mercury		U ND	U	ND	ug/L	N/A			MTM1	07/21/14 10:26

QC Summary

Workorder: 352929

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-Mercury										
Batch 1404406										
QC1203129908 LCS										
Mercury	2.00			2.02	ug/L		101	(80%-120%)	MTM1	07/21/14 10:17
QC1203129918 LCSD										
Mercury	2.00			1.99	ug/L	1.65	99.3	(0%-20%)		07/21/14 10:22
QC1203129907 MB										
Mercury			U	ND	ug/L					07/21/14 10:16
QC1203129910 352125002 MS										
Mercury	2.00	U ND		1.94	ug/L		97.2	(75%-125%)		07/21/14 10:27
QC1203129911 352125002 SDILT										
Mercury		U ND	U	ND	ug/L	N/A		(0%-10%)		07/21/14 10:29
Batch 1404981										
QC1203131463 LCS										
Mercury	117			99.4	ug/Kg		85	(80%-120%)	MTM1	07/22/14 13:06
QC1203131462 MB										
Mercury			U	ND	ug/Kg					07/22/14 13:01
QC1203131464 352508001 MS										
Mercury	119	U ND		97.6	ug/Kg		82.3	(80%-120%)		07/22/14 13:09
QC1203131465 352508001 MSD										
Mercury	116	U ND		92.8	ug/Kg	5.11	80	(0%-20%)		07/22/14 13:11
QC1203131466 352508001 SDILT										
Mercury		U ND	U	ND	ug/L	N/A		(0%-10%)		07/22/14 13:13
Semi-Volatile-GC/MS										
Batch 1404578										
QC1203130330 LCS										
2,4-Dinitrotoluene	1660			1280	ug/kg		76.7	(46%-117%)	JLD1	07/22/14 13:59
2-Chlorophenol	1660			1080	ug/kg		65.1	(30%-117%)		
4-Chloro-3-methylphenol	1660			1340	ug/kg		80.2	(34%-110%)		
4-Nitrophenol	1660			1480	ug/kg		88.9	(21%-118%)		
Acenaphthene	1660			1060	ug/kg		63.9	(30%-109%)		
N-Nitrosodipropylamine	1660			1000	ug/kg		60.2	(28%-121%)		
Pentachlorophenol	1660			1140	ug/kg		68.6	(29%-108%)		

QC Summary

Workorder: 352929

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
Phenol	1660			1050	ug/kg		62.9	(31%-113%)	JLD1	07/22/14	13:59
Pyrene	1660			1020	ug/kg		61	(34%-113%)			
**2,4,6-Tribromophenol	3330			2560	ug/kg		77	(21%-117%)			
**2-Fluorobiphenyl	1660			1100	ug/kg		65.9	(18%-105%)			
**2-Fluorophenol	3330			2090	ug/kg		62.7	(20%-108%)			
**Nitrobenzene-d5	1660			1120	ug/kg		67.5	(20%-108%)			
**Phenol-d5	3330			2060	ug/kg		61.9	(18%-110%)			
**p-Terphenyl-d14	1660			1100	ug/kg		66.3	(32%-121%)			
QC1203130329 MB											
1,1'-Biphenyl			U	ND	ug/kg					07/22/14	13:28
1,2,4,5-Tetrachlorobenzene			U	ND	ug/kg						
1-Methylnaphthalene			U	ND	ug/kg						
2,3,4,6-Tetrachlorophenol			U	ND	ug/kg						
2,4,5-Trichlorophenol			U	ND	ug/kg						
2,4,6-Trichlorophenol			U	ND	ug/kg						
2,4-Dichlorophenol			U	ND	ug/kg						
2,4-Dimethylphenol			U	ND	ug/kg						
2,4-Dinitrophenol			U	ND	ug/kg						
2,4-Dinitrotoluene			U	ND	ug/kg						
2,6-Dinitrotoluene			U	ND	ug/kg						
2-Chloronaphthalene			U	ND	ug/kg						
2-Chlorophenol			U	ND	ug/kg						

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
2-Methyl-4,6-dinitrophenol			U	ND	ug/kg				JLD1	07/22/14	13:28
2-Methylnaphthalene			U	ND	ug/kg						
2-Nitrophenol			U	ND	ug/kg						
3,3'-Dichlorobenzidine			U	ND	ug/kg						
4-Bromophenylphenylether			U	ND	ug/kg						
4-Chloro-3-methylphenol			U	ND	ug/kg						
4-Chloroaniline			U	ND	ug/kg						
4-Chlorophenylphenylether			U	ND	ug/kg						
4-Nitrophenol			U	ND	ug/kg						
Acenaphthene			U	ND	ug/kg						
Acenaphthylene			U	ND	ug/kg						
Acetophenone			U	ND	ug/kg						
Anthracene			U	ND	ug/kg						
Atrazine			U	ND	ug/kg						
Benzaldehyde			U	ND	ug/kg						
Benzo(a)anthracene			U	ND	ug/kg						
Benzo(a)pyrene			U	ND	ug/kg						
Benzo(b)fluoranthene			U	ND	ug/kg						
Benzo(ghi)perylene			U	ND	ug/kg						
Benzo(k)fluoranthene			U	ND	ug/kg						
Butylbenzylphthalate			U	ND	ug/kg						

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
Caprolactam			U	ND	ug/kg						
Carbazole			U	ND	ug/kg				JLD1	07/22/14	13:28
Chrysene			U	ND	ug/kg						
Di-n-butylphthalate			U	ND	ug/kg						
Di-n-octylphthalate			U	ND	ug/kg						
Dibenzo(a,h)anthracene			U	ND	ug/kg						
Dibenzofuran			U	ND	ug/kg						
Diethylphthalate			U	ND	ug/kg						
Dimethylphthalate			U	ND	ug/kg						
Diphenylamine			U	ND	ug/kg						
Fluoranthene			U	ND	ug/kg						
Fluorene			U	ND	ug/kg						
Hexachlorobenzene			U	ND	ug/kg						
Hexachlorobutadiene			U	ND	ug/kg						
Hexachlorocyclopentadiene			U	ND	ug/kg						
Hexachloroethane			U	ND	ug/kg						
Indeno(1,2,3-cd)pyrene			U	ND	ug/kg						
Isophorone			U	ND	ug/kg						
N-Nitrosodipropylamine			U	ND	ug/kg						
Naphthalene			U	ND	ug/kg						
Nitrobenzene			U	ND	ug/kg						
Pentachlorophenol			U	ND	ug/kg						

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 1404578										
Phenanthrene			U	ND	ug/kg					
Phenol			U	ND	ug/kg				JLD1	07/22/14 13:28
Pyrene			U	ND	ug/kg					
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/kg					
bis(2-Chloroethoxy)methane			U	ND	ug/kg					
bis(2-Chloroethyl) ether			U	ND	ug/kg					
bis(2-Ethylhexyl)phthalate			U	ND	ug/kg					
m,p-Cresols			U	ND	ug/kg					
m-Nitroaniline			U	ND	ug/kg					
o-Cresol			U	ND	ug/kg					
o-Nitroaniline			U	ND	ug/kg					
p-Nitroaniline			U	ND	ug/kg					
**2,4,6-Tribromophenol	3330			2590	ug/kg		77.8	(21%-117%)		
**2-Fluorobiphenyl	1670			1240	ug/kg		74.4	(18%-105%)		
**2-Fluorophenol	3330			2310	ug/kg		69.3	(20%-108%)		
**Nitrobenzene-d5	1670			1170	ug/kg		70.1	(20%-108%)		
**Phenol-d5	3330			2230	ug/kg		66.9	(18%-110%)		
**p-Terphenyl-d14	1670			1250	ug/kg		74.8	(32%-121%)		
QC1203130331 352745001 MS										
2,4-Dinitrotoluene	2060	U	ND	1210	ug/kg		58.9	(38%-112%)		07/22/14 15:01
2-Chlorophenol	2060	U	ND	1270	ug/kg		61.6	(29%-105%)		
4-Chloro-3-methylphenol	2060	U	ND	1420	ug/kg		69.2	(32%-110%)		
4-Nitrophenol	2060	U	ND	1390	ug/kg		67.6	(21%-120%)		

QC Summary

Workorder: 352929

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS												
Batch 1404578												
Acenaphthene	2060	J	22.2		1130	ug/kg		54.1	(18%-110%)	JLD1	07/22/14	15:01
N-Nitrosodipropylamine	2060	U	ND		1140	ug/kg		55.2	(26%-111%)			
Pentachlorophenol	2060	U	ND		1200	ug/kg		58.3	(26%-99%)			
Phenol	2060	U	ND		1270	ug/kg		61.8	(31%-113%)			
Pyrene	2060		400		1430	ug/kg		50	(30%-130%)			
**2,4,6-Tribromophenol	4110		2810		2560	ug/kg		62.2	(21%-117%)			
**2-Fluorobiphenyl	2060		1280		1170	ug/kg		57.1	(18%-105%)			
**2-Fluorophenol	4110		2380		2410	ug/kg		58.7	(20%-108%)			
**Nitrobenzene-d5	2060		1350		1220	ug/kg		59.3	(20%-108%)			
**Phenol-d5	4110		2420		2400	ug/kg		58.3	(18%-110%)			
**p-Terphenyl-d14	2060		1390		1250	ug/kg		60.8	(32%-121%)			
QC1203130332 352745001 MSD												
2,4-Dinitrotoluene	2060	U	ND		1450	ug/kg	18.2	70.7	(0%-30%)		07/22/14	15:32
2-Chlorophenol	2060	U	ND		1460	ug/kg	14.1	70.9	(0%-30%)			
4-Chloro-3-methylphenol	2060	U	ND		1610	ug/kg	12.3	78.2	(0%-30%)			
4-Nitrophenol	2060	U	ND		1720	ug/kg	21.0	83.4	(0%-30%)			
Acenaphthene	2060	J	22.2		1200	ug/kg	5.88	57.3	(0%-30%)			
N-Nitrosodipropylamine	2060	U	ND		1350	ug/kg	17.4	65.7	(0%-30%)			
Pentachlorophenol	2060	U	ND		1360	ug/kg	12.9	66.3	(0%-30%)			
Phenol	2060	U	ND		1520	ug/kg	18.0	73.9	(0%-30%)			
Pyrene	2060		400		1560	ug/kg	8.89	56.4	(0%-30%)			
**2,4,6-Tribromophenol	4120		2810		2890	ug/kg		70.2	(21%-117%)			

QC Summary

Workorder: 352929

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404578											
**2-Fluorobiphenyl	2060	1280		1150	ug/kg		55.7	(18%-105%)	JLD1	07/22/14	15:32
**2-Fluorophenol	4120	2380		2670	ug/kg		64.9	(20%-108%)			
**Nitrobenzene-d5	2060	1350		1170	ug/kg		57	(20%-108%)			
**Phenol-d5	4120	2420		2810	ug/kg		68.3	(18%-110%)			
**p-Terphenyl-d14	2060	1390		1300	ug/kg		63.3	(32%-121%)			
Batch 1404953											
QC1203131387 LCS											
1,2,4-Trichlorobenzene	50.0			20.4	ug/L		40.7	(26%-92%)	JLD1	07/23/14	13:28
2,4-Dinitrotoluene	50.0			42.7	ug/L		85.4	(45%-124%)			
2-Chlorophenol	50.0			34.8	ug/L		69.5	(39%-99%)			
4-Chloro-3-methylphenol	50.0			39.2	ug/L		78.3	(46%-111%)			
4-Nitrophenol	50.0		J	9.48	ug/L		19	(16%-77%)			
Acenaphthene	50.0			36.4	ug/L		72.8	(40%-104%)			
N-Nitrosodipropylamine	50.0			39.3	ug/L		78.6	(39%-113%)			
Pentachlorophenol	50.0			39.0	ug/L		78	(27%-102%)			
Phenol	50.0			13.5	ug/L		27	(13%-77%)			
Pyrene	50.0			42.4	ug/L		84.7	(38%-127%)			
**2,4,6-Tribromophenol	100			83.4	ug/L		83.4	(26%-129%)			
**2-Fluorobiphenyl	50.0			37.0	ug/L		74.1	(32%-102%)			
**2-Fluorophenol	100			40.9	ug/L		40.9	(10%-78%)			
**Nitrobenzene-d5	50.0			37.3	ug/L		74.7	(36%-125%)			
**Phenol-d5	100			25.1	ug/L		25.1	(10%-104%)			

QC Summary

Workorder: 352929

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404953											
**p-Terphenyl-d14	50.0			42.7	ug/L		85.5	(34%-135%)			
QC1203131386 MB											
1,1'-Biphenyl			U	ND	ug/L				JLD1	07/23/14	12:59
1,2,4,5-Tetrachlorobenzene			U	ND	ug/L						
1-Methylnaphthalene			U	ND	ug/L						
2,3,4,6-Tetrachlorophenol			U	ND	ug/L						
2,4,5-Trichlorophenol			U	ND	ug/L						
2,4,6-Trichlorophenol			U	ND	ug/L						
2,4-Dichlorophenol			U	ND	ug/L						
2,4-Dimethylphenol			U	ND	ug/L						
2,4-Dinitrophenol			U	ND	ug/L						
2,4-Dinitrotoluene			U	ND	ug/L						
2,6-Dinitrotoluene			U	ND	ug/L						
2-Chloronaphthalene			U	ND	ug/L						
2-Chlorophenol			U	ND	ug/L						
2-Methyl-4,6-dinitrophenol			U	ND	ug/L						
2-Methylnaphthalene			U	ND	ug/L						
2-Nitrophenol			U	ND	ug/L						
3,3'-Dichlorobenzidine			U	ND	ug/L						
4-Bromophenylphenylether			U	ND	ug/L						
4-Chloro-3-methylphenol			U	ND	ug/L						
4-Chloroaniline			U	ND	ug/L						
4-Chlorophenylphenylether			U	ND	ug/L						

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404953											
4-Nitrophenol			U	ND	ug/L				JLD1	07/23/14	12:59
Acenaphthene			U	ND	ug/L						
Acenaphthylene			U	ND	ug/L						
Acetophenone			U	ND	ug/L						
Anthracene			U	ND	ug/L						
Atrazine			U	ND	ug/L						
Benzaldehyde			U	ND	ug/L						
Benzo(a)anthracene			U	ND	ug/L						
Benzo(a)pyrene			U	ND	ug/L						
Benzo(b)fluoranthene			U	ND	ug/L						
Benzo(ghi)perylene			U	ND	ug/L						
Benzo(k)fluoranthene			U	ND	ug/L						
Butylbenzylphthalate			U	ND	ug/L						
Caprolactam			U	ND	ug/L						
Carbazole			U	ND	ug/L						
Chrysene			U	ND	ug/L						
Di-n-butylphthalate			U	ND	ug/L						
Di-n-octylphthalate			U	ND	ug/L						
Dibenzo(a,h)anthracene			U	ND	ug/L						
Dibenzofuran			U	ND	ug/L						
Diethylphthalate			U	ND	ug/L						

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1404953											
Dimethylphthalate			U	ND	ug/L						
Diphenylamine			U	ND	ug/L				JLD1	07/23/14	12:59
Fluoranthene			U	ND	ug/L						
Fluorene			U	ND	ug/L						
Hexachlorobenzene			U	ND	ug/L						
Hexachlorobutadiene			U	ND	ug/L						
Hexachlorocyclopentadiene			U	ND	ug/L						
Hexachloroethane			U	ND	ug/L						
Indeno(1,2,3-cd)pyrene			U	ND	ug/L						
Isophorone			U	ND	ug/L						
N-Nitrosodipropylamine			U	ND	ug/L						
Naphthalene			U	ND	ug/L						
Nitrobenzene			U	ND	ug/L						
Pentachlorophenol			U	ND	ug/L						
Phenanthrene			U	ND	ug/L						
Phenol			U	ND	ug/L						
Pyrene			U	ND	ug/L						
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/L						
bis(2-Chloroethoxy)methane			U	ND	ug/L						
bis(2-Chloroethyl) ether			U	ND	ug/L						
bis(2-Ethylhexyl)phthalate			U	ND	ug/L						
m,p-Cresols			U	ND	ug/L						

QC Summary

Workorder: 352929

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS												
Batch 1404953												
m-Nitroaniline				U	ND	ug/L						
o-Cresol				U	ND	ug/L				JLD1	07/23/14	12:59
o-Nitroaniline				U	ND	ug/L						
p-Nitroaniline				U	ND	ug/L						
**2,4,6-Tribromophenol	100				69.9	ug/L		69.9	(26%-129%)			
**2-Fluorobiphenyl	50.0				31.1	ug/L		62.3	(32%-102%)			
**2-Fluorophenol	100				36.4	ug/L		36.4	(10%-78%)			
**Nitrobenzene-d5	50.0				33.1	ug/L		66.1	(36%-125%)			
**Phenol-d5	100				23.6	ug/L		23.6	(10%-104%)			
**p-Terphenyl-d14	50.0				36.4	ug/L		72.9	(34%-135%)			
QC1203131388 352683002 MS												
1,2,4-Trichlorobenzene	119		0.00		90.2	ug/L		75.7	(20%-90%)		07/23/14	18:22
2,4-Dinitrotoluene	119	U	ND		95.8	ug/L		80.4	(34%-126%)			
2-Chlorophenol	119	U	ND		92.6	ug/L		77.8	(31%-103%)			
4-Chloro-3-methylphenol	119	U	ND		98.5	ug/L		82.8	(31%-119%)			
4-Nitrophenol	119	U	ND		34.8	ug/L		29.2	(16%-71%)			
Acenaphthene	119	U	ND		96.4	ug/L		81	(31%-103%)			
N-Nitrosodipropylamine	119	U	ND		101	ug/L		85.1	(29%-116%)			
Pentachlorophenol	119	U	ND		83.9	ug/L		70.5	(19%-112%)			
Phenol	119	U	ND		67.7	ug/L		56.8	(10%-88%)			
Pyrene	119	U	ND		103	ug/L		86.9	(27%-126%)			
**2,4,6-Tribromophenol	238		68.7		186	ug/L		78.2	(26%-129%)			
**2-Fluorobiphenyl	119		34.1		95.7	ug/L		80.4	(32%-102%)			

QC Summary

Workorder: 352929

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS												
Batch 1404953												
**2-Fluorophenol	238		36.3		157	ug/L		65.8	(10%-78%)	JLD1	07/23/14	18:22
**Nitrobenzene-d5	119		33.2		92.9	ug/L		78	(36%-125%)			
**Phenol-d5	238		21.5		128	ug/L		53.7	(10%-104%)			
**p-Terphenyl-d14	119		39.0		102	ug/L		85.6	(34%-135%)			
QC1203131389 352683002 MSD												
1,2,4-Trichlorobenzene	119		0.00		76.8	ug/L	16.0	64.5	(0%-30%)		07/23/14	18:51
2,4-Dinitrotoluene	119	U	ND		96.3	ug/L	0.570	80.9	(0%-30%)			
2-Chlorophenol	119	U	ND		84.3	ug/L	9.34	70.8	(0%-30%)			
4-Chloro-3-methylphenol	119	U	ND		92.3	ug/L	6.49	77.6	(0%-30%)			
4-Nitrophenol	119	U	ND		35.7	ug/L	2.43	30	(0%-30%)			
Acenaphthene	119	U	ND		88.9	ug/L	8.09	74.7	(0%-30%)			
N-Nitrosodipropylamine	119	U	ND		92.2	ug/L	9.38	77.5	(0%-30%)			
Pentachlorophenol	119	U	ND		85.3	ug/L	1.63	71.6	(0%-30%)			
Phenol	119	U	ND		54.8	ug/L	21.0	46.1	(0%-30%)			
Pyrene	119	U	ND		89.5	ug/L	14.5	75.1	(0%-30%)			
**2,4,6-Tribromophenol	238		68.7		188	ug/L		78.8	(26%-129%)			
**2-Fluorobiphenyl	119		34.1		83.6	ug/L		70.2	(32%-102%)			
**2-Fluorophenol	238		36.3		132	ug/L		55.5	(10%-78%)			
**Nitrobenzene-d5	119		33.2		81.8	ug/L		68.7	(36%-125%)			
**Phenol-d5	238		21.5		103	ug/L		43.1	(10%-104%)			
**p-Terphenyl-d14	119		39.0		93.0	ug/L		78.1	(34%-135%)			
Spectrometric Analysis												
Batch 1404391												

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Spectrometric Analysis										
Batch 1404391										
QC1203129872 352683061 DUP										
Hexavalent Chromium	U	ND	U	ND	mg/L	N/A			EXM3	07/18/14 09:39
QC1203129874 LCS										
Hexavalent Chromium	0.050			0.0464	mg/L		92.9	(85%-115%)		07/18/14 09:39
QC1203129871 MB										
Hexavalent Chromium			U	ND	mg/L					07/18/14 09:39
QC1203129873 352683061 PS										
Hexavalent Chromium	0.050	U	ND	0.0536	mg/L		105	(85%-115%)		07/18/14 09:40
Batch 1407154										
QC1203137028 352929001 DUP										
Hexavalent Chromium	U	ND	J	0.142	mg/kg	200			SXC5	07/31/14 11:28
QC1203138085 352929002 DUP										
Hexavalent Chromium	U	ND	U	ND	mg/kg	N/A				07/31/14 11:28
QC1203137038 ILCS										
Hexavalent Chromium	7.76			6.68	mg/kg		86	(80%-120%)		07/31/14 11:28
QC1203137037 LCS										
Hexavalent Chromium	3.70			3.36	mg/kg		90.7	(80%-120%)		07/31/14 11:28
QC1203137026 MB										
Hexavalent Chromium			U	ND	mg/kg					07/31/14 11:28
QC1203137030 352929001 MS										
Hexavalent Chromium	3.46	U	ND	ND	mg/kg		0*	(75%-125%)		07/31/14 11:28
QC1203138086 352929002 MS										
Hexavalent Chromium	2.96	U	ND	0.831	mg/kg		28.1*	(75%-125%)		07/31/14 11:28
QC1203137034 352929001 MSD										
Hexavalent Chromium	4.35	U	ND	ND	mg/kg	N/A	0*	(0%-30%)		07/31/14 11:28
QC1203138088 352929002 MSD										
Hexavalent Chromium	3.55	U	ND	1.55	mg/kg	60.5*	43.8*	(0%-30%)		07/31/14 11:28
Titration and Ion Analysis										
Batch 1405362										
QC1203132410 352929001 DUP										
pH	H	9.13	H	9.10	SU	0.329		(0%-10%)	PXO1	07/22/14 13:35
QC1203132411 LCS										
pH	7.00			6.99	SU		99.9	(99%-101%)		07/22/14 12:47

QC Summary

Workorder: 352929

Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Titration and Ion Analysis														
Batch 1406210														
QC1203134550 LCS														
Sulfite			100				97.5	mg/L		97.5	(90%-110%)	PXO1	07/25/14	18:29
QC1203134547 MB														
Sulfite						U	ND	mg/L					07/25/14	18:28
QC1203134548	353252001	MS												
Sulfite			100	HU	ND	H	99.5	mg/L		99.5	(80%-120%)		07/25/14	19:12
QC1203134549	353252001	MSD												
Sulfite			100	HU	ND	H	99.0	mg/L	0.504	99	(0%-20%)		07/25/14	19:14
Batch 1406917														
QC1203136274 LCS														
Sulfite			4930				4340	mg/kg		88	(75%-125%)	EXM3	07/29/14	14:40
QC1203136271 MB														
Sulfite						U	ND	mg/kg					07/29/14	14:37
QC1203136272	352929001	MS												
Sulfite			5740	H	2370	H	5590	mg/kg		56.3*	(75%-125%)		07/29/14	14:47
QC1203136273	352929001	MSD												
Sulfite			4890	H	2370	H	4670	mg/kg	18.0	47.1*	(0%-30%)		07/29/14	14:51

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed

QC Summary

Workorder: 352929

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

invalid for reporting to regulatory agencies

H Analytical holding time was exceeded

J Value is estimated

JNX Non Calibrated Compound

K Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L Analyte present. Reported value may be biased low. Actual value is expected to be higher.

M M if above MDC and less than LLD

M REMP Result > MDC/CL and < RDL

N Metals--The Matrix spike sample recovery is not within specified control limits

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

UJ Compound cannot be extracted

UJ Gamma Spectroscopy--Uncertain identification

UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

QC Summary

Workorder: **352929**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 07 August 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−14
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: _____ of _____
Project #: SONO00514
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 352929

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering, LLC Phone #:
Project/Site Name: Sonoco Products Company Fax #:
Address: 1 N. 2nd St., Hartsville SC
Collected by: Client (RL4 Plus) Send Results To: T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TCL SVOCs	TAL Metals	Hg, CN, Cr6+	pH, Nitrate, Nitrite	Sulfide, Sulfites	Sodium	<-- Preservative Type (6)	Comments
TP-SS-01P	07-16-14	14:35	C	N	SO			2	x	x	x	x	x	x		
TP-SS-01R		14:45	C	N	SO			2	x	x	x	x	x	x		
TP-SS-02P		15:18	C	N	SO			2	x	x	x	x	x	x		
TP-SS-02R		15:30	C	N	SO			1	x	x	x	x	x	x		only 1 soil jar
TP-SS-03P		16:20	C	N	SO			2	x	x	x	x	x	x		
TP-SS-03R		16:32	C	N	SO			2	x	x	x	x	x	x		
TP-SS-02R-D		15:30	FD	N	SO			1	x	x	x	x	x	x		only 1 soil jar
SB-SS-30	07-17-14	09:45	C	N	SO			1	x	x	x					
SB-SS-30-D	↓	09:45	FD	N	SO			1	x	x	x					
SB-SS-32	↓	10:40	C	N	SO			1	x	x	x					

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*
Sample Secured in Lab GW Cooler

Sample Collection Time Zone: Eastern Pacific Central Other _____ Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	07/17/14	1830	[signature]	7-18-14	0800
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: _____ of _____
Project #: SDN000514
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering LLC Phone #:

Project/Site Name: Sonoco Products Company Fax #:

Address: 1 N. 2nd St., Hartsville, SC

Collected by: Client (Pat Oh) Send Results To: T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TCL SVOCs	TAL Metals	Hg, CN, Cr6+	SO4 SO3	NO2, NO3						<-- Preservative Type (6)
SB-SS-31	07-17-14	10:10	C	N	SO			1	X	X	X								
EB-071714	07-17-14	13:25	EB	N	W			8	X	X	X	X	X						

Comments
Note: extra sample is required for sample specific QC

TAT Requested: Normal: ____ Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / No

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Samples secured in LAB GW Cooler

Sample Collection Time Zone
Eastern Pacific
Central Other _____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	07/17/14	1830	[signature]	7-18-14	0800
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SONO	**SDG/AR/COC/Work Order:** 352928/352929
Received By: JP	**Date Received:** 7-18-14

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 cpm
Classified Radioactive II or III by RSO?		✓	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		✓	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		✓	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Ice bags) Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius 2.
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: 130462960 Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?		✓		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		✓		Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS (Field Services) Courier Other

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials JP Date 7-21-14 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
22−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ELECTRODE	SW846 9045C/9045D, SW846 9045D	Solid	GSWS, OLAB, SONO, SOOP,
Batch ID:	**Sample Numbers:**		
1405362	See Below		

Potentially affected work order(s)(SDG): 352380,352675,352832,352919,352929,353054(X407131)

Application Issues:

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 352380 001,002,005,006 352675 001 352832 001,002 352919 001,002 352929 001,002,003,004,005,006,007 353054 001	1.The following samples were received out of holding.

Originator's Name:

Elzbieta Szulc 22−JUL−14

Data Validator/Group Leader:

Thomas Lewis 22−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
24−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LACHAT Flow Injection Analyzer	SW846 9012A	Solid	SONO
Batch ID:	**Sample Numbers:**		
1404556	See Below		

Potentially affected work order(s)(SDG): 352745,352929

Application Issues:

Failed Recovery for MS/PS

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203130270(TP−SS−01 P)MS	1. The spike recovery falls outside of the established acceptance limits due to matrix interference.

Originator's Name:

Aubrey Kingsbury 24−JUL−14

Data Validator/Group Leader:

Kristen Parson 25−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
29−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
BURET	SM 4500−SO3 (2−) B	Solid	SONO
Batch ID:	**Sample Numbers:**		
1406917	See Below		

Potentially affected work order(s)(SDG): 352929

Application Issues:

Failed Recovery for MS/PS

Sample received out of holding

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/MSD: QC 1203136272(TP−SS−01 P)MS, QC 1203136273(TP−SS−01 P)MSD 2. Sample received out of holding: 352929 001,002,003,004,005,006,007	1. The spike and spike duplicate recovery falls outside of the established acceptance limits due to matrix interference (soil samples). 2. The following samples from this sample group were received by the lab outside of the method specified holding time.

Originator's Name:

Erin McCance 29−JUL−14

Data Validator/Group Leader:

Elzbieta Szulc 01−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
31−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
VIS SPECTROMETER	SW846 7196A	Solid	BOSH, SONO
Batch ID:	**Sample Numbers:**		
1407154	See Below		

Potentially affected work order(s)(SDG): 352929,353421

Application Issues:

Failed Recovery for MS/PS

Failed RPD for MS/MSD, or PS/PSD

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS: QC 1203137030(TP−SS−01 P)MS,1203138086(TP−SS−01 R)MS 2. Failed Recovery for MSD: QC 1203138088(TP−SS−01 R)MSD QC 1203137034(TP−SS−01 P)MSD 3. Failed RPD for MS/MSD: QC 1203138088(TP−SS−01 R)MSD	1. The spike recovery falls outside of the established acceptance limits due to matrix interference: 2. The spike duplicate recovery falls outside of the established acceptance limits due to matrix interference: 1203137034 and 1203138088 3. The Relative Percent Difference (RPD) between the spike and spike duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Originator's Name:
Sarah Carson 31−JUL−14

Data Validator/Group Leader:
Elzbieta Szulc 31−JUL−14

DATA EXCEPTION REPORT

Mo.Day Yr. 01−AUG−14	**Division:** Industrial	**Quality Criteria:** Specifications	**Type:** Process
Instrument Type: BURET	**Test / Method:** SM 4500−SO3 (2−) B	**Matrix Type:** Liquid	**Client Code:** LATA, PTQA, SONO
Batch ID: 1406210	**Sample Numbers:** See Below		

Potentially affected work order(s)(SDG): 352694(WP−234),352929,353252,353259,353340,353403,353459

Application Issues:

Sample Analyzed out of Holding

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 352929 012 353252 001,002,003,004,005 353259 003 353340 009,011 353403 001,002,003,004 353459 001,002,003	1. Samples were received and analyzed outside of method specified holding time.

Originator's Name:

Patrick Orgel 01−AUG−14

Data Validator/Group Leader:

Elzbieta Szulc 01−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
01−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP	SW846 3050B/6010C	Solid	SONO
Batch ID:	**Sample Numbers:**		
1404879	See Below		

Potentially affected work order(s)(SDG): 352929

Application Issues:

Failed RPD for DUP

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed RPD for DUP: QC 1203131196(TP−SS−01 P)DUP	1. The sample and sample duplicate % RPD failed outside the control limits for vanadium due to possible sample non−homogeneity and/or matrix interference.

Originator's Name:

Jerry Wigfall 01−AUG−14

Data Validator/Group Leader:

Travis Tola 01−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
07−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP/MS	SW846 3050B/6020A	Solid	SONO
Batch ID:	**Sample Numbers:**		
1404822	See Below		

Potentially affected work order(s)(SDG): 352929

Application Issues:

Failed Recovery for MS/PS

Failed RPD for DUP

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203131057(TP−SS−01 P)MS 2. Failed RPD for DUP: QC 1203131056(TP−SS−01 P)DUP	The matrix spike recovery failed outside of the control limits for arsenic, barium, chromium, lead and potassium. The post spike passed the required control limits for all analytes. This verifies the absence of a matrix interference. The sample and sample duplicate % RPD failed outside the control limits for barium, calcium, cobalt, lead, magnesium, manganese, nickel, chromium, iron and aluminum due to possible sample non−homogeneity and/or matrix interference.

Originator's Name:

Paul Boyd 07−AUG−14

Data Validator/Group Leader:

Bryan Davis 07−AUG−14

Appendix IV

Groundwater Sample Certificates of Analysis, Chain of Custody Forms, and Groundwater Sampling Field Data Sheets

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171 F 843.766.1178

www.gel.com

August 11, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 353259

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 23, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 353259 GEL Work Order: 353259

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

H Analytical holding time was exceeded

J Value is estimated

N Metals−−The Matrix spike sample recovery is not within specified control limits

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by Jacob W Crook

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TB-072214
Sample ID: 353259001
Matrix: Water
Collect Date: 22-JUL-14 15:00
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1453	1407048	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: August 11, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TB-072214	Project:	SONO00514C
Sample ID:	353259001	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	52.3 ug/L	50.0	105	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.1 ug/L	50.0	98.3	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	48.2 ug/L	50.0	96.3	(80%-120%)

Notes:

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-01
Sample ID: 353259002
Matrix: Ground Water
Collect Date: 22-JUL-14 13:15
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1518	1407048	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone		5.70	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: August 11, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TW-01	Project:	SONO00514C
Sample ID:	353259002	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	52.7 ug/L	50.0	105	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.3 ug/L	50.0	98.5	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	48.1 ug/L	50.0	96.1	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18
Sample ID: 353259003
Matrix: Ground Water
Collect Date: 22-JUL-14 15:58
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/24/14	1549	1405710	1
Ion Chromatography											
SW846 9056A Anions "As Received"											
Nitrate-N		0.889	0.033	0.100	mg/L	1	RXB5	07/23/14	1816	1405797	2
Nitrite-N	U	ND	0.038	0.100	mg/L	1					
Sulfate		78.5	1.33	4.00	mg/L	10	RXB5	07/24/14	1440	1405797	3
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/25/14	1058	1406135	4
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		7.89	1.00	5.00	ug/L	1	TXT1	07/28/14	1754	1405761	5
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/09/14	0616	1405777	6
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		34.3	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Lead		2.98	0.500	2.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Manganese		60.2	1.00	5.00	ug/L	1	PRB	08/10/14	1733	1405777	7
Sodium		78000	800	2500	ug/L	10	PRB	08/11/14	1211	1405777	8
Aluminum		1250	15.0	50.0	ug/L	1	PRB	08/10/14	0356	1405777	9
Beryllium	U	ND	0.200	0.500	ug/L	1					
Calcium		2480	60.0	200	ug/L	1					
Chromium	J	9.56	2.00	10.0	ug/L	1					
Cobalt		1.38	0.100	1.00	ug/L	1					
Copper		4.23	0.350	1.00	ug/L	1					
Iron		2450	33.0	100	ug/L	1					
Magnesium		1000	10.0	30.0	ug/L	1					
Nickel		3.27	0.500	2.00	ug/L	1					
Potassium		1360	80.0	300	ug/L	1					
Zinc		14.8	3.50	10.0	ug/L	1					

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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18 Project: SONO00514C
Sample ID: 353259003 Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Selenium	U	ND	1.50	5.00	ug/L	1	PRB	08/11/14	1614	1405777	10
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.86	9.52	ug/L	1	JMB3	08/01/14	1902	1406981	11
1,2,4,5-Tetrachlorobenzene	U	ND	2.86	9.52	ug/L	1					
1-Methylnaphthalene	U	ND	0.286	0.952	ug/L	1					
2,3,4,6-Tetrachlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4,5-Trichlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4,6-Trichlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4-Dichlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4-Dimethylphenol	U	ND	2.86	9.52	ug/L	1					
2,4-Dinitrophenol	U	ND	4.76	19.0	ug/L	1					
2,4-Dinitrotoluene	U	ND	2.86	9.52	ug/L	1					
2,6-Dinitrotoluene	U	ND	2.86	9.52	ug/L	1					
2-Chloronaphthalene	U	ND	0.390	0.952	ug/L	1					
2-Chlorophenol	U	ND	2.86	9.52	ug/L	1					
2-Methyl-4,6-dinitrophenol	U	ND	2.86	9.52	ug/L	1					
2-Methylnaphthalene	U	ND	0.286	0.952	ug/L	1					
2-Nitrophenol	U	ND	2.86	9.52	ug/L	1					
3,3'-Dichlorobenzidine	U	ND	2.86	9.52	ug/L	1					
4-Bromophenylphenylether	U	ND	2.86	9.52	ug/L	1					
4-Chloro-3-methylphenol	U	ND	2.86	9.52	ug/L	1					
4-Chloroaniline	U	ND	3.14	9.52	ug/L	1					
4-Chlorophenylphenylether	U	ND	2.86	9.52	ug/L	1					
4-Nitrophenol	U	ND	2.86	9.52	ug/L	1					
Acenaphthene	U	ND	0.286	0.952	ug/L	1					
Acenaphthylene	U	ND	0.286	0.952	ug/L	1					
Acetophenone	U	ND	2.86	9.52	ug/L	1					
Anthracene	U	ND	0.286	0.952	ug/L	1					
Atrazine	U	ND	2.86	9.52	ug/L	1					
Benzaldehyde	U	ND	2.86	9.52	ug/L	1					
Benzo(a)anthracene	U	ND	0.286	0.952	ug/L	1					
Benzo(a)pyrene	U	ND	0.286	0.952	ug/L	1					
Benzo(b)fluoranthene	U	ND	0.286	0.952	ug/L	1					
Benzo(ghi)perylene	U	ND	0.286	0.952	ug/L	1					
Benzo(k)fluoranthene	U	ND	0.286	0.952	ug/L	1					

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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18 Project: SONO00514C
Sample ID: 353259003 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Butylbenzylphthalate	U	ND	2.86	9.52	ug/L	1
Caprolactam	U	ND	2.86	9.52	ug/L	1
Carbazole	U	ND	0.286	0.952	ug/L	1
Chrysene	U	ND	0.286	0.952	ug/L	1
Di-n-butylphthalate	U	ND	2.86	9.52	ug/L	1
Di-n-octylphthalate	U	ND	2.86	9.52	ug/L	1
Dibenzo(a,h)anthracene	U	ND	0.286	0.952	ug/L	1
Dibenzofuran	U	ND	2.86	9.52	ug/L	1
Diethylphthalate	U	ND	2.86	9.52	ug/L	1
Dimethylphthalate	U	ND	2.86	9.52	ug/L	1
Diphenylamine	U	ND	2.86	9.52	ug/L	1
Fluoranthene	U	ND	0.286	0.952	ug/L	1
Fluorene	U	ND	0.286	0.952	ug/L	1
Hexachlorobenzene	U	ND	2.86	9.52	ug/L	1
Hexachlorobutadiene	U	ND	2.86	9.52	ug/L	1
Hexachlorocyclopentadiene	U	ND	2.86	9.52	ug/L	1
Hexachloroethane	U	ND	2.86	9.52	ug/L	1
Indeno(1,2,3-cd)pyrene	U	ND	0.286	0.952	ug/L	1
Isophorone	U	ND	3.33	9.52	ug/L	1
N-Nitrosodipropylamine	U	ND	2.86	9.52	ug/L	1
Naphthalene	U	ND	0.286	0.952	ug/L	1
Nitrobenzene	U	ND	2.86	9.52	ug/L	1
Pentachlorophenol	U	ND	2.86	9.52	ug/L	1
Phenanthrene	U	ND	0.286	0.952	ug/L	1
Phenol	U	ND	2.86	9.52	ug/L	1
Pyrene	U	ND	0.286	0.952	ug/L	1
bis(2-Chloro-1-methylethyl)ether	U	ND	2.86	9.52	ug/L	1
bis(2-Chloroethoxy)methane	U	ND	2.86	9.52	ug/L	1
bis(2-Chloroethyl) ether	U	ND	2.86	9.52	ug/L	1
bis(2-Ethylhexyl)phthalate	U	ND	2.86	9.52	ug/L	1
m,p-Cresols	U	ND	3.52	9.52	ug/L	1
m-Nitroaniline	U	ND	2.86	9.52	ug/L	1
o-Cresol	U	ND	2.86	9.52	ug/L	1
o-Nitroaniline	U	ND	2.86	9.52	ug/L	1
p-Nitroaniline	U	ND	2.86	9.52	ug/L	1

Spectrometric Analysis

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18 Project: SONO00514C
Sample ID: 353259003 Client ID: GEEL003

Spectrometric Analysis											
SW846_7196A Hexavalent Chromium "As Received"											
Hexavalent Chromium	U	ND	0.003	0.010	mg/L	1	PXO1	07/23/14	1241	1405748	12
Titration and Ion Analysis											
SM4500 Sulfite Liquid "As Received"											
Sulfite	H	7.00	0.500	1.00	mg/L		PXO1	07/25/14	1955	1406210	13
SW9040C pH "As Received"											
pH at Temp 17.3C	H	5.57	0.010	0.100	SU	1	PXO1	08/05/14	1539	1408955	14
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1543	1407048	15
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18 Project: SONO00514C
Sample ID: 353259003 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

Trichloroethylene	U	ND	0.300	1.00	ug/L	1
Vinyl acetate	U	ND	1.50	5.00	ug/L	1
Vinyl chloride	U	ND	0.300	1.00	ug/L	1
Xylenes (total)	U	ND	0.300	3.00	ug/L	1
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXO1	07/25/14	1130	1405776
SW846 3005A	SW846 3005A for 6010C	JXM5	07/28/14	0645	1405760
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/24/14	1300	1406121
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/24/14	1502	1405709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7470A	
5	SW846 3005A/6010C	
6	SW846 3005A/6020A	
7	SW846 3005A/6020A	
8	SW846 3005A/6020A	
9	SW846 3005A/6020A	
10	SW846 3005A/6020A	
11	SW846 3510C/8270D	
12	SW846 7196A	
13	SM 4500-SO3 (2-) B	
14	SW846 9040C	
15	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18 Project: SONO00514C
Sample ID: 353259003 Client ID: GEEL003

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	25.9 ug/L	47.6	54.3	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	25.8 ug/L	47.6	54.1	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	31.2 ug/L	47.6	65.4	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	59.0 ug/L	95.2	62.0	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	23.9 ug/L	95.2	25.1	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	14.7 ug/L	95.2	15.4	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	52.3 ug/L	50.0	105	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.1 ug/L	50.0	98.2	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	47.8 ug/L	50.0	95.5	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 11, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-18 DISSOLVED
Sample ID: 353259004
Matrix: Ground Water
Collect Date: 22-JUL-14 15:58
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/25/14	1100	1406135	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		5.79	1.00	5.00	ug/L	1	TXT1	07/28/14	1805	1405761	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/09/14	0610	1405777	3
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		32.7	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Lead	J	1.13	0.500	2.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Manganese		58.7	1.00	5.00	ug/L	1	PRB	08/10/14	1730	1405777	4
Sodium		63700	800	2500	ug/L	10	PRB	08/11/14	1207	1405777	5
Selenium	U	ND	1.50	5.00	ug/L	1	PRB	08/11/14	1611	1405777	6
Aluminum		295	15.0	50.0	ug/L	1	PRB	08/10/14	0349	1405777	7
Beryllium	U	ND	0.200	0.500	ug/L	1					
Calcium		2430	60.0	200	ug/L	1					
Chromium	J	7.05	2.00	10.0	ug/L	1					
Cobalt		1.51	0.100	1.00	ug/L	1					
Copper		1.50	0.350	1.00	ug/L	1					
Iron		2120	33.0	100	ug/L	1					
Magnesium		977	10.0	30.0	ug/L	1					
Nickel		3.26	0.500	2.00	ug/L	1					
Potassium		1310	80.0	300	ug/L	1					
Zinc	J	7.60	3.50	10.0	ug/L	1					
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	J	0.00395	0.003	0.010	mg/L	1	PXO1	07/23/14	1243	1405748	8

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXO1	07/25/14	1130	1405776
SW846 3005A	SW846 3005A for 6010C	JXM5	07/28/14	0645	1405760

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Certificate of Analysis

Report Date: August 11, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-18 DISSOLVED	Project:	SONO00514C
Sample ID:	353259004	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/24/14	1300	1406121

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3005A/6020A	
7	SW846 3005A/6020A	
8	SW846 7196A	

Notes:

QC Summary

Report Date: August 11, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **353259**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis												
Batch 1405710												
QC1203133298 353174003 DUP												
Cyanide, Total		U	ND	U	ND	ug/L	N/A			AXH3	07/24/14	15:24
QC1203133302 LCS												
Cyanide, Total	50.0				51.6	ug/L		103	(90%-110%)		07/24/14	15:19
QC1203133297 MB												
Cyanide, Total				U	ND	ug/L					07/24/14	15:17
QC1203133300 353174003 MS												
Cyanide, Total	100	U	ND		105	ug/L		105	(60%-124%)		07/24/14	15:25
Ion Chromatography												
Batch 1405797												
QC1203133474 353259003 DUP												
Nitrate-N			0.889		0.885	mg/L	0.395		(0%-20%)	RXB5	07/23/14	20:53
Nitrite-N		U	ND	U	ND	mg/L	N/A					
Sulfate			78.5		79.0	mg/L	0.583		(0%-20%)		07/24/14	15:12
QC1203133476 LCS												
Nitrate-N	2.50				2.58	mg/L		103	(90%-110%)		07/23/14	22:27
Nitrite-N	2.50				2.60	mg/L		104	(90%-110%)			
Sulfate	10.0				10.3	mg/L		103	(90%-110%)			
QC1203133473 MB												
Nitrate-N				U	ND	mg/L					07/23/14	21:56
Nitrite-N				U	ND	mg/L						
Sulfate				U	ND	mg/L						
QC1203133475 353259003 PS												
Nitrate-N	2.50		0.889		3.56	mg/L		107	(90%-110%)		07/23/14	21:24
Nitrite-N	2.50	U	ND		2.59	mg/L		104	(90%-110%)			
Sulfate	10.0		7.85		18.9	mg/L		110	(90%-110%)		07/24/14	15:43

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 1405797										
Metals Analysis - ICPMS										
Batch 1405777										
QC1203133432 353259003 DUP										
Aluminum		1250		1290	ug/L	3.21		(0%-20%)	PRB	08/10/14 04:03
Antimony	U	ND	U	ND	ug/L	N/A				08/09/14 06:23
Arsenic	U	ND	U	ND	ug/L	N/A				
Barium		34.3		33.0	ug/L	4.03		(0%-20%)		
Beryllium	U	ND	U	ND	ug/L	N/A				08/10/14 04:03
Cadmium	U	ND	U	ND	ug/L	N/A				08/09/14 06:23
Calcium		2480		2530	ug/L	2.24		(0%-20%)		08/10/14 04:03
Chromium	J	9.56	J	9.65	ug/L	0.958	^	(+/-10.0)		
Cobalt		1.38		1.43	ug/L	3.99	^	(+/-1.00)		
Copper		4.23		4.26	ug/L	0.659	^	(+/-1.00)		
Iron		2450		2480	ug/L	1.23		(0%-20%)		
Lead		2.98		2.91	ug/L	2.34	^	(+/-2.00)		08/09/14 06:23
Magnesium		1000		1020	ug/L	2.01		(0%-20%)		08/10/14 04:03
Manganese		60.2		56.2	ug/L	6.86		(0%-20%)		08/10/14 17:36
Nickel		3.27		3.41	ug/L	4.10	^	(+/-2.00)		08/10/14 04:03
Potassium		1360		1420	ug/L	3.99	^	(+/-300)		
Selenium	U	ND	U	ND	ug/L	N/A				08/11/14 16:17
Silver	U	ND	U	ND	ug/L	N/A				08/09/14 06:23
Sodium		78000		74000	ug/L	5.26		(0%-20%)		08/11/14 12:14
Thallium	U	ND	U	ND	ug/L	N/A				08/09/14 06:23

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1405777										
Zinc		14.8		14.3	ug/L	3.00 ^		(+/-10.0)	PRB	08/10/14 04:03
QC1203133431 LCS										
Aluminum	2000			2020	ug/L		101	(80%-120%)		08/10/14 03:30
Antimony	50.0			51.8	ug/L		104	(80%-120%)		08/09/14 05:49
Arsenic	50.0			50.0	ug/L		100	(80%-120%)		
Barium	50.0			49.3	ug/L		98.6	(80%-120%)		
Beryllium	50.0			49.8	ug/L		99.6	(80%-120%)		08/10/14 03:30
Cadmium	50.0			52.6	ug/L		105	(80%-120%)		08/09/14 05:49
Calcium	2000			2230	ug/L		111	(80%-120%)		08/10/14 03:30
Chromium	50.0			51.6	ug/L		103	(80%-120%)		
Cobalt	50.0			53.5	ug/L		107	(80%-120%)		
Copper	50.0			54.5	ug/L		109	(80%-120%)		
Iron	2000			2100	ug/L		105	(80%-120%)		
Lead	50.0			52.5	ug/L		105	(80%-120%)		08/09/14 05:49
Magnesium	2000			2010	ug/L		100	(80%-120%)		08/10/14 03:30
Manganese	50.0			53.0	ug/L		106	(80%-120%)		08/10/14 17:26
Nickel	50.0			54.7	ug/L		109	(80%-120%)		08/10/14 03:30
Potassium	2000			2150	ug/L		107	(80%-120%)		
Selenium	50.0			51.9	ug/L		104	(80%-120%)		08/11/14 16:08
Silver	50.0			52.4	ug/L		105	(80%-120%)		08/09/14 05:49
Sodium	2000			2070	ug/L		104	(80%-120%)		08/11/14 12:04
Thallium	50.0			47.7	ug/L		95.4	(80%-120%)		08/09/14 05:49

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1405777										
Zinc	50.0			52.9	ug/L		106	(80%-120%)	PRB	08/10/14 03:30
QC1203133430 MB										
Aluminum			U	ND	ug/L					08/10/14 03:23
Antimony			U	ND	ug/L					08/09/14 05:43
Arsenic			U	ND	ug/L					
Barium			U	ND	ug/L					
Beryllium			U	ND	ug/L					08/10/14 03:23
Cadmium			U	ND	ug/L					08/09/14 05:43
Calcium			U	ND	ug/L					08/10/14 03:23
Chromium			U	ND	ug/L					
Cobalt			U	ND	ug/L					
Copper			U	ND	ug/L					
Iron			U	ND	ug/L					
Lead			U	ND	ug/L					08/09/14 05:43
Magnesium			U	ND	ug/L					08/10/14 03:23
Manganese			U	ND	ug/L					08/10/14 17:23
Nickel			U	ND	ug/L					08/10/14 03:23
Potassium			U	ND	ug/L					
Selenium			U	ND	ug/L					08/11/14 16:04
Silver			U	ND	ug/L					08/09/14 05:43
Sodium			U	ND	ug/L					08/11/14 12:00
Thallium			U	ND	ug/L					08/09/14 05:43

QC Summary

Workorder: **353259**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1405777											
Zinc				U	ND	ug/L				PRB	08/10/14 03:23
QC1203133433 353259003 MS											
Aluminum	2000		1250		3730	ug/L		124	(75%-125%)		08/10/14 04:09
Antimony	50.0	U	ND		52.6	ug/L		105	(75%-125%)		08/09/14 06:30
Arsenic	50.0	U	ND		50.2	ug/L		100	(75%-125%)		
Barium	50.0		34.3		83.3	ug/L		97.8	(75%-125%)		
Beryllium	50.0	U	ND		51.7	ug/L		103	(75%-125%)		08/10/14 04:09
Cadmium	50.0	U	ND		52.3	ug/L		105	(75%-125%)		08/09/14 06:30
Calcium	2000		2480		4580	ug/L		105	(75%-125%)		08/10/14 04:09
Chromium	50.0	J	9.56		62.2	ug/L		105	(75%-125%)		
Cobalt	50.0		1.38		55.0	ug/L		107	(75%-125%)		
Copper	50.0		4.23		58.8	ug/L		109	(75%-125%)		
Iron	2000		2450		4660	ug/L		111	(75%-125%)		
Lead	50.0		2.98		54.9	ug/L		104	(75%-125%)		08/09/14 06:30
Magnesium	2000		1000		3120	ug/L		106	(75%-125%)		08/10/14 04:09
Manganese	50.0		60.2		112	ug/L		103	(75%-125%)		08/10/14 17:40
Nickel	50.0		3.27		57.5	ug/L		108	(75%-125%)		08/10/14 04:09
Potassium	2000		1360		3470	ug/L		105	(75%-125%)		
Selenium	50.0	U	ND	N	34.4	ug/L		68.8*	(75%-125%)		08/11/14 16:20
Silver	50.0	U	ND		51.1	ug/L		102	(75%-125%)		08/09/14 06:30
Sodium	2000		78000		78500	ug/L		N/A	(75%-125%)		08/11/14 12:18
Thallium	50.0	U	ND		47.1	ug/L		94	(75%-125%)		08/09/14 06:30

QC Summary

Workorder: **353259**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1405777											
Zinc	50.0		14.8		68.3	ug/L		107	(75%-125%)	PRB	08/10/14 04:09
QC1203145117 353259003 PS											
Selenium	50.0	U	ND		49.0	ug/L		97.9	(80%-120%)		08/11/14 16:23
QC1203133434 353259003 SDILT											
Aluminum			1250		251	ug/L	.776		(0%-10%)		08/10/14 04:23
Antimony		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/09/14 06:43
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Barium			34.3		6.79	ug/L	1.21		(0%-10%)		
Beryllium		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/10/14 04:23
Cadmium		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/09/14 06:43
Calcium			2480		520	ug/L	4.93		(0%-10%)		08/10/14 04:23
Chromium		J	9.56	J	2.06	ug/L	7.5		(0%-10%)		
Cobalt			1.38	J	0.282	ug/L	2.55		(0%-10%)		
Copper			4.23	J	0.885	ug/L	4.54		(0%-10%)		
Iron			2450		496	ug/L	1.26		(0%-10%)		
Lead			2.98	J	0.587	ug/L	1.41		(0%-10%)		08/09/14 06:43
Magnesium			1000		216	ug/L	7.77		(0%-10%)		08/10/14 04:23
Manganese			60.2		11.8	ug/L	2.33		(0%-10%)		08/10/14 17:46
Nickel			3.27	J	0.687	ug/L	5.08		(0%-10%)		08/10/14 04:23
Potassium			1360		301	ug/L	10.3		(0%-10%)		
Selenium		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/11/14 16:26
Silver		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/09/14 06:43
Sodium			7800		1500	ug/L	3.59		(0%-10%)		08/11/14 12:21

QC Summary

Workorder: **353259**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1405777											
Thallium		U	ND	U	ND	ug/L	N/A		(0%-10%)	PRB	08/09/14 06:43
Zinc			14.8	J	3.80	ug/L	28.5		(0%-10%)		08/10/14 04:23
Metals Analysis-ICP											
Batch 1405761											
QC1203133405 353259003 DUP											
Vanadium			7.89		7.76	ug/L	1.62 ^		(+/-5.00)	TXT1	07/28/14 17:57
QC1203133404 LCS											
Vanadium	500				505	ug/L		101	(80%-120%)		07/28/14 17:51
QC1203133403 MB											
Vanadium				U	ND	ug/L					07/28/14 17:47
QC1203133406 353259003 MS											
Vanadium	500		7.89		509	ug/L		100	(75%-125%)		07/28/14 18:00
QC1203133407 353259003 SDILT											
Vanadium			7.89	J	1.64	ug/L	3.72		(0%-10%)		07/28/14 18:03
Metals Analysis-Mercury											
Batch 1406135											
QC1203134332 353293003 DUP											
Mercury		U	ND	U	ND	ug/L	N/A			MTM1	07/25/14 11:15
QC1203134331 LCS											
Mercury	2.00				2.05	ug/L		103	(80%-120%)		07/25/14 10:57
QC1203134330 MB											
Mercury				U	ND	ug/L					07/25/14 10:55
QC1203134333 353293003 MS											
Mercury	2.00	U	ND		2.06	ug/L		103	(75%-125%)		07/25/14 11:17
QC1203134334 353293003 SDILT											
Mercury		U	ND	U	ND	ug/L	N/A		(0%-10%)		07/25/14 11:18
Semi-Volatile-GC/MS											
Batch 1406981											
QC1203136412 LCS											
1,2,4-Trichlorobenzene	50.0				19.0	ug/L		38	(26%-92%)	JMB3	08/01/14 18:00
2,4-Dinitrotoluene	50.0				39.6	ug/L		79.3	(45%-124%)		

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 1406981										
2-Chlorophenol	50.0			31.8	ug/L		63.7	(39%-99%)		
4-Chloro-3-methylphenol	50.0			35.2	ug/L		70.5	(46%-111%)	JMB3	08/01/14 18:00
4-Nitrophenol	50.0			11.1	ug/L		22.3	(16%-77%)		
Acenaphthene	50.0			31.0	ug/L		62.1	(40%-104%)		
N-Nitrosodipropylamine	50.0			32.4	ug/L		64.8	(39%-113%)		
Pentachlorophenol	50.0			30.7	ug/L		61.3	(27%-102%)		
Phenol	50.0			12.6	ug/L		25.2	(13%-77%)		
Pyrene	50.0			37.2	ug/L		74.4	(38%-127%)		
**2,4,6-Tribromophenol	100			70.6	ug/L		70.6	(26%-129%)		
**2-Fluorobiphenyl	50.0			32.4	ug/L		64.9	(32%-102%)		
**2-Fluorophenol	100			36.4	ug/L		36.4	(10%-78%)		
**Nitrobenzene-d5	50.0			34.1	ug/L		68.1	(36%-125%)		
**Phenol-d5	100			22.5	ug/L		22.5	(10%-104%)		
**p-Terphenyl-d14	50.0			38.1	ug/L		76.3	(34%-135%)		
QC1203136413 LCSD										
1,2,4-Trichlorobenzene	50.0			20.0	ug/L	4.98	39.9	(0%-30%)		08/01/14 18:31
2,4-Dinitrotoluene	50.0			44.5	ug/L	11.6	89	(0%-30%)		
2-Chlorophenol	50.0			34.2	ug/L	7.30	68.5	(0%-30%)		
4-Chloro-3-methylphenol	50.0			39.3	ug/L	10.9	78.6	(0%-30%)		
4-Nitrophenol	50.0			12.5	ug/L	11.2	24.9	(0%-30%)		
Acenaphthene	50.0			34.0	ug/L	9.08	68	(0%-30%)		
N-Nitrosodipropylamine	50.0			35.7	ug/L	9.58	71.3	(0%-30%)		
Pentachlorophenol	50.0			33.0	ug/L	7.32	66	(0%-30%)		

QC Summary

Workorder: 353259

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
Phenol	50.0			13.9	ug/L	9.89	27.8	(0%-30%)	JMB3	08/01/14	18:31
Pyrene	50.0			41.2	ug/L	10.1	82.4	(0%-30%)			
**2,4,6-Tribromophenol	100			76.9	ug/L		76.9	(26%-129%)			
**2-Fluorobiphenyl	50.0			35.1	ug/L		70.1	(32%-102%)			
**2-Fluorophenol	100			39.0	ug/L		39	(10%-78%)			
**Nitrobenzene-d5	50.0			36.0	ug/L		72.1	(36%-125%)			
**Phenol-d5	100			24.0	ug/L		24	(10%-104%)			
**p-Terphenyl-d14	50.0			42.4	ug/L		84.8	(34%-135%)			
QC1203136411 MB											
1,1'-Biphenyl			U	ND	ug/L					08/01/14	17:29
1,2,4,5-Tetrachlorobenzene			U	ND	ug/L						
1-Methylnaphthalene			U	ND	ug/L						
2,3,4,6-Tetrachlorophenol			U	ND	ug/L						
2,4,5-Trichlorophenol			U	ND	ug/L						
2,4,6-Trichlorophenol			U	ND	ug/L						
2,4-Dichlorophenol			U	ND	ug/L						
2,4-Dimethylphenol			U	ND	ug/L						
2,4-Dinitrophenol			U	ND	ug/L						
2,4-Dinitrotoluene			U	ND	ug/L						
2,6-Dinitrotoluene			U	ND	ug/L						
2-Chloronaphthalene			U	ND	ug/L						
2-Chlorophenol			U	ND	ug/L						

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
2-Methyl-4,6-dinitrophenol			U	ND	ug/L				JMB3	08/01/14	17:29
2-Methylnaphthalene			U	ND	ug/L						
2-Nitrophenol			U	ND	ug/L						
3,3'-Dichlorobenzidine			U	ND	ug/L						
4-Bromophenylphenylether			U	ND	ug/L						
4-Chloro-3-methylphenol			U	ND	ug/L						
4-Chloroaniline			U	ND	ug/L						
4-Chlorophenylphenylether			U	ND	ug/L						
4-Nitrophenol			U	ND	ug/L						
Acenaphthene			U	ND	ug/L						
Acenaphthylene			U	ND	ug/L						
Acetophenone			U	ND	ug/L						
Anthracene			U	ND	ug/L						
Atrazine			U	ND	ug/L						
Benzaldehyde			U	ND	ug/L						
Benzo(a)anthracene			U	ND	ug/L						
Benzo(a)pyrene			U	ND	ug/L						
Benzo(b)fluoranthene			U	ND	ug/L						
Benzo(ghi)perylene			U	ND	ug/L						
Benzo(k)fluoranthene			U	ND	ug/L						
Butylbenzylphthalate			U	ND	ug/L						

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
Caprolactam			U	ND	ug/L						
Carbazole			U	ND	ug/L				JMB3	08/01/14	17:29
Chrysene			U	ND	ug/L						
Di-n-butylphthalate			U	ND	ug/L						
Di-n-octylphthalate			U	ND	ug/L						
Dibenzo(a,h)anthracene			U	ND	ug/L						
Dibenzofuran			U	ND	ug/L						
Diethylphthalate			U	ND	ug/L						
Dimethylphthalate			U	ND	ug/L						
Diphenylamine			U	ND	ug/L						
Fluoranthene			U	ND	ug/L						
Fluorene			U	ND	ug/L						
Hexachlorobenzene			U	ND	ug/L						
Hexachlorobutadiene			U	ND	ug/L						
Hexachlorocyclopentadiene			U	ND	ug/L						
Hexachloroethane			U	ND	ug/L						
Indeno(1,2,3-cd)pyrene			U	ND	ug/L						
Isophorone			U	ND	ug/L						
N-Nitrosodipropylamine			U	ND	ug/L						
Naphthalene			U	ND	ug/L						
Nitrobenzene			U	ND	ug/L						
Pentachlorophenol			U	ND	ug/L						

QC Summary

Workorder: 353259

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 1406981										
Phenanthrene			U	ND	ug/L					
Phenol			U	ND	ug/L				JMB3	08/01/14 17:29
Pyrene			U	ND	ug/L					
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/L					
bis(2-Chloroethoxy)methane			U	ND	ug/L					
bis(2-Chloroethyl) ether			U	ND	ug/L					
bis(2-Ethylhexyl)phthalate			U	ND	ug/L					
m,p-Cresols			U	ND	ug/L					
m-Nitroaniline			U	ND	ug/L					
o-Cresol			U	ND	ug/L					
o-Nitroaniline			U	ND	ug/L					
p-Nitroaniline			U	ND	ug/L					
**2,4,6-Tribromophenol	100			63.0	ug/L		63	(26%-129%)		
**2-Fluorobiphenyl	50.0			31.2	ug/L		62.5	(32%-102%)		
**2-Fluorophenol	100			38.8	ug/L		38.8	(10%-78%)		
**Nitrobenzene-d5	50.0			33.7	ug/L		67.4	(36%-125%)		
**Phenol-d5	100			23.6	ug/L		23.6	(10%-104%)		
**p-Terphenyl-d14	50.0			41.7	ug/L		83.3	(34%-135%)		
Spectrometric Analysis										
Batch 1405748										
QC1203133365 352283015 DUP										
Hexavalent Chromium		H	0.0337	H 0.0337	mg/L	0.00 ^		(+/-0.010)	PXO1	07/23/14 12:38
QC1203133367 LCS										
Hexavalent Chromium	0.050			0.0501	mg/L		100	(85%-115%)		07/23/14 12:27
QC1203133364 MB										

QC Summary

Workorder: 353259

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Spectrometric Analysis											
Batch 1405748											
Hexavalent Chromium				U	ND	mg/L					07/23/14 12:27
QC1203133366 352283015 PS											
Hexavalent Chromium	0.050	H	0.0337	H	0.0828	mg/L		98.3	(85%-115%)	PXO1	07/23/14 12:40
Titration and Ion Analysis											
Batch 1406210											
QC1203134550 LCS											
Sulfite	100				97.5	mg/L		97.5	(90%-110%)	PXO1	07/25/14 18:29
QC1203134547 MB											
Sulfite				U	ND	mg/L					07/25/14 18:28
QC1203134548 353252001 MS											
Sulfite	100	HU	ND	H	99.5	mg/L		99.5	(80%-120%)		07/25/14 19:12
QC1203134549 353252001 MSD											
Sulfite	100	HU	ND	H	99.0	mg/L	0.504	99	(0%-20%)		07/25/14 19:14
Batch 1408955											
QC1203141752 352833002 DUP											
pH		H	7.65	H	7.69	SU	0.522		(0%-5%)	PXO1	08/05/14 15:05
QC1203141754 LCS											
pH	7.00				6.96	SU		99.4	(99%-101%)		08/05/14 14:59
Volatile-GC/MS											
Batch 1407048											
QC1203136606 LCS											
1,1-Dichloroethylene	50.0				41.1	ug/L		82.1	(70%-130%)	JEB	07/28/14 12:27
4-Methyl-2-pentanone	250				241	ug/L		96.4	(70%-130%)		
Benzene	50.0				40.1	ug/L		80.2	(70%-130%)		
Chlorobenzene	50.0				41.2	ug/L		82.3	(70%-130%)		
Chloroform	50.0				43.5	ug/L		86.9	(70%-130%)		
Toluene	50.0				41.2	ug/L		82.3	(70%-130%)		
Trichloroethylene	50.0				41.5	ug/L		82.9	(70%-130%)		
Vinyl chloride	50.0				54.1	ug/L		108	(70%-130%)		
**1,2-Dichloroethane-d4	50.0				51.5	ug/L		103	(78%-124%)		

QC Summary

Workorder: 353259

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1407048											
**Bromofluorobenzene	50.0			48.3	ug/L		96.5	(80%-120%)	JEB	07/28/14	12:27
**Toluene-d8	50.0			47.0	ug/L		94	(80%-120%)			
QC1203136603 MB											
1,1,1-Trichloroethane			U	ND	ug/L					07/28/14	13:40
1,1,2,2-Tetrachloroethane			U	ND	ug/L						
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						
2-Hexanone			U	ND	ug/L						
4-Methyl-2-pentanone			U	ND	ug/L						
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						
Carbon disulfide			U	ND	ug/L						
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						

QC Summary

Workorder: 353259

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1407048											
Chloroform			U	ND	ug/L				JEB	07/28/14	13:40
Chloromethane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						
Tetrachloroethylene			U	ND	ug/L						
Toluene			U	ND	ug/L						
Trichloroethylene			U	ND	ug/L						
Vinyl acetate			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						
Xylenes (total)			U	ND	ug/L						
cis-1,2-Dichloroethylene			U	ND	ug/L						
cis-1,3-Dichloropropylene			U	ND	ug/L						
trans-1,2-Dichloroethylene			U	ND	ug/L						
trans-1,3-Dichloropropylene			U	ND	ug/L						
**1,2-Dichloroethane-d4	50.0			51.6	ug/L		103	(78%-124%)			
**Bromofluorobenzene	50.0			49.1	ug/L		98.2	(80%-120%)			
**Toluene-d8	50.0			48.3	ug/L		96.6	(80%-120%)			
QC1203136604 353259002 PS											
1,1-Dichloroethylene	50.0	U	ND	44.1	ug/L		88.2	(74%-130%)		07/28/14	20:13
4-Methyl-2-pentanone	250	U	ND	241	ug/L		96.6	(70%-132%)			

QC Summary

Workorder: **353259**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 1407048											
Benzene	50.0	U	ND		44.1	ug/L		88.2	(75%-120%)	JEB	07/28/14 20:13
Chlorobenzene	50.0	U	ND		44.1	ug/L		88.3	(74%-120%)		
Chloroform	50.0	U	ND		48.3	ug/L		96.5	(75%-123%)		
Toluene	50.0	U	ND		43.3	ug/L		86.7	(72%-120%)		
Trichloroethylene	50.0	U	ND		45.7	ug/L		91.4	(75%-125%)		
Vinyl chloride	50.0	U	ND		57.1	ug/L		114	(52%-129%)		
**1,2-Dichloroethane-d4	50.0		52.7		53.9	ug/L		108	(78%-124%)		
**Bromofluorobenzene	50.0		49.3		49.8	ug/L		99.5	(80%-120%)		
**Toluene-d8	50.0		48.1		48.5	ug/L		97.1	(80%-120%)		
QC1203136605 353259002 PSD											
1,1-Dichloroethylene	50.0	U	ND		43.0	ug/L	2.53	86	(0%-20%)		07/28/14 20:38
4-Methyl-2-pentanone	250	U	ND		247	ug/L	2.37	98.9	(0%-20%)		
Benzene	50.0	U	ND		43.9	ug/L	0.386	87.8	(0%-20%)		
Chlorobenzene	50.0	U	ND		43.9	ug/L	0.500	87.8	(0%-20%)		
Chloroform	50.0	U	ND		46.6	ug/L	3.43	93.3	(0%-20%)		
Toluene	50.0	U	ND		43.3	ug/L	0.00	86.7	(0%-20%)		
Trichloroethylene	50.0	U	ND		45.3	ug/L	0.747	90.7	(0%-20%)		
Vinyl chloride	50.0	U	ND		54.1	ug/L	5.39	108	(0%-20%)		
**1,2-Dichloroethane-d4	50.0		52.7		52.9	ug/L		106	(78%-124%)		
**Bromofluorobenzene	50.0		49.3		49.9	ug/L		99.9	(80%-120%)		
**Toluene-d8	50.0		48.1		49.0	ug/L		98	(80%-120%)		

Notes:

QC Summary

Workorder: 353259

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N	Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UJ	Compound cannot be extracted
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

QC Summary

Workorder: **353259**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 11 August 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−14
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: 1 of 1
Project #: SON000514
GEL Quote #:
COC Number (1):
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 353259

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering, LLC Phone #:
Project/Site Name: Sonoco Products Company Fax #:
Address: 1 N. 2nd St., Hartsville, SC
Collected by: Client (WSR, RSG) Send Results To: T. Putney, S. Nix

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TAL Metals, Hg	Dissolved TAL Metals, Hg	CN	CrC	Dissolved CrC	TCL VOCs	TCL SVOCs	pH, NO2/3, SO4	Sulfite	Sodium	<-- Preservative Type (6)
TB-072214	07-22-14	15:00	TB	N	W			4						X					
TW-01		13:15	N	N	GW			4						X					
MW-18		1558	N	N	GW			15	X	X	X	X	X	X	X	X	X	X	X

Comments
Note: extra sample is required for sample specific QC

TAT Requested: Normal: ____ Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
Eastern Pacific
Central Other ____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Rob Dunn	7-22-14	16:20	P. Nix	7-23-14	0850
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: ____ C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SDND	**SDG/AR/COC/Work Order:** 353259
Received By: P. Vent	**Date Received:** 7.23.14

Suspected Hazard Information	**Yes**	**No**	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): OCPM
Classified Radioactive II or III by RSO?		X	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		X	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		X	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	X			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) 2C *all temperatures are recorded in Celsius
2a	Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): 130462964
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	X			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	X			Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Sample ID's affected:
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	X			
13	COC form is properly signed in relinquished/received sections?	X			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other 8055 8800 6228

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials QP Date 7.25.14 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr. 01−AUG−14	**Division:** Industrial	**Quality Criteria:** Specifications	**Type:** Process
Instrument Type: BURET	**Test / Method:** SM 4500−SO3 (2−) B	**Matrix Type:** Liquid	**Client Code:** LATA, PTQA, SONO
Batch ID: 1406210	**Sample Numbers:** See Below		

Potentially affected work order(s)(SDG): 352694(WP−234),352929,353252,353259,353340,353403,353459

Application Issues:

Sample Analyzed out of Holding

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 352929 012 353252 001,002,003,004,005 353259 003 353340 009,011 353403 001,002,003,004 353459 001,002,003	1. Samples were received and analyzed outside of method specified holding time.

Originator's Name:

Patrick Orgel 01−AUG−14

Data Validator/Group Leader:

Elzbieta Szulc 01−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
06−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ELECTRODE	EPA 150.1, SW846 9040C	Liquid	ESHL, GELC, SONO
Batch ID:	**Sample Numbers:**		
1408955	See Below		

Potentially affected work order(s)(SDG): 352833(2014−3832),352839(2014−3835),352844(2014−3837),352967(2014−3880),352987(2014−3885),352990(2014−3886),353259,353327,353340

Application Issues:

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 352833 002,004 352839 006 352844 002,005,007 352967 002 352987 002,006,010 352990 002,003,008 353259 003 353327 001,002 353340 009,011	1. Samples were received and analyzed outside of method specified holding time.

Originator's Name:

Patrick Orgel 06−AUG−14

Data Validator/Group Leader:

Kristen Parson 06−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
11−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP/MS	SW846 3005A/6020A	Liquid	SONO
Batch ID:	**Sample Numbers:**		
1405777	See Below		

Potentially affected work order(s)(SDG): 353259

Application Issues:

Failed Recovery for MS/PS

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203133433(MW−18)MS	The matrix spike recovery failed outside of the control limits for selenium. The post spike passed the required control limits for all analytes. This verifies the absence of a matrix interference.

Originator's Name:

Paul Boyd 11−AUG−14

Data Validator/Group Leader:

Bryan Davis 11−AUG−14

GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

August 14, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 353340

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 23, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 353340 GEL Work Order: 353340

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

H Analytical holding time was exceeded

J Value is estimated

N Metals−−The Matrix spike sample recovery is not within specified control limits

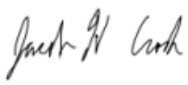
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

h Preparation or preservation holding time was exceeded

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by 

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-15
Sample ID: 353340001
Matrix: Ground Water
Collect Date: 23-JUL-14 09:10
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1316	1406387	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1001	1407301	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		13.2	1.00	5.00	ug/L	1	LS	07/30/14	1746	1406988	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		654	15.0	50.0	ug/L	1	PRB	08/13/14	0029	1406990	4
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic		7.07	1.70	5.00	ug/L	1					
Barium		70.4	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		29400	60.0	200	ug/L	1					
Chromium	J	7.40	2.00	10.0	ug/L	1					
Cobalt	J	0.503	0.100	1.00	ug/L	1					
Copper		11.7	0.350	1.00	ug/L	1					
Iron		33200	33.0	100	ug/L	1					
Lead	J	1.71	0.500	2.00	ug/L	1					
Magnesium		6410	10.0	30.0	ug/L	1					
Manganese		184	1.00	5.00	ug/L	1					
Nickel	J	0.877	0.500	2.00	ug/L	1					
Potassium		17900	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	7.05	3.50	10.0	ug/L	1					
Sodium		136000	1600	5000	ug/L	20	PRB	08/14/14	0006	1406990	5
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.94	9.80	ug/L	1	JMB3	08/04/14	1232	1406981	6
1,2,4,5-Tetrachlorobenzene	U	ND	2.94	9.80	ug/L	1					

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-15 Project: SONO00514C
Sample ID: 353340001 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.294	0.980	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	2.94	9.80	ug/L	1
2,4,5-Trichlorophenol	U	ND	2.94	9.80	ug/L	1
2,4,6-Trichlorophenol	U	ND	2.94	9.80	ug/L	1
2,4-Dichlorophenol	U	ND	2.94	9.80	ug/L	1
2,4-Dimethylphenol	U	ND	2.94	9.80	ug/L	1
2,4-Dinitrophenol	U	ND	4.90	19.6	ug/L	1
2,4-Dinitrotoluene	U	ND	2.94	9.80	ug/L	1
2,6-Dinitrotoluene	U	ND	2.94	9.80	ug/L	1
2-Chloronaphthalene	U	ND	0.402	0.980	ug/L	1
2-Chlorophenol	U	ND	2.94	9.80	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	2.94	9.80	ug/L	1
2-Methylnaphthalene	U	ND	0.294	0.980	ug/L	1
2-Nitrophenol	U	ND	2.94	9.80	ug/L	1
3,3'-Dichlorobenzidine	U	ND	2.94	9.80	ug/L	1
4-Bromophenylphenylether	U	ND	2.94	9.80	ug/L	1
4-Chloro-3-methylphenol	U	ND	2.94	9.80	ug/L	1
4-Chloroaniline	U	ND	3.24	9.80	ug/L	1
4-Chlorophenylphenylether	U	ND	2.94	9.80	ug/L	1
4-Nitrophenol	U	ND	2.94	9.80	ug/L	1
Acenaphthene	U	ND	0.294	0.980	ug/L	1
Acenaphthylene	U	ND	0.294	0.980	ug/L	1
Acetophenone	U	ND	2.94	9.80	ug/L	1
Anthracene	U	ND	0.294	0.980	ug/L	1
Atrazine	U	ND	2.94	9.80	ug/L	1
Benzaldehyde	U	ND	2.94	9.80	ug/L	1
Benzo(a)anthracene	U	ND	0.294	0.980	ug/L	1
Benzo(a)pyrene	U	ND	0.294	0.980	ug/L	1
Benzo(b)fluoranthene	U	ND	0.294	0.980	ug/L	1
Benzo(ghi)perylene	U	ND	0.294	0.980	ug/L	1
Benzo(k)fluoranthene	U	ND	0.294	0.980	ug/L	1
Butylbenzylphthalate	U	ND	2.94	9.80	ug/L	1
Caprolactam	U	ND	2.94	9.80	ug/L	1
Carbazole	U	ND	0.294	0.980	ug/L	1
Chrysene	U	ND	0.294	0.980	ug/L	1
Di-n-butylphthalate	U	ND	2.94	9.80	ug/L	1

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-15 Project: SONO00514C
Sample ID: 353340001 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	2.94	9.80	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.294	0.980	ug/L	1					
Dibenzofuran	U	ND	2.94	9.80	ug/L	1					
Diethylphthalate	U	ND	2.94	9.80	ug/L	1					
Dimethylphthalate	U	ND	2.94	9.80	ug/L	1					
Diphenylamine	U	ND	2.94	9.80	ug/L	1					
Fluoranthene	U	ND	0.294	0.980	ug/L	1					
Fluorene	U	ND	0.294	0.980	ug/L	1					
Hexachlorobenzene	U	ND	2.94	9.80	ug/L	1					
Hexachlorobutadiene	U	ND	2.94	9.80	ug/L	1					
Hexachlorocyclopentadiene	U	ND	2.94	9.80	ug/L	1					
Hexachloroethane	U	ND	2.94	9.80	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.294	0.980	ug/L	1					
Isophorone	U	ND	3.43	9.80	ug/L	1					
N-Nitrosodipropylamine	U	ND	2.94	9.80	ug/L	1					
Naphthalene	U	ND	0.294	0.980	ug/L	1					
Nitrobenzene	U	ND	2.94	9.80	ug/L	1					
Pentachlorophenol	U	ND	2.94	9.80	ug/L	1					
Phenanthrene	J	0.490	0.294	0.980	ug/L	1					
Phenol	U	ND	2.94	9.80	ug/L	1					
Pyrene	U	ND	0.294	0.980	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	2.94	9.80	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	2.94	9.80	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	2.94	9.80	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	2.94	9.80	ug/L	1					
m,p-Cresols	U	ND	3.63	9.80	ug/L	1					
m-Nitroaniline	U	ND	2.94	9.80	ug/L	1					
o-Cresol	U	ND	2.94	9.80	ug/L	1					
o-Nitroaniline	U	ND	2.94	9.80	ug/L	1					
p-Nitroaniline	U	ND	2.94	9.80	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	HJ	0.00473	0.003	0.010	mg/L	1	EXM3	07/24/14	0924	1406148	7

Volatile Organics

5030/8260B in Liquid "As Received"

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-15 Project: SONO00514C
Sample ID: 353340001 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1608	1407048	8
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	J	4.78	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene		5.10	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	J	0.460	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-15 Project: SONO00514C
Sample ID: 353340001 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	
8	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.0 ug/L	49.0	55.1	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	26.9 ug/L	49.0	55.0	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	32.8 ug/L	49.0	67.0	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	59.4 ug/L	98.0	60.6	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	22.2 ug/L	98.0	22.6	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	13.4 ug/L	98.0	13.7	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	52.4 ug/L	50.0	105	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.5 ug/L	50.0	99.1	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	47.8 ug/L	50.0	95.6	(80%-120%)

Notes:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-15 Dissolved
Sample ID: 353340002
Matrix: Ground Water
Collect Date: 23-JUL-14 09:10
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1011	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	2.15	1.00	5.00	ug/L	1	LS	07/30/14	1804	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum	J	26.0	15.0	50.0	ug/L	1	PRB	08/13/14	0122	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic		5.63	1.70	5.00	ug/L	1					
Barium		67.9	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		30100	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt	J	0.442	0.100	1.00	ug/L	1					
Copper	J	0.683	0.350	1.00	ug/L	1					
Iron		27500	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		6930	10.0	30.0	ug/L	1					
Manganese		187	1.00	5.00	ug/L	1					
Nickel	J	0.969	0.500	2.00	ug/L	1					
Potassium		18900	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	3.77	3.50	10.0	ug/L	1					
Sodium		131000	1600	5000	ug/L	20	PRB	08/14/14	0037	1406990	4
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	HU	ND	0.003	0.010	mg/L	1	EXM3	07/24/14	1001	1406148	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-15 Dissolved	Project:	SONO00514C
Sample ID:	353340002	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 7196A	

Notes:

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-01
Sample ID: 353340003
Matrix: Ground Water
Collect Date: 23-JUL-14 09:20
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1317	1406387	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury		1.34	0.067	0.200	ug/L	1	MTM1	07/30/14	1013	1407301	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		73.1	1.00	5.00	ug/L	1	LS	07/30/14	1807	1406988	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/13/14	0128	1406990	4
Arsenic		7.51	1.70	5.00	ug/L	1					
Beryllium		2.25	0.200	0.500	ug/L	1					
Cadmium		1.14	0.110	1.00	ug/L	1					
Calcium		42300	60.0	200	ug/L	1					
Chromium		771	2.00	10.0	ug/L	1					
Cobalt		5.52	0.100	1.00	ug/L	1					
Lead		114	0.500	2.00	ug/L	1					
Magnesium		16500	10.0	30.0	ug/L	1					
Manganese		405	1.00	5.00	ug/L	1					
Nickel		21.0	0.500	2.00	ug/L	1					
Potassium		32800	80.0	300	ug/L	1					
Selenium	J	3.43	1.50	5.00	ug/L	1					
Silver	J	0.552	0.200	1.00	ug/L	1					
Thallium	J	0.642	0.450	2.00	ug/L	1					
Zinc		114	3.50	10.0	ug/L	1					
Aluminum		55700	150	500	ug/L	10	PRB	08/14/14	0041	1406990	5
Barium		314	6.00	20.0	ug/L	10					
Copper		181	3.50	10.0	ug/L	10					
Iron		47200	330	1000	ug/L	10					
Sodium		291000	800	2500	ug/L	10					
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.88	9.62	ug/L	1	JMB3	08/04/14	1303	1406981	6
1,2,4,5-Tetrachlorobenzene	U	ND	2.88	9.62	ug/L	1					

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-01 Project: SONO00514C
Sample ID: 353340003 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.288	0.962	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	2.88	9.62	ug/L	1
2,4,5-Trichlorophenol	U	ND	2.88	9.62	ug/L	1
2,4,6-Trichlorophenol	U	ND	2.88	9.62	ug/L	1
2,4-Dichlorophenol	U	ND	2.88	9.62	ug/L	1
2,4-Dimethylphenol	U	ND	2.88	9.62	ug/L	1
2,4-Dinitrophenol	U	ND	4.81	19.2	ug/L	1
2,4-Dinitrotoluene	U	ND	2.88	9.62	ug/L	1
2,6-Dinitrotoluene	U	ND	2.88	9.62	ug/L	1
2-Chloronaphthalene	U	ND	0.394	0.962	ug/L	1
2-Chlorophenol	U	ND	2.88	9.62	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	2.88	9.62	ug/L	1
2-Methylnaphthalene	U	ND	0.288	0.962	ug/L	1
2-Nitrophenol	U	ND	2.88	9.62	ug/L	1
3,3'-Dichlorobenzidine	U	ND	2.88	9.62	ug/L	1
4-Bromophenylphenylether	U	ND	2.88	9.62	ug/L	1
4-Chloro-3-methylphenol	U	ND	2.88	9.62	ug/L	1
4-Chloroaniline	U	ND	3.17	9.62	ug/L	1
4-Chlorophenylphenylether	U	ND	2.88	9.62	ug/L	1
4-Nitrophenol	U	ND	2.88	9.62	ug/L	1
Acenaphthene	U	ND	0.288	0.962	ug/L	1
Acenaphthylene	U	ND	0.288	0.962	ug/L	1
Acetophenone	U	ND	2.88	9.62	ug/L	1
Anthracene	U	ND	0.288	0.962	ug/L	1
Atrazine	U	ND	2.88	9.62	ug/L	1
Benzaldehyde	U	ND	2.88	9.62	ug/L	1
Benzo(a)anthracene	U	ND	0.288	0.962	ug/L	1
Benzo(a)pyrene	U	ND	0.288	0.962	ug/L	1
Benzo(b)fluoranthene	U	ND	0.288	0.962	ug/L	1
Benzo(ghi)perylene	U	ND	0.288	0.962	ug/L	1
Benzo(k)fluoranthene	U	ND	0.288	0.962	ug/L	1
Butylbenzylphthalate	U	ND	2.88	9.62	ug/L	1
Caprolactam	U	ND	2.88	9.62	ug/L	1
Carbazole	U	ND	0.288	0.962	ug/L	1
Chrysene	U	ND	0.288	0.962	ug/L	1
Di-n-butylphthalate	U	ND	2.88	9.62	ug/L	1

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-01 Project: SONO00514C
Sample ID: 353340003 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	2.88	9.62	ug/L	1
Dibenzo(a,h)anthracene	U	ND	0.288	0.962	ug/L	1
Dibenzofuran	U	ND	2.88	9.62	ug/L	1
Diethylphthalate	U	ND	2.88	9.62	ug/L	1
Dimethylphthalate	U	ND	2.88	9.62	ug/L	1
Diphenylamine	U	ND	2.88	9.62	ug/L	1
Fluoranthene	U	ND	0.288	0.962	ug/L	1
Fluorene	U	ND	0.288	0.962	ug/L	1
Hexachlorobenzene	U	ND	2.88	9.62	ug/L	1
Hexachlorobutadiene	U	ND	2.88	9.62	ug/L	1
Hexachlorocyclopentadiene	U	ND	2.88	9.62	ug/L	1
Hexachloroethane	U	ND	2.88	9.62	ug/L	1
Indeno(1,2,3-cd)pyrene	U	ND	0.288	0.962	ug/L	1
Isophorone	U	ND	3.37	9.62	ug/L	1
N-Nitrosodipropylamine	U	ND	2.88	9.62	ug/L	1
Naphthalene	U	ND	0.288	0.962	ug/L	1
Nitrobenzene	U	ND	2.88	9.62	ug/L	1
Pentachlorophenol	U	ND	2.88	9.62	ug/L	1
Phenanthrene	U	ND	0.288	0.962	ug/L	1
Phenol	U	ND	2.88	9.62	ug/L	1
Pyrene	U	ND	0.288	0.962	ug/L	1
bis(2-Chloro-1-methylethyl)ether	U	ND	2.88	9.62	ug/L	1
bis(2-Chloroethoxy)methane	U	ND	2.88	9.62	ug/L	1
bis(2-Chloroethyl) ether	U	ND	2.88	9.62	ug/L	1
bis(2-Ethylhexyl)phthalate	U	ND	2.88	9.62	ug/L	1
m,p-Cresols	U	ND	3.56	9.62	ug/L	1
m-Nitroaniline	U	ND	2.88	9.62	ug/L	1
o-Cresol	U	ND	2.88	9.62	ug/L	1
o-Nitroaniline	U	ND	2.88	9.62	ug/L	1
p-Nitroaniline	U	ND	2.88	9.62	ug/L	1

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	H	0.111	0.030	0.100	mg/L	10	EXM3	07/24/14	1001	1406148	7

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-01 Project: SONO00514C
Sample ID: 353340003 Client ID: GEEL003

SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	18.7 ug/L	48.1	38.9	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	21.7 ug/L	48.1	45.1	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	18.2 ug/L	48.1	37.8	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	44.8 ug/L	96.2	46.6	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	21.5 ug/L	96.2	22.4	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	17.3 ug/L	96.2	18.0	(10%-104%)

Notes:

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Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TW-01 Dissolved	Project:	SONO00514C
Sample ID:	353340004	Client ID:	GEEL003
Matrix:	Ground Water		
Collect Date:	23-JUL-14 09:20		
Receive Date:	23-JUL-14		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1018	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	U	ND	1.00	5.00	ug/L	1	LS	07/30/14	1809	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		77.2	15.0	50.0	ug/L	1	PRB	08/13/14	0135	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		63.7	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		34200	60.0	200	ug/L	1					
Chromium	J	9.68	2.00	10.0	ug/L	1					
Cobalt	J	0.996	0.100	1.00	ug/L	1					
Copper		1.22	0.350	1.00	ug/L	1					
Iron		5010	33.0	100	ug/L	1					
Lead	J	1.44	0.500	2.00	ug/L	1					
Magnesium		14000	10.0	30.0	ug/L	1					
Manganese		258	1.00	5.00	ug/L	1					
Nickel		2.34	0.500	2.00	ug/L	1					
Potassium		31900	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Sodium		287000	800	2500	ug/L	10	PRB	08/14/14	0049	1406990	4
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	HJ	0.00899	0.003	0.010	mg/L	1	EXM3	07/24/14	1002	1406148	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TW-01 Dissolved	Project:	SONO00514C
Sample ID:	353340004	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 7196A	

Notes:

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-16
Sample ID: 353340005
Matrix: Ground Water
Collect Date: 23-JUL-14 10:25
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1318	1406387	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1020	1407301	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	3.22	1.00	5.00	ug/L	1	LS	07/30/14	1811	1406988	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		59.0	15.0	50.0	ug/L	1	PRB	08/13/14	0142	1406990	4
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	J	4.39	1.70	5.00	ug/L	1					
Barium		5.80	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		1500	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt	J	0.736	0.100	1.00	ug/L	1					
Copper	J	0.994	0.350	1.00	ug/L	1					
Iron		30500	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		585	10.0	30.0	ug/L	1					
Manganese		23.8	1.00	5.00	ug/L	1					
Nickel	J	0.500	0.500	2.00	ug/L	1					
Potassium		1180	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		7230	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	8.89	3.50	10.0	ug/L	1					
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.97	9.90	ug/L	1	JMB3	08/04/14	1334	1406981	5
1,2,4,5-Tetrachlorobenzene	U	ND	2.97	9.90	ug/L	1					

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-16 Project: SONO00514C
Sample ID: 353340005 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.297	0.990	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	2.97	9.90	ug/L	1
2,4,5-Trichlorophenol	U	ND	2.97	9.90	ug/L	1
2,4,6-Trichlorophenol	U	ND	2.97	9.90	ug/L	1
2,4-Dichlorophenol	U	ND	2.97	9.90	ug/L	1
2,4-Dimethylphenol	U	ND	2.97	9.90	ug/L	1
2,4-Dinitrophenol	U	ND	4.95	19.8	ug/L	1
2,4-Dinitrotoluene	U	ND	2.97	9.90	ug/L	1
2,6-Dinitrotoluene	U	ND	2.97	9.90	ug/L	1
2-Chloronaphthalene	U	ND	0.406	0.990	ug/L	1
2-Chlorophenol	U	ND	2.97	9.90	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	2.97	9.90	ug/L	1
2-Methylnaphthalene	U	ND	0.297	0.990	ug/L	1
2-Nitrophenol	U	ND	2.97	9.90	ug/L	1
3,3'-Dichlorobenzidine	U	ND	2.97	9.90	ug/L	1
4-Bromophenylphenylether	U	ND	2.97	9.90	ug/L	1
4-Chloro-3-methylphenol	U	ND	2.97	9.90	ug/L	1
4-Chloroaniline	U	ND	3.27	9.90	ug/L	1
4-Chlorophenylphenylether	U	ND	2.97	9.90	ug/L	1
4-Nitrophenol	U	ND	2.97	9.90	ug/L	1
Acenaphthene	U	ND	0.297	0.990	ug/L	1
Acenaphthylene	U	ND	0.297	0.990	ug/L	1
Acetophenone	U	ND	2.97	9.90	ug/L	1
Anthracene	U	ND	0.297	0.990	ug/L	1
Atrazine	U	ND	2.97	9.90	ug/L	1
Benzaldehyde	U	ND	2.97	9.90	ug/L	1
Benzo(a)anthracene	U	ND	0.297	0.990	ug/L	1
Benzo(a)pyrene	U	ND	0.297	0.990	ug/L	1
Benzo(b)fluoranthene	U	ND	0.297	0.990	ug/L	1
Benzo(ghi)perylene	U	ND	0.297	0.990	ug/L	1
Benzo(k)fluoranthene	U	ND	0.297	0.990	ug/L	1
Butylbenzylphthalate	U	ND	2.97	9.90	ug/L	1
Caprolactam	U	ND	2.97	9.90	ug/L	1
Carbazole	U	ND	0.297	0.990	ug/L	1
Chrysene	U	ND	0.297	0.990	ug/L	1
Di-n-butylphthalate	U	ND	2.97	9.90	ug/L	1

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-16 Project: SONO00514C
Sample ID: 353340005 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	2.97	9.90	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.297	0.990	ug/L	1					
Dibenzofuran	U	ND	2.97	9.90	ug/L	1					
Diethylphthalate	U	ND	2.97	9.90	ug/L	1					
Dimethylphthalate	U	ND	2.97	9.90	ug/L	1					
Diphenylamine	U	ND	2.97	9.90	ug/L	1					
Fluoranthene	U	ND	0.297	0.990	ug/L	1					
Fluorene	U	ND	0.297	0.990	ug/L	1					
Hexachlorobenzene	U	ND	2.97	9.90	ug/L	1					
Hexachlorobutadiene	U	ND	2.97	9.90	ug/L	1					
Hexachlorocyclopentadiene	U	ND	2.97	9.90	ug/L	1					
Hexachloroethane	U	ND	2.97	9.90	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.297	0.990	ug/L	1					
Isophorone	U	ND	3.47	9.90	ug/L	1					
N-Nitrosodipropylamine	U	ND	2.97	9.90	ug/L	1					
Naphthalene	U	ND	0.297	0.990	ug/L	1					
Nitrobenzene	U	ND	2.97	9.90	ug/L	1					
Pentachlorophenol	U	ND	2.97	9.90	ug/L	1					
Phenanthrene	U	ND	0.297	0.990	ug/L	1					
Phenol	U	ND	2.97	9.90	ug/L	1					
Pyrene	U	ND	0.297	0.990	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	2.97	9.90	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	2.97	9.90	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	2.97	9.90	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	2.97	9.90	ug/L	1					
m,p-Cresols	U	ND	3.66	9.90	ug/L	1					
m-Nitroaniline	U	ND	2.97	9.90	ug/L	1					
o-Cresol	U	ND	2.97	9.90	ug/L	1					
o-Nitroaniline	U	ND	2.97	9.90	ug/L	1					
p-Nitroaniline	U	ND	2.97	9.90	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	J	0.00367	0.003	0.010	mg/L	1	EXM3	07/24/14	1002	1406148	6

Volatile Organics

5030/8260B in Liquid "As Received"

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Project: Phase II investigation

Client Sample ID: MW-16 Project: SONO00514C
Sample ID: 353340005 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1633	1407048	7
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-16 Project: SONO00514C
Sample ID: 353340005 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3510C/8270D	
6	SW846 7196A	
7	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	36.9 ug/L	49.5	74.6	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	35.8 ug/L	49.5	72.3	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	37.8 ug/L	49.5	76.4	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	79.5 ug/L	99.0	80.3	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	40.2 ug/L	99.0	40.6	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	24.8 ug/L	99.0	25.1	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	53.0 ug/L	50.0	106	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.2 ug/L	50.0	98.5	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	47.9 ug/L	50.0	95.7	(80%-120%)

Notes:

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Address : 111 Smith Hines Road
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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-16 Dissolved
Sample ID: 353340006
Matrix: Ground Water
Collect Date: 23-JUL-14 10:25
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1021	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	2.13	1.00	5.00	ug/L	1	LS	07/30/14	1814	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum	U	ND	15.0	50.0	ug/L	1	PRB	08/13/14	0148	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic		5.93	1.70	5.00	ug/L	1					
Barium		5.33	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		1350	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt	J	0.694	0.100	1.00	ug/L	1					
Copper	U	ND	0.350	1.00	ug/L	1					
Iron		29300	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		562	10.0	30.0	ug/L	1					
Manganese		21.7	1.00	5.00	ug/L	1					
Nickel	U	ND	0.500	2.00	ug/L	1					
Potassium		1140	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		6970	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	J	0.00899	0.003	0.010	mg/L	1	EXM3	07/24/14	1008	1406148	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-16 Dissolved	Project:	SONO00514C
Sample ID:	353340006	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 7196A	

Notes:

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-17
Sample ID: 353340009
Matrix: Ground Water
Collect Date: 23-JUL-14 11:45
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1322	1406387	1
Ion Chromatography											
SW846 9056A Anions "As Received"											
Nitrate-N	U	ND	0.033	0.100	mg/L	1	RXB5	07/25/14	0328	1406244	2
Nitrite-N	U	ND	0.038	0.100	mg/L	1					
Sulfate		26.3	0.266	0.800	mg/L	2	RXB5	07/25/14	2232	1406244	3
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1023	1407301	4
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		32.6	1.00	5.00	ug/L	1	LS	07/30/14	1818	1406988	5
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		1980	15.0	50.0	ug/L	1	PRB	08/13/14	0215	1406990	6
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		36.8	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		2300	60.0	200	ug/L	1					
Chromium		13.7	2.00	10.0	ug/L	1					
Cobalt	J	0.373	0.100	1.00	ug/L	1					
Copper		4.43	0.350	1.00	ug/L	1					
Iron		1190	33.0	100	ug/L	1					
Lead		6.75	0.500	2.00	ug/L	1					
Magnesium		958	10.0	30.0	ug/L	1					
Manganese		23.3	1.00	5.00	ug/L	1					
Nickel	J	2.00	0.500	2.00	ug/L	1					
Potassium		1400	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Sodium		69000	800	2500	ug/L	10	PRB	08/14/14	0057	1406990	7

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Project: Phase II investigation

Client Sample ID: MW-17 Project: SONO00514C
Sample ID: 353340009 Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0116	1406990	8
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.86	9.52	ug/L	1	JMB3	08/04/14	1405	1406981	9
1,2,4,5-Tetrachlorobenzene	U	ND	2.86	9.52	ug/L	1					
1-Methylnaphthalene	U	ND	0.286	0.952	ug/L	1					
2,3,4,6-Tetrachlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4,5-Trichlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4,6-Trichlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4-Dichlorophenol	U	ND	2.86	9.52	ug/L	1					
2,4-Dimethylphenol	U	ND	2.86	9.52	ug/L	1					
2,4-Dinitrophenol	U	ND	4.76	19.0	ug/L	1					
2,4-Dinitrotoluene	U	ND	2.86	9.52	ug/L	1					
2,6-Dinitrotoluene	U	ND	2.86	9.52	ug/L	1					
2-Chloronaphthalene	U	ND	0.390	0.952	ug/L	1					
2-Chlorophenol	U	ND	2.86	9.52	ug/L	1					
2-Methyl-4,6-dinitrophenol	U	ND	2.86	9.52	ug/L	1					
2-Methylnaphthalene	U	ND	0.286	0.952	ug/L	1					
2-Nitrophenol	U	ND	2.86	9.52	ug/L	1					
3,3'-Dichlorobenzidine	U	ND	2.86	9.52	ug/L	1					
4-Bromophenylphenylether	U	ND	2.86	9.52	ug/L	1					
4-Chloro-3-methylphenol	U	ND	2.86	9.52	ug/L	1					
4-Chloroaniline	U	ND	3.14	9.52	ug/L	1					
4-Chlorophenylphenylether	U	ND	2.86	9.52	ug/L	1					
4-Nitrophenol	U	ND	2.86	9.52	ug/L	1					
Acenaphthene	U	ND	0.286	0.952	ug/L	1					
Acenaphthylene	U	ND	0.286	0.952	ug/L	1					
Acetophenone	U	ND	2.86	9.52	ug/L	1					
Anthracene	U	ND	0.286	0.952	ug/L	1					
Atrazine	U	ND	2.86	9.52	ug/L	1					
Benzaldehyde	U	ND	2.86	9.52	ug/L	1					
Benzo(a)anthracene	U	ND	0.286	0.952	ug/L	1					
Benzo(a)pyrene	U	ND	0.286	0.952	ug/L	1					
Benzo(b)fluoranthene	U	ND	0.286	0.952	ug/L	1					
Benzo(ghi)perylene	U	ND	0.286	0.952	ug/L	1					
Benzo(k)fluoranthene	U	ND	0.286	0.952	ug/L	1					

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Client Sample ID: MW-17 Project: SONO00514C
Sample ID: 353340009 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Butylbenzylphthalate	U	ND	2.86	9.52	ug/L	1
Caprolactam	U	ND	2.86	9.52	ug/L	1
Carbazole	U	ND	0.286	0.952	ug/L	1
Chrysene	U	ND	0.286	0.952	ug/L	1
Di-n-butylphthalate	U	ND	2.86	9.52	ug/L	1
Di-n-octylphthalate	U	ND	2.86	9.52	ug/L	1
Dibenzo(a,h)anthracene	U	ND	0.286	0.952	ug/L	1
Dibenzofuran	U	ND	2.86	9.52	ug/L	1
Diethylphthalate	U	ND	2.86	9.52	ug/L	1
Dimethylphthalate	U	ND	2.86	9.52	ug/L	1
Diphenylamine	U	ND	2.86	9.52	ug/L	1
Fluoranthene	U	ND	0.286	0.952	ug/L	1
Fluorene	U	ND	0.286	0.952	ug/L	1
Hexachlorobenzene	U	ND	2.86	9.52	ug/L	1
Hexachlorobutadiene	U	ND	2.86	9.52	ug/L	1
Hexachlorocyclopentadiene	U	ND	2.86	9.52	ug/L	1
Hexachloroethane	U	ND	2.86	9.52	ug/L	1
Indeno(1,2,3-cd)pyrene	U	ND	0.286	0.952	ug/L	1
Isophorone	U	ND	3.33	9.52	ug/L	1
N-Nitrosodipropylamine	U	ND	2.86	9.52	ug/L	1
Naphthalene	U	ND	0.286	0.952	ug/L	1
Nitrobenzene	U	ND	2.86	9.52	ug/L	1
Pentachlorophenol	U	ND	2.86	9.52	ug/L	1
Phenanthrene	U	ND	0.286	0.952	ug/L	1
Phenol	U	ND	2.86	9.52	ug/L	1
Pyrene	U	ND	0.286	0.952	ug/L	1
bis(2-Chloro-1-methylethyl)ether	U	ND	2.86	9.52	ug/L	1
bis(2-Chloroethoxy)methane	U	ND	2.86	9.52	ug/L	1
bis(2-Chloroethyl) ether	U	ND	2.86	9.52	ug/L	1
bis(2-Ethylhexyl)phthalate	U	ND	2.86	9.52	ug/L	1
m,p-Cresols	U	ND	3.52	9.52	ug/L	1
m-Nitroaniline	U	ND	2.86	9.52	ug/L	1
o-Cresol	U	ND	2.86	9.52	ug/L	1
o-Nitroaniline	U	ND	2.86	9.52	ug/L	1
p-Nitroaniline	U	ND	2.86	9.52	ug/L	1

Spectrometric Analysis

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-17 Project: SONO00514C
Sample ID: 353340009 Client ID: GEEL003

Spectrometric Analysis											
SW846_7196A Hexavalent Chromium "As Received"											
Hexavalent Chromium	J	0.00793	0.003	0.010	mg/L	1	EXM3	07/24/14	1009	1406148	10
Titration and Ion Analysis											
SM4500 Sulfite Liquid "As Received"											
Sulfite	H	8.50	0.500	1.00	mg/L		PXO1	07/25/14	1957	1406210	11
SW9040C pH "As Received"											
pH at Temp 18.3C	H	6.23	0.010	0.100	SU	1	PXO1	08/05/14	1546	1408955	12
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1657	1407048	13
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					

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Client Sample ID: MW-17 Project: SONO00514C
Sample ID: 353340009 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

Trichloroethylene	U	ND	0.300	1.00	ug/L	1
Vinyl acetate	U	ND	1.50	5.00	ug/L	1
Vinyl chloride	U	ND	0.300	1.00	ug/L	1
Xylenes (total)	U	ND	0.300	3.00	ug/L	1
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	JXB6	08/05/14	1740	1408936
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7470A	
5	SW846 3005A/6010C	
6	SW846 3005A/6020A	
7	SW846 3005A/6020A	
8	SW846 3005A/6020A	
9	SW846 3510C/8270D	
10	SW846 7196A	
11	SM 4500-SO3 (2-) B	
12	SW846 9040C	
13	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel	28.0 ug/L	47.6	58.7	(32%-102%)

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Client Sample ID: MW-17 Project: SONO00514C
Sample ID: 353340009 Client ID: GEEL003

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	30.8 ug/L	47.6	64.8	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.8 ug/L	47.6	58.5	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	5.93 ug/L	95.2	6.23*	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	2.05 ug/L	95.2	2.15*	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	7.62 ug/L	95.2	8.00*	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	53.3 ug/L	50.0	107	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	50.0 ug/L	50.0	100	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	48.5 ug/L	50.0	96.9	(80%-120%)

Notes:

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-17 Dissolved
Sample ID: 353340010
Matrix: Ground Water
Collect Date: 23-JUL-14 11:45
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1025	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		30.6	1.00	5.00	ug/L	1	LS	07/30/14	1827	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		737	15.0	50.0	ug/L	1	PRB	08/13/14	0221	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	J	3.23	1.70	5.00	ug/L	1					
Barium		32.4	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		2230	60.0	200	ug/L	1					
Chromium		12.2	2.00	10.0	ug/L	1					
Cobalt	J	0.312	0.100	1.00	ug/L	1					
Copper		2.35	0.350	1.00	ug/L	1					
Iron		977	33.0	100	ug/L	1					
Lead	J	1.35	0.500	2.00	ug/L	1					
Magnesium		915	10.0	30.0	ug/L	1					
Manganese		22.0	1.00	5.00	ug/L	1					
Nickel	J	1.65	0.500	2.00	ug/L	1					
Potassium		1350	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Sodium		66000	800	2500	ug/L	10	PRB	08/14/14	0101	1406990	4
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0121	1406990	5
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	J	0.00899	0.003	0.010	mg/L	1	EXM3	07/24/14	1019	1406148	6

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-17 Dissolved	Project:	SONO00514C
Sample ID:	353340010	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 7196A	

Notes:

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-19
Sample ID: 353340011
Matrix: Ground Water
Collect Date: 23-JUL-14 12:25
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1323	1406387	1
Ion Chromatography											
SW846 9056A Anions "As Received"											
Nitrate-N		2.80	0.033	0.100	mg/L	1	RXB5	07/25/14	0501	1406244	2
Nitrite-N	U	ND	0.038	0.100	mg/L	1					
Sulfate		1.32	0.133	0.400	mg/L	1					
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1026	1407301	3
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	U	ND	1.00	5.00	ug/L	1	LS	07/30/14	1830	1406988	4
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		98.0	15.0	50.0	ug/L	1	PRB	08/13/14	0228	1406990	5
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		35.4	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		2260	60.0	200	ug/L	1					
Chromium	J	3.40	2.00	10.0	ug/L	1					
Cobalt		1.33	0.100	1.00	ug/L	1					
Copper		5.18	0.350	1.00	ug/L	1					
Iron		1440	33.0	100	ug/L	1					
Lead	J	0.571	0.500	2.00	ug/L	1					
Magnesium		1040	10.0	30.0	ug/L	1					
Manganese		38.6	1.00	5.00	ug/L	1					
Nickel		2.25	0.500	2.00	ug/L	1					
Potassium		877	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		5360	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	7.60	3.50	10.0	ug/L	1					

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Project: Phase II investigation

Client Sample ID: MW-19 Project: SONO00514C
Sample ID: 353340011 Client ID: GEEL003

Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0125	1406990	6
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.94	9.80	ug/L	1	JMB3	08/04/14	1437	1406981	7
1,2,4,5-Tetrachlorobenzene	U	ND	2.94	9.80	ug/L	1					
1-Methylnaphthalene	U	ND	0.294	0.980	ug/L	1					
2,3,4,6-Tetrachlorophenol	U	ND	2.94	9.80	ug/L	1					
2,4,5-Trichlorophenol	U	ND	2.94	9.80	ug/L	1					
2,4,6-Trichlorophenol	U	ND	2.94	9.80	ug/L	1					
2,4-Dichlorophenol	U	ND	2.94	9.80	ug/L	1					
2,4-Dimethylphenol	U	ND	2.94	9.80	ug/L	1					
2,4-Dinitrophenol	U	ND	4.90	19.6	ug/L	1					
2,4-Dinitrotoluene	U	ND	2.94	9.80	ug/L	1					
2,6-Dinitrotoluene	U	ND	2.94	9.80	ug/L	1					
2-Chloronaphthalene	U	ND	0.402	0.980	ug/L	1					
2-Chlorophenol	U	ND	2.94	9.80	ug/L	1					
2-Methyl-4,6-dinitrophenol	U	ND	2.94	9.80	ug/L	1					
2-Methylnaphthalene	U	ND	0.294	0.980	ug/L	1					
2-Nitrophenol	U	ND	2.94	9.80	ug/L	1					
3,3'-Dichlorobenzidine	U	ND	2.94	9.80	ug/L	1					
4-Bromophenylphenylether	U	ND	2.94	9.80	ug/L	1					
4-Chloro-3-methylphenol	U	ND	2.94	9.80	ug/L	1					
4-Chloroaniline	U	ND	3.24	9.80	ug/L	1					
4-Chlorophenylphenylether	U	ND	2.94	9.80	ug/L	1					
4-Nitrophenol	U	ND	2.94	9.80	ug/L	1					
Acenaphthene	U	ND	0.294	0.980	ug/L	1					
Acenaphthylene	U	ND	0.294	0.980	ug/L	1					
Acetophenone	U	ND	2.94	9.80	ug/L	1					
Anthracene	U	ND	0.294	0.980	ug/L	1					
Atrazine	U	ND	2.94	9.80	ug/L	1					
Benzaldehyde	U	ND	2.94	9.80	ug/L	1					
Benzo(a)anthracene	U	ND	0.294	0.980	ug/L	1					
Benzo(a)pyrene	U	ND	0.294	0.980	ug/L	1					
Benzo(b)fluoranthene	U	ND	0.294	0.980	ug/L	1					
Benzo(ghi)perylene	U	ND	0.294	0.980	ug/L	1					
Benzo(k)fluoranthene	U	ND	0.294	0.980	ug/L	1					

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Client Sample ID: MW-19 Project: SONO00514C
Sample ID: 353340011 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Butylbenzylphthalate	U	ND	2.94	9.80	ug/L	1
Caprolactam	U	ND	2.94	9.80	ug/L	1
Carbazole	U	ND	0.294	0.980	ug/L	1
Chrysene	U	ND	0.294	0.980	ug/L	1
Di-n-butylphthalate	U	ND	2.94	9.80	ug/L	1
Di-n-octylphthalate	U	ND	2.94	9.80	ug/L	1
Dibenzo(a,h)anthracene	U	ND	0.294	0.980	ug/L	1
Dibenzofuran	U	ND	2.94	9.80	ug/L	1
Diethylphthalate	U	ND	2.94	9.80	ug/L	1
Dimethylphthalate	U	ND	2.94	9.80	ug/L	1
Diphenylamine	U	ND	2.94	9.80	ug/L	1
Fluoranthene	U	ND	0.294	0.980	ug/L	1
Fluorene	U	ND	0.294	0.980	ug/L	1
Hexachlorobenzene	U	ND	2.94	9.80	ug/L	1
Hexachlorobutadiene	U	ND	2.94	9.80	ug/L	1
Hexachlorocyclopentadiene	U	ND	2.94	9.80	ug/L	1
Hexachloroethane	U	ND	2.94	9.80	ug/L	1
Indeno(1,2,3-cd)pyrene	U	ND	0.294	0.980	ug/L	1
Isophorone	U	ND	3.43	9.80	ug/L	1
N-Nitrosodipropylamine	U	ND	2.94	9.80	ug/L	1
Naphthalene	U	ND	0.294	0.980	ug/L	1
Nitrobenzene	U	ND	2.94	9.80	ug/L	1
Pentachlorophenol	U	ND	2.94	9.80	ug/L	1
Phenanthrene	U	ND	0.294	0.980	ug/L	1
Phenol	U	ND	2.94	9.80	ug/L	1
Pyrene	U	ND	0.294	0.980	ug/L	1
bis(2-Chloro-1-methylethyl)ether	U	ND	2.94	9.80	ug/L	1
bis(2-Chloroethoxy)methane	U	ND	2.94	9.80	ug/L	1
bis(2-Chloroethyl) ether	U	ND	2.94	9.80	ug/L	1
bis(2-Ethylhexyl)phthalate	U	ND	2.94	9.80	ug/L	1
m,p-Cresols	U	ND	3.63	9.80	ug/L	1
m-Nitroaniline	U	ND	2.94	9.80	ug/L	1
o-Cresol	U	ND	2.94	9.80	ug/L	1
o-Nitroaniline	U	ND	2.94	9.80	ug/L	1
p-Nitroaniline	U	ND	2.94	9.80	ug/L	1

Spectrometric Analysis

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Client Sample ID:	MW-19	Project:	SONO00514C
Sample ID:	353340011	Client ID:	GEEL003

Spectrometric Analysis											
SW846_7196A Hexavalent Chromium "As Received"											
Hexavalent Chromium	J	0.0058	0.003	0.010	mg/L	1	EXM3	07/24/14	1019	1406148	8
Titration and Ion Analysis											
SM4500 Sulfite Liquid "As Received"											
Sulfite	HU	ND	0.500	1.00	mg/L		PXO1	07/25/14	1959	1406210	9
SW9040C pH "As Received"											
pH at Temp 19.1C	H	5.50	0.010	0.100	SU	1	PXO1	08/05/14	1550	1408955	10
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1721	1407048	11
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-19	Project:	SONO00514C
Sample ID:	353340011	Client ID:	GEEL003

Volatile Organics

5030/8260B in Liquid "As Received"

Trichloroethylene	U	ND	0.300	1.00	ug/L	1
Vinyl acetate	U	ND	1.50	5.00	ug/L	1
Vinyl chloride	U	ND	0.300	1.00	ug/L	1
Xylenes (total)	U	ND	0.300	3.00	ug/L	1
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 9056A	
3	SW846 7470A	
4	SW846 3005A/6010C	
5	SW846 3005A/6020A	
6	SW846 3005A/6020A	
7	SW846 3510C/8270D	
8	SW846 7196A	
9	SM 4500-SO3 (2-) B	
10	SW846 9040C	
11	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	35.2 ug/L	49.0	71.8	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	33.9 ug/L	49.0	69.1	(36%-125%)

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Project: Phase II investigation

Client Sample ID: MW-19 Project: SONO00514C
Sample ID: 353340011 Client ID: GEEL003

p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	41.6 ug/L	49.0	84.8	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	74.8 ug/L	98.0	76.3	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	34.2 ug/L	98.0	34.9	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	21.4 ug/L	98.0	21.8	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	53.9 ug/L	50.0	108	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	50.0 ug/L	50.0	99.9	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	49.3 ug/L	50.0	98.5	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-19 Dissolved
Sample ID: 353340012
Matrix: Ground Water
Collect Date: 23-JUL-14 12:25
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1028	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	U	ND	1.00	5.00	ug/L	1	LS	07/30/14	1833	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		57.5	15.0	50.0	ug/L	1	PRB	08/13/14	0234	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		33.4	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		2190	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt		1.27	0.100	1.00	ug/L	1					
Copper		5.06	0.350	1.00	ug/L	1					
Iron		1300	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		1020	10.0	30.0	ug/L	1					
Manganese		39.5	1.00	5.00	ug/L	1					
Nickel		2.88	0.500	2.00	ug/L	1					
Potassium		898	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		5570	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	7.25	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0128	1406990	4
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	J	0.00367	0.003	0.010	mg/L	1	EXM3	07/24/14	1020	1406148	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-19 Dissolved	Project:	SONO00514C
Sample ID:	353340012	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 7196A	

Notes:

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14
Sample ID: 353340013
Matrix: Ground Water
Collect Date: 23-JUL-14 13:20
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1324	1406387	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1030	1407301	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		5.07	1.00	5.00	ug/L	1	LS	07/30/14	1836	1406988	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		390	15.0	50.0	ug/L	1	PRB	08/13/14	0241	1406990	4
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		28.8	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		21100	60.0	200	ug/L	1					
Chromium		15.3	2.00	10.0	ug/L	1					
Cobalt	J	0.306	0.100	1.00	ug/L	1					
Copper		1.81	0.350	1.00	ug/L	1					
Iron		9420	33.0	100	ug/L	1					
Lead	J	0.706	0.500	2.00	ug/L	1					
Magnesium		5600	10.0	30.0	ug/L	1					
Manganese		213	1.00	5.00	ug/L	1					
Nickel	J	0.913	0.500	2.00	ug/L	1					
Potassium		10200	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		48400	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0144	1406990	5
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.90	9.66	ug/L	1	JMB3	08/04/14	1507	1406981	6
1,2,4,5-Tetrachlorobenzene	U	ND	2.90	9.66	ug/L	1					

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14 Project: SONO00514C
Sample ID: 353340013 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.290	0.966	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	2.90	9.66	ug/L	1
2,4,5-Trichlorophenol	U	ND	2.90	9.66	ug/L	1
2,4,6-Trichlorophenol	U	ND	2.90	9.66	ug/L	1
2,4-Dichlorophenol	U	ND	2.90	9.66	ug/L	1
2,4-Dimethylphenol	U	ND	2.90	9.66	ug/L	1
2,4-Dinitrophenol	U	ND	4.83	19.3	ug/L	1
2,4-Dinitrotoluene	U	ND	2.90	9.66	ug/L	1
2,6-Dinitrotoluene	U	ND	2.90	9.66	ug/L	1
2-Chloronaphthalene	U	ND	0.396	0.966	ug/L	1
2-Chlorophenol	U	ND	2.90	9.66	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	2.90	9.66	ug/L	1
2-Methylnaphthalene	U	ND	0.290	0.966	ug/L	1
2-Nitrophenol	U	ND	2.90	9.66	ug/L	1
3,3'-Dichlorobenzidine	U	ND	2.90	9.66	ug/L	1
4-Bromophenylphenylether	U	ND	2.90	9.66	ug/L	1
4-Chloro-3-methylphenol	U	ND	2.90	9.66	ug/L	1
4-Chloroaniline	U	ND	3.19	9.66	ug/L	1
4-Chlorophenylphenylether	U	ND	2.90	9.66	ug/L	1
4-Nitrophenol	U	ND	2.90	9.66	ug/L	1
Acenaphthene	U	ND	0.290	0.966	ug/L	1
Acenaphthylene	U	ND	0.290	0.966	ug/L	1
Acetophenone	U	ND	2.90	9.66	ug/L	1
Anthracene	J	0.483	0.290	0.966	ug/L	1
Atrazine	U	ND	2.90	9.66	ug/L	1
Benzaldehyde	U	ND	2.90	9.66	ug/L	1
Benzo(a)anthracene		1.19	0.290	0.966	ug/L	1
Benzo(a)pyrene	J	0.812	0.290	0.966	ug/L	1
Benzo(b)fluoranthene		1.00	0.290	0.966	ug/L	1
Benzo(ghi)perylene	J	0.396	0.290	0.966	ug/L	1
Benzo(k)fluoranthene	J	0.367	0.290	0.966	ug/L	1
Butylbenzylphthalate	U	ND	2.90	9.66	ug/L	1
Caprolactam	U	ND	2.90	9.66	ug/L	1
Carbazole	J	0.483	0.290	0.966	ug/L	1
Chrysene		1.34	0.290	0.966	ug/L	1
Di-n-butylphthalate	U	ND	2.90	9.66	ug/L	1

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Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14 Project: SONO00514C
Sample ID: 353340013 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	2.90	9.66	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.290	0.966	ug/L	1					
Dibenzofuran	U	ND	2.90	9.66	ug/L	1					
Diethylphthalate	U	ND	2.90	9.66	ug/L	1					
Dimethylphthalate	U	ND	2.90	9.66	ug/L	1					
Diphenylamine	U	ND	2.90	9.66	ug/L	1					
Fluoranthene		3.07	0.290	0.966	ug/L	1					
Fluorene	U	ND	0.290	0.966	ug/L	1					
Hexachlorobenzene	U	ND	2.90	9.66	ug/L	1					
Hexachlorobutadiene	U	ND	2.90	9.66	ug/L	1					
Hexachlorocyclopentadiene	U	ND	2.90	9.66	ug/L	1					
Hexachloroethane	U	ND	2.90	9.66	ug/L	1					
Indeno(1,2,3-cd)pyrene	J	0.338	0.290	0.966	ug/L	1					
Isophorone	U	ND	3.38	9.66	ug/L	1					
N-Nitrosodipropylamine	U	ND	2.90	9.66	ug/L	1					
Naphthalene	U	ND	0.290	0.966	ug/L	1					
Nitrobenzene	U	ND	2.90	9.66	ug/L	1					
Pentachlorophenol	U	ND	2.90	9.66	ug/L	1					
Phenanthrene		1.83	0.290	0.966	ug/L	1					
Phenol	U	ND	2.90	9.66	ug/L	1					
Pyrene		2.47	0.290	0.966	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	2.90	9.66	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	2.90	9.66	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	2.90	9.66	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	2.90	9.66	ug/L	1					
m,p-Cresols	U	ND	3.57	9.66	ug/L	1					
m-Nitroaniline	U	ND	2.90	9.66	ug/L	1					
o-Cresol	U	ND	2.90	9.66	ug/L	1					
o-Nitroaniline	U	ND	2.90	9.66	ug/L	1					
p-Nitroaniline	U	ND	2.90	9.66	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium		0.0154	0.003	0.010	mg/L	1	EXM3	07/24/14	1021	1406148	7

Volatile Organics

5030/8260B in Liquid "As Received"

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14 Project: SONO00514C
Sample ID: 353340013 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1745	1407048	8
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

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Report Date: August 14, 2014

Company :	GEL Engineering
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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-14	Project:	SONO00514C
Sample ID:	353340013	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	
8	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	25.8 ug/L	48.3	53.4	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	28.0 ug/L	48.3	57.9	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.1 ug/L	48.3	56.1	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	59.0 ug/L	96.6	61.1	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	29.7 ug/L	96.6	30.7	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	18.3 ug/L	96.6	18.9	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	53.4 ug/L	50.0	107	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.2 ug/L	50.0	98.4	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	48.5 ug/L	50.0	96.9	(80%-120%)

Notes:

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14 Dissolved
Sample ID: 353340014
Matrix: Ground Water
Collect Date: 23-JUL-14 13:20
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1031	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	4.37	1.00	5.00	ug/L	1	LS	07/30/14	1839	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		290	15.0	50.0	ug/L	1	PRB	08/13/14	0307	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		29.1	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		20900	60.0	200	ug/L	1					
Chromium		12.6	2.00	10.0	ug/L	1					
Cobalt	J	0.294	0.100	1.00	ug/L	1					
Copper		1.04	0.350	1.00	ug/L	1					
Iron		11100	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		5610	10.0	30.0	ug/L	1					
Manganese		219	1.00	5.00	ug/L	1					
Nickel	J	0.752	0.500	2.00	ug/L	1					
Potassium		9910	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		47400	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0148	1406990	4
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium		0.0186	0.003	0.010	mg/L	1	EXM3	07/24/14	1022	1406148	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-14 Dissolved	Project:	SONO00514C
Sample ID:	353340014	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 7196A	

Notes:

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14-D
Sample ID: 353340015
Matrix: Ground Water
Collect Date: 23-JUL-14 13:20
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1325	1406387	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1033	1407301	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		5.07	1.00	5.00	ug/L	1	LS	07/30/14	1842	1406988	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		385	15.0	50.0	ug/L	1	PRB	08/13/14	0314	1406990	4
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	J	2.12	1.70	5.00	ug/L	1					
Barium		28.6	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		20400	60.0	200	ug/L	1					
Chromium		14.4	2.00	10.0	ug/L	1					
Cobalt	J	0.319	0.100	1.00	ug/L	1					
Copper		1.75	0.350	1.00	ug/L	1					
Iron		9510	33.0	100	ug/L	1					
Lead	J	0.684	0.500	2.00	ug/L	1					
Magnesium		5490	10.0	30.0	ug/L	1					
Manganese		204	1.00	5.00	ug/L	1					
Nickel	J	0.878	0.500	2.00	ug/L	1					
Potassium		9770	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		46600	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0152	1406990	5
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.88	9.62	ug/L	1	JMB3	08/04/14	1539	1406981	6
1,2,4,5-Tetrachlorobenzene	U	ND	2.88	9.62	ug/L	1					

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14-D
Sample ID: 353340015
Project: SONO00514C
Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.288	0.962	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	2.88	9.62	ug/L	1
2,4,5-Trichlorophenol	U	ND	2.88	9.62	ug/L	1
2,4,6-Trichlorophenol	U	ND	2.88	9.62	ug/L	1
2,4-Dichlorophenol	U	ND	2.88	9.62	ug/L	1
2,4-Dimethylphenol	U	ND	2.88	9.62	ug/L	1
2,4-Dinitrophenol	U	ND	4.81	19.2	ug/L	1
2,4-Dinitrotoluene	U	ND	2.88	9.62	ug/L	1
2,6-Dinitrotoluene	U	ND	2.88	9.62	ug/L	1
2-Chloronaphthalene	U	ND	0.394	0.962	ug/L	1
2-Chlorophenol	U	ND	2.88	9.62	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	2.88	9.62	ug/L	1
2-Methylnaphthalene	U	ND	0.288	0.962	ug/L	1
2-Nitrophenol	U	ND	2.88	9.62	ug/L	1
3,3'-Dichlorobenzidine	U	ND	2.88	9.62	ug/L	1
4-Bromophenylphenylether	U	ND	2.88	9.62	ug/L	1
4-Chloro-3-methylphenol	U	ND	2.88	9.62	ug/L	1
4-Chloroaniline	U	ND	3.17	9.62	ug/L	1
4-Chlorophenylphenylether	U	ND	2.88	9.62	ug/L	1
4-Nitrophenol	U	ND	2.88	9.62	ug/L	1
Acenaphthene	U	ND	0.288	0.962	ug/L	1
Acenaphthylene	U	ND	0.288	0.962	ug/L	1
Acetophenone	U	ND	2.88	9.62	ug/L	1
Anthracene	J	0.433	0.288	0.962	ug/L	1
Atrazine	U	ND	2.88	9.62	ug/L	1
Benzaldehyde	U	ND	2.88	9.62	ug/L	1
Benzo(a)anthracene	J	0.923	0.288	0.962	ug/L	1
Benzo(a)pyrene	J	0.462	0.288	0.962	ug/L	1
Benzo(b)fluoranthene	J	0.615	0.288	0.962	ug/L	1
Benzo(ghi)perylene	U	ND	0.288	0.962	ug/L	1
Benzo(k)fluoranthene	U	ND	0.288	0.962	ug/L	1
Butylbenzylphthalate	U	ND	2.88	9.62	ug/L	1
Caprolactam	U	ND	2.88	9.62	ug/L	1
Carbazole	J	0.442	0.288	0.962	ug/L	1
Chrysene	J	0.837	0.288	0.962	ug/L	1
Di-n-butylphthalate	U	ND	2.88	9.62	ug/L	1

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Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-14-D	Project:	SONO00514C
Sample ID:	353340015	Client ID:	GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	2.88	9.62	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.288	0.962	ug/L	1					
Dibenzofuran	U	ND	2.88	9.62	ug/L	1					
Diethylphthalate	U	ND	2.88	9.62	ug/L	1					
Dimethylphthalate	U	ND	2.88	9.62	ug/L	1					
Diphenylamine	U	ND	2.88	9.62	ug/L	1					
Fluoranthene		2.38	0.288	0.962	ug/L	1					
Fluorene	U	ND	0.288	0.962	ug/L	1					
Hexachlorobenzene	U	ND	2.88	9.62	ug/L	1					
Hexachlorobutadiene	U	ND	2.88	9.62	ug/L	1					
Hexachlorocyclopentadiene	U	ND	2.88	9.62	ug/L	1					
Hexachloroethane	U	ND	2.88	9.62	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.288	0.962	ug/L	1					
Isophorone	U	ND	3.37	9.62	ug/L	1					
N-Nitrosodipropylamine	U	ND	2.88	9.62	ug/L	1					
Naphthalene	U	ND	0.288	0.962	ug/L	1					
Nitrobenzene	U	ND	2.88	9.62	ug/L	1					
Pentachlorophenol	U	ND	2.88	9.62	ug/L	1					
Phenanthrene		1.63	0.288	0.962	ug/L	1					
Phenol	U	ND	2.88	9.62	ug/L	1					
Pyrene		2.11	0.288	0.962	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	2.88	9.62	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	2.88	9.62	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	2.88	9.62	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	2.88	9.62	ug/L	1					
m,p-Cresols	U	ND	3.56	9.62	ug/L	1					
m-Nitroaniline	U	ND	2.88	9.62	ug/L	1					
o-Cresol	U	ND	2.88	9.62	ug/L	1					
o-Nitroaniline	U	ND	2.88	9.62	ug/L	1					
p-Nitroaniline	U	ND	2.88	9.62	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium		0.129	0.003	0.010	mg/L	1	EXM3	07/24/14	1022	1406148	7

Volatile Organics

5030/8260B in Liquid "As Received"

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14-D
Sample ID: 353340015
Project: SONO00514C
Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1810	1407048	8
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-14-D
Sample ID: 353340015
Project: SONO00514C
Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	
8	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.4 ug/L	48.1	56.9	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	26.0 ug/L	48.1	54.1	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	31.0 ug/L	48.1	64.6	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	59.3 ug/L	96.2	61.7	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	31.3 ug/L	96.2	32.5	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	20.4 ug/L	96.2	21.2	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	53.9 ug/L	50.0	108	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.7 ug/L	50.0	99.4	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	49.1 ug/L	50.0	98.3	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-14-D Dissolved	Project:	SONO00514C
Sample ID:	353340016	Client ID:	GEEL003
Matrix:	Ground Water		
Collect Date:	23-JUL-14 13:20		
Receive Date:	23-JUL-14		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1038	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	4.42	1.00	5.00	ug/L	1	LS	07/30/14	1846	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		289	15.0	50.0	ug/L	1	PRB	08/13/14	0321	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		29.5	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		21200	60.0	200	ug/L	1					
Chromium		12.0	2.00	10.0	ug/L	1					
Cobalt	J	0.293	0.100	1.00	ug/L	1					
Copper		1.02	0.350	1.00	ug/L	1					
Iron		11200	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		5750	10.0	30.0	ug/L	1					
Manganese		224	1.00	5.00	ug/L	1					
Nickel	J	0.793	0.500	2.00	ug/L	1					
Potassium		10200	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		48200	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0156	1406990	4
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	J	0.00793	0.003	0.010	mg/L	1	EXM3	07/24/14	1023	1406148	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-14-D Dissolved	Project:	SONO00514C
Sample ID:	353340016	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 7196A	

Notes:

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Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-13
Sample ID: 353340017
Matrix: Ground Water
Collect Date: 23-JUL-14 14:30
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	07/25/14	1326	1406387	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1040	1407301	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	1.14	1.00	5.00	ug/L	1	LS	07/30/14	1849	1406988	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		122	15.0	50.0	ug/L	1	PRB	08/13/14	0327	1406990	4
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		28.9	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		3000	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt		1.22	0.100	1.00	ug/L	1					
Copper		3.70	0.350	1.00	ug/L	1					
Iron		3830	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		1160	10.0	30.0	ug/L	1					
Manganese		43.8	1.00	5.00	ug/L	1					
Nickel		2.52	0.500	2.00	ug/L	1					
Potassium		1590	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		12000	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	5.33	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0200	1406990	5
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	2.83	9.43	ug/L	1	JMB3	08/04/14	1610	1406981	6
1,2,4,5-Tetrachlorobenzene	U	ND	2.83	9.43	ug/L	1					

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-13 Project: SONO00514C
Sample ID: 353340017 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.283	0.943	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	2.83	9.43	ug/L	1
2,4,5-Trichlorophenol	U	ND	2.83	9.43	ug/L	1
2,4,6-Trichlorophenol	U	ND	2.83	9.43	ug/L	1
2,4-Dichlorophenol	U	ND	2.83	9.43	ug/L	1
2,4-Dimethylphenol	U	ND	2.83	9.43	ug/L	1
2,4-Dinitrophenol	U	ND	4.72	18.9	ug/L	1
2,4-Dinitrotoluene	U	ND	2.83	9.43	ug/L	1
2,6-Dinitrotoluene	U	ND	2.83	9.43	ug/L	1
2-Chloronaphthalene	U	ND	0.387	0.943	ug/L	1
2-Chlorophenol	U	ND	2.83	9.43	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	2.83	9.43	ug/L	1
2-Methylnaphthalene	U	ND	0.283	0.943	ug/L	1
2-Nitrophenol	U	ND	2.83	9.43	ug/L	1
3,3'-Dichlorobenzidine	U	ND	2.83	9.43	ug/L	1
4-Bromophenylphenylether	U	ND	2.83	9.43	ug/L	1
4-Chloro-3-methylphenol	U	ND	2.83	9.43	ug/L	1
4-Chloroaniline	U	ND	3.11	9.43	ug/L	1
4-Chlorophenylphenylether	U	ND	2.83	9.43	ug/L	1
4-Nitrophenol	U	ND	2.83	9.43	ug/L	1
Acenaphthene	U	ND	0.283	0.943	ug/L	1
Acenaphthylene	U	ND	0.283	0.943	ug/L	1
Acetophenone	U	ND	2.83	9.43	ug/L	1
Anthracene	U	ND	0.283	0.943	ug/L	1
Atrazine	U	ND	2.83	9.43	ug/L	1
Benzaldehyde	U	ND	2.83	9.43	ug/L	1
Benzo(a)anthracene	U	ND	0.283	0.943	ug/L	1
Benzo(a)pyrene	U	ND	0.283	0.943	ug/L	1
Benzo(b)fluoranthene	U	ND	0.283	0.943	ug/L	1
Benzo(ghi)perylene	U	ND	0.283	0.943	ug/L	1
Benzo(k)fluoranthene	U	ND	0.283	0.943	ug/L	1
Butylbenzylphthalate	U	ND	2.83	9.43	ug/L	1
Caprolactam	U	ND	2.83	9.43	ug/L	1
Carbazole	U	ND	0.283	0.943	ug/L	1
Chrysene	U	ND	0.283	0.943	ug/L	1
Di-n-butylphthalate	U	ND	2.83	9.43	ug/L	1

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Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-13 Project: SONO00514C
Sample ID: 353340017 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	2.83	9.43	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.283	0.943	ug/L	1					
Dibenzofuran	U	ND	2.83	9.43	ug/L	1					
Diethylphthalate	U	ND	2.83	9.43	ug/L	1					
Dimethylphthalate	U	ND	2.83	9.43	ug/L	1					
Diphenylamine	U	ND	2.83	9.43	ug/L	1					
Fluoranthene	J	0.519	0.283	0.943	ug/L	1					
Fluorene	U	ND	0.283	0.943	ug/L	1					
Hexachlorobenzene	U	ND	2.83	9.43	ug/L	1					
Hexachlorobutadiene	U	ND	2.83	9.43	ug/L	1					
Hexachlorocyclopentadiene	U	ND	2.83	9.43	ug/L	1					
Hexachloroethane	U	ND	2.83	9.43	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.283	0.943	ug/L	1					
Isophorone	U	ND	3.30	9.43	ug/L	1					
N-Nitrosodipropylamine	U	ND	2.83	9.43	ug/L	1					
Naphthalene	U	ND	0.283	0.943	ug/L	1					
Nitrobenzene	U	ND	2.83	9.43	ug/L	1					
Pentachlorophenol	U	ND	2.83	9.43	ug/L	1					
Phenanthrene	J	0.538	0.283	0.943	ug/L	1					
Phenol	U	ND	2.83	9.43	ug/L	1					
Pyrene	J	0.311	0.283	0.943	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	2.83	9.43	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	2.83	9.43	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	2.83	9.43	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	2.83	9.43	ug/L	1					
m,p-Cresols	U	ND	3.49	9.43	ug/L	1					
m-Nitroaniline	U	ND	2.83	9.43	ug/L	1					
o-Cresol	U	ND	2.83	9.43	ug/L	1					
o-Nitroaniline	U	ND	2.83	9.43	ug/L	1					
p-Nitroaniline	U	ND	2.83	9.43	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	J	0.00686	0.003	0.010	mg/L	1	EXM3	07/24/14	0921	1406148	7

Volatile Organics

5030/8260B in Liquid "As Received"

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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-13 Project: SONO00514C
Sample ID: 353340017 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1835	1407048	8
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	J	0.470	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: MW-13 Project: SONO00514C
Sample ID: 353340017 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	CXR2	07/28/14	1430	1406980
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299
SW846 9010C Distillation	SW846 9010C Prep	AXH3	07/25/14	1025	1406386

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	
8	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	26.8 ug/L	47.2	56.7	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	23.8 ug/L	47.2	50.4	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.9 ug/L	47.2	59.2	(34%-135%)
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	57.9 ug/L	94.3	61.4	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	25.8 ug/L	94.3	27.3	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	15.8 ug/L	94.3	16.7	(10%-104%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	54.2 ug/L	50.0	108	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.7 ug/L	50.0	99.4	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	48.8 ug/L	50.0	97.6	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-13 Dissolved	Project:	SONO00514C
Sample ID:	353340018	Client ID:	GEEL003
Matrix:	Ground Water		
Collect Date:	23-JUL-14 14:30		
Receive Date:	23-JUL-14		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	07/30/14	1041	1407301	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	U	ND	1.00	5.00	ug/L	1	LS	07/30/14	1852	1406988	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		59.1	15.0	50.0	ug/L	1	PRB	08/13/14	0334	1406990	3
Antimony	U	ND	1.00	3.00	ug/L	1					
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		27.9	0.600	2.00	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		2820	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt		1.12	0.100	1.00	ug/L	1					
Copper		1.55	0.350	1.00	ug/L	1					
Iron		3410	33.0	100	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		1100	10.0	30.0	ug/L	1					
Manganese		38.6	1.00	5.00	ug/L	1					
Nickel		3.10	0.500	2.00	ug/L	1					
Potassium		1560	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		11700	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Zinc	J	5.17	3.50	10.0	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1	PRB	08/14/14	0204	1406990	4
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium		0.0143	0.003	0.010	mg/L	1	EXM3	07/24/14	1027	1406148	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/28/14	1430	1406989
SW846 3005A	SW846 3005A for 6010C	KXP3	07/28/14	1430	1406987

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	MW-13 Dissolved	Project:	SONO00514C
Sample ID:	353340018	Client ID:	GEEL003

SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	07/29/14	1439	1407299

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 7196A	

Notes:

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Certificate of Analysis

Report Date: August 14, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TB-072314
Sample ID: 353340019
Matrix: Water
Collect Date: 23-JUL-14 09:20
Receive Date: 23-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	JEB	07/28/14	1859	1407048	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: August 14, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TB-072314	Project:	SONO00514C
Sample ID:	353340019	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	53.9 ug/L	50.0	108	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	49.8 ug/L	50.0	99.5	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	48.7 ug/L	50.0	97.4	(80%-120%)

Notes:

QC Summary

Report Date: August 14, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 1406387										
QC1203134961 353325011 DUP										
Cyanide, Total	U	ND	U	ND	ug/L	N/A			AXH3	07/25/14 13:12
QC1203134967 LCS										
Cyanide, Total	50.0			51.6	ug/L		103	(90%-110%)		07/25/14 13:11
QC1203134960 MB										
Cyanide, Total			U	ND	ug/L					07/25/14 13:10
QC1203134964 353325011 MS										
Cyanide, Total	100 U	ND		106	ug/L		106	(90%-110%)		07/25/14 13:13
Ion Chromatography										
Batch 1406244										
QC1203134611 353340009 DUP										
Nitrate-N	U	ND	U	ND	mg/L	N/A			RXB5	07/25/14 03:59
Nitrite-N	U	ND	U	ND	mg/L	N/A				
Sulfate		26.3		26.6	mg/L	0.952		(0%-20%)		07/25/14 23:03
QC1203134613 LCS										
Nitrate-N	2.50			2.48	mg/L		99.3	(90%-110%)		07/25/14 02:57
Nitrite-N	2.50			2.57	mg/L		103	(90%-110%)		
Sulfate	10.0			10.1	mg/L		101	(90%-110%)		
QC1203134610 MB										
Nitrate-N			U	ND	mg/L					07/25/14 02:26
Nitrite-N			U	ND	mg/L					
Sulfate			U	ND	mg/L					
QC1203134612 353340009 PS										
Nitrate-N	2.50 U	ND		2.54	mg/L		102	(90%-110%)		07/25/14 04:30
Nitrite-N	2.50 U	ND		2.62	mg/L		105	(90%-110%)		
Sulfate	10.0	13.2		24.3	mg/L		111*	(90%-110%)		07/25/14 23:34

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 1406244										
Metals Analysis - ICPMS										
Batch 1406990										
QC1203136431 353340001 DUP										
Aluminum		654		626	ug/L	4.38		(0%-20%)	PRB	08/13/14 00:35
Antimony	U	ND	U	ND	ug/L	N/A				
Arsenic		7.07		6.96	ug/L	1.60 ^		(+/-5.00)		
Barium		70.4		69.5	ug/L	1.19		(0%-20%)		
Beryllium	U	ND	U	ND	ug/L	N/A				
Cadmium	U	ND	U	ND	ug/L	N/A				
Calcium		29400		29400	ug/L	0.0169		(0%-20%)		
Chromium	J	7.40	J	7.31	ug/L	1.21 ^		(+/-10.0)		
Cobalt	J	0.503	J	0.474	ug/L	5.94 ^		(+/-1.00)		
Copper		11.7		10.8	ug/L	7.93		(0%-20%)		
Iron		33200		31900	ug/L	4.12		(0%-20%)		
Lead	J	1.71	J	1.61	ug/L	5.97 ^		(+/-2.00)		
Magnesium		6410		6440	ug/L	0.375		(0%-20%)		
Manganese		184		181	ug/L	1.62		(0%-20%)		
Nickel	J	0.877	J	0.902	ug/L	2.81 ^		(+/-2.00)		
Potassium		17900		18000	ug/L	0.370		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A				
Silver	U	ND	U	ND	ug/L	N/A				
Sodium		136000		132000	ug/L	3.31		(0%-20%)		08/14/14 00:10
Thallium	U	ND	U	ND	ug/L	N/A				08/13/14 00:35

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1406990										
Zinc		J 7.05	J	5.64	ug/L	22.3 ^		(+/-10.0)	PRB	08/13/14 00:35
QC1203136430 LCS										
Aluminum	2000			2150	ug/L		107	(80%-120%)		08/13/14 00:09
Antimony	50.0			50.1	ug/L		100	(80%-120%)		
Arsenic	50.0			51.9	ug/L		104	(80%-120%)		
Barium	50.0			51.5	ug/L		103	(80%-120%)		
Beryllium	50.0			53.9	ug/L		108	(80%-120%)		
Cadmium	50.0			52.3	ug/L		105	(80%-120%)		
Calcium	2000			2090	ug/L		104	(80%-120%)		
Chromium	50.0			54.9	ug/L		110	(80%-120%)		
Cobalt	50.0			54.6	ug/L		109	(80%-120%)		
Copper	50.0			54.2	ug/L		108	(80%-120%)		
Iron	2000			2140	ug/L		107	(80%-120%)		
Lead	50.0			50.2	ug/L		100	(80%-120%)		
Magnesium	2000			2160	ug/L		108	(80%-120%)		
Manganese	50.0			54.2	ug/L		108	(80%-120%)		
Nickel	50.0			55.0	ug/L		110	(80%-120%)		
Potassium	2000			2160	ug/L		108	(80%-120%)		
Selenium	50.0			53.0	ug/L		106	(80%-120%)		
Silver	50.0			51.1	ug/L		102	(80%-120%)		
Sodium	2000			2180	ug/L		109	(80%-120%)		08/14/14 00:02
Thallium	50.0			50.0	ug/L		100	(80%-120%)		08/13/14 00:09

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch 1406990											
Zinc	50.0			55.4	ug/L		111	(80%-120%)	PRB	08/13/14	00:09
QC1203136429 MB											
Aluminum			U	ND	ug/L					08/13/14	00:02
Antimony			U	ND	ug/L						
Arsenic			U	ND	ug/L						
Barium			U	ND	ug/L						
Beryllium			U	ND	ug/L						
Cadmium			U	ND	ug/L						
Calcium			U	ND	ug/L						
Chromium			U	ND	ug/L						
Cobalt			U	ND	ug/L						
Copper			U	ND	ug/L						
Iron			U	ND	ug/L						
Lead			U	ND	ug/L						
Magnesium			U	ND	ug/L						
Manganese			U	ND	ug/L						
Nickel			U	ND	ug/L						
Potassium			U	ND	ug/L						
Selenium			U	ND	ug/L						
Silver			U	ND	ug/L						
Sodium			U	ND	ug/L					08/13/14	23:58
Thallium			U	ND	ug/L					08/13/14	00:02

QC Summary

Workorder: **353340**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1406990											
Zinc				U	ND	ug/L				PRB	08/13/14 00:02
QC1203136432 353340001 MS											
Aluminum	2000		654	N	3410	ug/L		138*	(75%-125%)		08/13/14 00:42
Antimony	50.0	U	ND		49.4	ug/L		98.6	(75%-125%)		
Arsenic	50.0		7.07		61.8	ug/L		109	(75%-125%)		
Barium	50.0		70.4		115	ug/L		88.8	(75%-125%)		
Beryllium	50.0	U	ND		58.2	ug/L		116	(75%-125%)		
Cadmium	50.0	U	ND		52.8	ug/L		106	(75%-125%)		
Calcium	2000		29400		31800	ug/L		N/A	(75%-125%)		
Chromium	50.0	J	7.40		59.7	ug/L		105	(75%-125%)		
Cobalt	50.0	J	0.503		53.1	ug/L		105	(75%-125%)		
Copper	50.0		11.7		71.9	ug/L		120	(75%-125%)		
Iron	2000		33200		38600	ug/L		N/A	(75%-125%)		
Lead	50.0	J	1.71		49.9	ug/L		96.3	(75%-125%)		
Magnesium	2000		6410		8570	ug/L		108	(75%-125%)		
Manganese	50.0		184		234	ug/L		101	(75%-125%)		
Nickel	50.0	J	0.877		53.9	ug/L		106	(75%-125%)		
Potassium	2000		17900		20200	ug/L		N/A	(75%-125%)		
Selenium	50.0	U	ND		52.5	ug/L		103	(75%-125%)		
Silver	50.0	U	ND		48.8	ug/L		97.6	(75%-125%)		
Sodium	2000		136000		138000	ug/L		N/A	(75%-125%)		08/14/14 00:14
Thallium	50.0	U	ND		43.6	ug/L		86.7	(75%-125%)		08/13/14 00:42

QC Summary

Workorder: **353340**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1406990											
Zinc	50.0	J	7.05		58.3	ug/L		103	(75%-125%)	PRB	08/13/14 00:42
QC1203147022 353340001 PS											
Aluminum	2000		654		2640	ug/L		99.5	(80%-120%)		08/13/14 00:49
QC1203136433 353340001 SDILT											
Aluminum			654		139	ug/L	6.59		(0%-10%)		08/13/14 00:55
Antimony		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Arsenic			7.07	J	2.16	ug/L	52.4		(0%-10%)		
Barium			70.4		13.7	ug/L	2.35		(0%-10%)		
Beryllium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Cadmium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Calcium			29400		5880	ug/L	.21		(0%-10%)		
Chromium		J	7.40	U	ND	ug/L	N/A		(0%-10%)		
Cobalt		J	0.503	J	0.104	ug/L	3.38		(0%-10%)		
Copper			11.7		2.49	ug/L	6.92		(0%-10%)		
Iron			33200		5990	ug/L	9.82		(0%-10%)		
Lead		J	1.71	U	ND	ug/L	N/A		(0%-10%)		
Magnesium			6410		1240	ug/L	3.33		(0%-10%)		
Manganese			184		37.6	ug/L	2.24		(0%-10%)		
Nickel		J	0.877	U	ND	ug/L	N/A		(0%-10%)		
Potassium			17900		3640	ug/L	1.44		(0%-10%)		
Selenium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Silver		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Sodium			6820		1300	ug/L	4.74		(0%-10%)		08/14/14 00:21

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1406990										
Thallium	U	ND	U	ND	ug/L	N/A		(0%-10%)	PRB	08/13/14 00:55
Zinc	J	7.05	U	ND	ug/L	N/A		(0%-10%)		
Metals Analysis-ICP										
Batch 1406988										
QC1203136426 353340001 DUP										
Vanadium		13.2		13.2	ug/L	0.280 ^		(+/-5.00)	LS	07/30/14 17:49
QC1203136425 LCS										
Vanadium	500			524	ug/L		105	(80%-120%)		07/30/14 17:43
QC1203136424 MB										
Vanadium			U	ND	ug/L					07/30/14 17:40
QC1203136427 353340001 MS										
Vanadium	500	13.2		531	ug/L		104	(75%-125%)		07/30/14 17:52
QC1203136428 353340001 SDILT										
Vanadium		13.2	J	2.52	ug/L	4.8		(0%-10%)		07/30/14 17:54
Metals Analysis-Mercury										
Batch 1407301										
QC1203137388 353340001 DUP										
Mercury	U	ND	U	ND	ug/L	N/A			MTM1	07/30/14 10:03
QC1203137387 LCS										
Mercury	2.00			1.83	ug/L		91.7	(80%-120%)		07/30/14 10:00
QC1203137386 MB										
Mercury			U	ND	ug/L					07/30/14 09:58
QC1203137389 353340001 MS										
Mercury	2.00	U ND		1.82	ug/L		90.8	(75%-125%)		07/30/14 10:05
QC1203137390 353340001 SDILT										
Mercury	U	ND	U	ND	ug/L	N/A		(0%-10%)		07/30/14 10:08
Semi-Volatile-GC/MS										
Batch 1406981										
QC1203136412 LCS										
1,2,4-Trichlorobenzene	50.0			19.0	ug/L		38	(26%-92%)	JMB3	08/01/14 18:00
2,4-Dinitrotoluene	50.0			39.6	ug/L		79.3	(45%-124%)		

QC Summary

Workorder: 353340

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
2-Chlorophenol	50.0			31.8	ug/L		63.7	(39%-99%)			
4-Chloro-3-methylphenol	50.0			35.2	ug/L		70.5	(46%-111%)	JMB3	08/01/14	18:00
4-Nitrophenol	50.0			11.1	ug/L		22.3	(16%-77%)			
Acenaphthene	50.0			31.0	ug/L		62.1	(40%-104%)			
N-Nitrosodipropylamine	50.0			32.4	ug/L		64.8	(39%-113%)			
Pentachlorophenol	50.0			30.7	ug/L		61.3	(27%-102%)			
Phenol	50.0			12.6	ug/L		25.2	(13%-77%)			
Pyrene	50.0			37.2	ug/L		74.4	(38%-127%)			
**2,4,6-Tribromophenol	100			70.6	ug/L		70.6	(26%-129%)			
**2-Fluorobiphenyl	50.0			32.4	ug/L		64.9	(32%-102%)			
**2-Fluorophenol	100			36.4	ug/L		36.4	(10%-78%)			
**Nitrobenzene-d5	50.0			34.1	ug/L		68.1	(36%-125%)			
**Phenol-d5	100			22.5	ug/L		22.5	(10%-104%)			
**p-Terphenyl-d14	50.0			38.1	ug/L		76.3	(34%-135%)			
QC1203136413 LCSD											
1,2,4-Trichlorobenzene	50.0			20.0	ug/L	4.98	39.9	(0%-30%)		08/01/14	18:31
2,4-Dinitrotoluene	50.0			44.5	ug/L	11.6	89	(0%-30%)			
2-Chlorophenol	50.0			34.2	ug/L	7.30	68.5	(0%-30%)			
4-Chloro-3-methylphenol	50.0			39.3	ug/L	10.9	78.6	(0%-30%)			
4-Nitrophenol	50.0			12.5	ug/L	11.2	24.9	(0%-30%)			
Acenaphthene	50.0			34.0	ug/L	9.08	68	(0%-30%)			
N-Nitrosodipropylamine	50.0			35.7	ug/L	9.58	71.3	(0%-30%)			
Pentachlorophenol	50.0			33.0	ug/L	7.32	66	(0%-30%)			

QC Summary

Workorder: 353340

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
Phenol	50.0			13.9	ug/L	9.89	27.8	(0%-30%)	JMB3	08/01/14	18:31
Pyrene	50.0			41.2	ug/L	10.1	82.4	(0%-30%)			
**2,4,6-Tribromophenol	100			76.9	ug/L		76.9	(26%-129%)			
**2-Fluorobiphenyl	50.0			35.1	ug/L		70.1	(32%-102%)			
**2-Fluorophenol	100			39.0	ug/L		39	(10%-78%)			
**Nitrobenzene-d5	50.0			36.0	ug/L		72.1	(36%-125%)			
**Phenol-d5	100			24.0	ug/L		24	(10%-104%)			
**p-Terphenyl-d14	50.0			42.4	ug/L		84.8	(34%-135%)			
QC1203136411 MB											
1,1'-Biphenyl			U	ND	ug/L					08/01/14	17:29
1,2,4,5-Tetrachlorobenzene			U	ND	ug/L						
1-Methylnaphthalene			U	ND	ug/L						
2,3,4,6-Tetrachlorophenol			U	ND	ug/L						
2,4,5-Trichlorophenol			U	ND	ug/L						
2,4,6-Trichlorophenol			U	ND	ug/L						
2,4-Dichlorophenol			U	ND	ug/L						
2,4-Dimethylphenol			U	ND	ug/L						
2,4-Dinitrophenol			U	ND	ug/L						
2,4-Dinitrotoluene			U	ND	ug/L						
2,6-Dinitrotoluene			U	ND	ug/L						
2-Chloronaphthalene			U	ND	ug/L						
2-Chlorophenol			U	ND	ug/L						

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
2-Methyl-4,6-dinitrophenol			U	ND	ug/L				JMB3	08/01/14	17:29
2-Methylnaphthalene			U	ND	ug/L						
2-Nitrophenol			U	ND	ug/L						
3,3'-Dichlorobenzidine			U	ND	ug/L						
4-Bromophenylphenylether			U	ND	ug/L						
4-Chloro-3-methylphenol			U	ND	ug/L						
4-Chloroaniline			U	ND	ug/L						
4-Chlorophenylphenylether			U	ND	ug/L						
4-Nitrophenol			U	ND	ug/L						
Acenaphthene			U	ND	ug/L						
Acenaphthylene			U	ND	ug/L						
Acetophenone			U	ND	ug/L						
Anthracene			U	ND	ug/L						
Atrazine			U	ND	ug/L						
Benzaldehyde			U	ND	ug/L						
Benzo(a)anthracene			U	ND	ug/L						
Benzo(a)pyrene			U	ND	ug/L						
Benzo(b)fluoranthene			U	ND	ug/L						
Benzo(ghi)perylene			U	ND	ug/L						
Benzo(k)fluoranthene			U	ND	ug/L						
Butylbenzylphthalate			U	ND	ug/L						

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1406981											
Caprolactam			U	ND	ug/L						
Carbazole			U	ND	ug/L				JMB3	08/01/14	17:29
Chrysene			U	ND	ug/L						
Di-n-butylphthalate			U	ND	ug/L						
Di-n-octylphthalate			U	ND	ug/L						
Dibenzo(a,h)anthracene			U	ND	ug/L						
Dibenzofuran			U	ND	ug/L						
Diethylphthalate			U	ND	ug/L						
Dimethylphthalate			U	ND	ug/L						
Diphenylamine			U	ND	ug/L						
Fluoranthene			U	ND	ug/L						
Fluorene			U	ND	ug/L						
Hexachlorobenzene			U	ND	ug/L						
Hexachlorobutadiene			U	ND	ug/L						
Hexachlorocyclopentadiene			U	ND	ug/L						
Hexachloroethane			U	ND	ug/L						
Indeno(1,2,3-cd)pyrene			U	ND	ug/L						
Isophorone			U	ND	ug/L						
N-Nitrosodipropylamine			U	ND	ug/L						
Naphthalene			U	ND	ug/L						
Nitrobenzene			U	ND	ug/L						
Pentachlorophenol			U	ND	ug/L						

QC Summary

Workorder: 353340

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 1406981										
Phenanthrene			U	ND	ug/L					
Phenol			U	ND	ug/L				JMB3	08/01/14 17:29
Pyrene			U	ND	ug/L					
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/L					
bis(2-Chloroethoxy)methane			U	ND	ug/L					
bis(2-Chloroethyl) ether			U	ND	ug/L					
bis(2-Ethylhexyl)phthalate			U	ND	ug/L					
m,p-Cresols			U	ND	ug/L					
m-Nitroaniline			U	ND	ug/L					
o-Cresol			U	ND	ug/L					
o-Nitroaniline			U	ND	ug/L					
p-Nitroaniline			U	ND	ug/L					
**2,4,6-Tribromophenol	100			63.0	ug/L		63	(26%-129%)		
**2-Fluorobiphenyl	50.0			31.2	ug/L		62.5	(32%-102%)		
**2-Fluorophenol	100			38.8	ug/L		38.8	(10%-78%)		
**Nitrobenzene-d5	50.0			33.7	ug/L		67.4	(36%-125%)		
**Phenol-d5	100			23.6	ug/L		23.6	(10%-104%)		
**p-Terphenyl-d14	50.0			41.7	ug/L		83.3	(34%-135%)		
Spectrometric Analysis										
Batch 1406148										
QC1203134379 353340001 DUP										
Hexavalent Chromium		HJ 0.00473	HJ	0.00899	mg/L	62.1 ^		(+/-0.010)	EXM3	07/24/14 09:24
QC1203134489 353340005 DUP										
Hexavalent Chromium		J 0.00367	J	0.00367	mg/L	0.00 ^		(+/-0.010)		07/24/14 10:02
QC1203134381 LCS										

QC Summary

Workorder: **353340**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Spectrometric Analysis											
Batch 1406148											
Hexavalent Chromium	0.050				0.0569	mg/L		114	(85%-115%)		07/24/14 09:24
QC1203134378 MB											
Hexavalent Chromium				U	ND	mg/L				EXM3	07/24/14 09:24
QC1203134380 353340001 PS											
Hexavalent Chromium	0.050	HJ	0.00473	HU	ND	mg/L		0*	(85%-115%)		07/24/14 09:24
QC1203134490 353340005 PS											
Hexavalent Chromium	0.050	J	0.00367	J	0.0058	mg/L		4.26*	(85%-115%)		07/24/14 10:08
Titration and Ion Analysis											
Batch 1406210											
QC1203134550 LCS											
Sulfite	100				97.5	mg/L		97.5	(90%-110%)	PXO1	07/25/14 18:29
QC1203134547 MB											
Sulfite				U	ND	mg/L					07/25/14 18:28
QC1203134548 353252001 MS											
Sulfite	100	HU	ND	H	99.5	mg/L		99.5	(80%-120%)		07/25/14 19:12
QC1203134549 353252001 MSD											
Sulfite	100	HU	ND	H	99.0	mg/L	0.504	99	(0%-20%)		07/25/14 19:14
Batch 1408955											
QC1203141752 352833002 DUP											
pH		H	7.65	H	7.69	SU	0.522		(0%-5%)	PXO1	08/05/14 15:05
QC1203141754 LCS											
pH	7.00				6.96	SU		99.4	(99%-101%)		08/05/14 14:59
Volatile-GC/MS											
Batch 1407048											
QC1203136606 LCS											
1,1-Dichloroethylene	50.0				41.1	ug/L		82.1	(70%-130%)	JEB	07/28/14 12:27
4-Methyl-2-pentanone	250				241	ug/L		96.4	(70%-130%)		
Benzene	50.0				40.1	ug/L		80.2	(70%-130%)		
Chlorobenzene	50.0				41.2	ug/L		82.3	(70%-130%)		
Chloroform	50.0				43.5	ug/L		86.9	(70%-130%)		
Toluene	50.0				41.2	ug/L		82.3	(70%-130%)		

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS										
Batch 1407048										
Trichloroethylene	50.0			41.5	ug/L		82.9	(70%-130%)	JEB	07/28/14 12:27
Vinyl chloride	50.0			54.1	ug/L		108	(70%-130%)		
**1,2-Dichloroethane-d4	50.0			51.5	ug/L		103	(78%-124%)		
**Bromofluorobenzene	50.0			48.3	ug/L		96.5	(80%-120%)		
**Toluene-d8	50.0			47.0	ug/L		94	(80%-120%)		
QC1203136603 MB										
1,1,1-Trichloroethane			U	ND	ug/L					07/28/14 13:40
1,1,2,2-Tetrachloroethane			U	ND	ug/L					
1,1,2-Trichloroethane			U	ND	ug/L					
1,1-Dichloroethane			U	ND	ug/L					
1,1-Dichloroethylene			U	ND	ug/L					
1,2-Dichloroethane			U	ND	ug/L					
1,2-Dichloropropane			U	ND	ug/L					
2-Butanone			U	ND	ug/L					
2-Hexanone			U	ND	ug/L					
4-Methyl-2-pentanone			U	ND	ug/L					
Acetone			U	ND	ug/L					
Benzene			U	ND	ug/L					
Bromodichloromethane			U	ND	ug/L					
Bromoform			U	ND	ug/L					
Bromomethane			U	ND	ug/L					
Carbon disulfide			U	ND	ug/L					

QC Summary

Workorder: 353340

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1407048											
Carbon tetrachloride			U	ND	ug/L				JEB	07/28/14	13:40
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						
Chloroform			U	ND	ug/L						
Chloromethane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						
Tetrachloroethylene			U	ND	ug/L						
Toluene			U	ND	ug/L						
Trichloroethylene			U	ND	ug/L						
Vinyl acetate			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						
Xylenes (total)			U	ND	ug/L						
cis-1,2-Dichloroethylene			U	ND	ug/L						
cis-1,3-Dichloropropylene			U	ND	ug/L						
trans-1,2-Dichloroethylene			U	ND	ug/L						
trans-1,3-Dichloropropylene			U	ND	ug/L						
**1,2-Dichloroethane-d4	50.0			51.6	ug/L		103	(78%-124%)			
**Bromofluorobenzene	50.0			49.1	ug/L		98.2	(80%-120%)			

QC Summary

Workorder: **353340**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch 1407048												
**Toluene-d8	50.0				48.3	ug/L		96.6	(80%-120%)			
QC1203136604 353259002 PS												
1,1-Dichloroethylene	50.0	U	ND		44.1	ug/L		88.2	(74%-130%)	JEB	07/28/14	20:13
4-Methyl-2-pentanone	250	U	ND		241	ug/L		96.6	(70%-132%)			
Benzene	50.0	U	ND		44.1	ug/L		88.2	(75%-120%)			
Chlorobenzene	50.0	U	ND		44.1	ug/L		88.3	(74%-120%)			
Chloroform	50.0	U	ND		48.3	ug/L		96.5	(75%-123%)			
Toluene	50.0	U	ND		43.3	ug/L		86.7	(72%-120%)			
Trichloroethylene	50.0	U	ND		45.7	ug/L		91.4	(75%-125%)			
Vinyl chloride	50.0	U	ND		57.1	ug/L		114	(52%-129%)			
**1,2-Dichloroethane-d4	50.0		52.7		53.9	ug/L		108	(78%-124%)			
**Bromofluorobenzene	50.0		49.3		49.8	ug/L		99.5	(80%-120%)			
**Toluene-d8	50.0		48.1		48.5	ug/L		97.1	(80%-120%)			
QC1203136605 353259002 PSD												
1,1-Dichloroethylene	50.0	U	ND		43.0	ug/L	2.53	86	(0%-20%)		07/28/14	20:38
4-Methyl-2-pentanone	250	U	ND		247	ug/L	2.37	98.9	(0%-20%)			
Benzene	50.0	U	ND		43.9	ug/L	0.386	87.8	(0%-20%)			
Chlorobenzene	50.0	U	ND		43.9	ug/L	0.500	87.8	(0%-20%)			
Chloroform	50.0	U	ND		46.6	ug/L	3.43	93.3	(0%-20%)			
Toluene	50.0	U	ND		43.3	ug/L	0.00	86.7	(0%-20%)			
Trichloroethylene	50.0	U	ND		45.3	ug/L	0.747	90.7	(0%-20%)			
Vinyl chloride	50.0	U	ND		54.1	ug/L	5.39	108	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		52.7		52.9	ug/L		106	(78%-124%)			
**Bromofluorobenzene	50.0		49.3		49.9	ug/L		99.9	(80%-120%)			

QC Summary

Workorder: 353340

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1407048											
**Toluene-d8	50.0	48.1		49.0	ug/L		98	(80%-120%)	JEB	07/28/14	20:38

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- JNX Non Calibrated Compound
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UJ Compound cannot be extracted

QC Summary

Workorder: **353340**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 14 August 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−14
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: _____ of _____
Project #: SON00514
GEL Quote #: _____
COC Number (1): _____
PO Number: _____

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 353340

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering, LLC Phone #:

Project/Site Name: Sonoco Products Company Fax #:

Address: 1 N. 2nd St., Hartsville, SC

Collected by: Client (RS, WSR) Send Results To: S. Nix, T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	NI TAL Metals / Hg	NI Dissolved TAL Metals, Ca	SH Cyanide	Hex Chrome	Dissolved Hex Chrome	HN TCL VOCs	TCL SVOCs	SA pH, nitrate, nitrite	Sulfate, Sulfide	NI Sodium	<-- Preservative Type (6) / Comments
1,2 MW-15	07-23-14	09:10	N	N	GW			11	1	1	1	1	1	4	2				Dissolved Samples are field filtered
TB-072314		09:20	TB	N	W			4						X					
1,2 TW-01		09:20	N	N	GW			16	X	X	X	X	X		X				
1,2 MW-16		10:25	N	N	GW			11	X	X	X	X	X	X	X				
4 TW-02		10:05	N	N	GW			5		X				X					Limited sample (HOLD)
4 TW-03		10:45	N	N	GW			5		X				X					Limited sample (HOLD)
1,2 MW-17		11:45	N	N	GW			15	X	X	X	X	X	X	X	X	X	X	
1,2 MW-19		12:25	N	N	GW			15	X	X	X	X	X	X	X	X	X	X	
1,2 MW-14		13:20	N	N	GW			11	X	X	X	X	X	X	X				
1,2 MW-14D		13:20	FD	N	GW			11	X	X	X	X	X	X	X				

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone: Eastern Pacific Central Other _____ Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	7-23-14	1810	[signature]	7.24.14	08:00
2						
3						

Sample Shipping and Delivery Details

GEL PM:

Method of Shipment: Date Shipped:

Airbill #:

Airbill #:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only

Custody Seal Intact? YES NO

Cooler Temp: _____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Page: _____ of _____
Project #: SONO00514
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering, LLC | Phone #:
Project/Site Name: Sonoco Products Company | Fax #:
Address: 1 N. 2nd St, Hartsville, SC
Collected by: Client (RSG, WSR) | Send Results To: S. Nix, T. Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TAL Metals/Hg (NI)	Dissolved TAL Metals/Hg (NI)	Cyanide (SH)	Hex Chrome	Dissolved Hex Chrome	TCL VOCs	TCL SVOCs				<-- Preservative Type (6)
																			Comments Note: extra sample is required for sample specific QC
MW-13	07-23-14	14:30	N	N	GW			11	1	1	1	1	1	4	2				

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge) | Fax Results: Yes / No | Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
Eastern Pacific
Central Other _____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	7-23-14	18:10	P. Nent	7.24.14	08:00
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: | Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GEL			**SDG/AR/COC/Work Order:** 353340
Received By: P. Ulent			**Date Received:** 7-24-14
Suspected Hazard Information	**Yes**	**No**	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0
Classified Radioactive II or III by RSO?		✓	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		✓	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		✓	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?				Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius 2.0
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials MD Date 7-25-14 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
26−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
IC	SW846 9056A	Liquid	SONO
Batch ID:	**Sample Numbers:**		
1406244	See Below		

Potentially affected work order(s)(SDG): 353340

Application Issues:

Failed Recovery for MS/PS

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203134612(MW−17)PS	1. The PS failed required acceptance limits for Sulfate due to matrix interference. Of the remaining anions in the PS, several met required acceptance limits. This failure is attributed to the matrix of the sample because the successful recovery of the other compounds indicate that the laboratory process was in control. This variance is judged to have no negative impact on the data. The deviation is noted in the Case Narrative and DER, and the data has been reported.

Originator's Name:

Rachael Bell 26−JUL−14

Data Validator/Group Leader:

Thomas Lewis 04−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
28−JUL−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
VIS SPECTROMETER	SW846 7196A	Liquid	SONO
Batch ID:	**Sample Numbers:**		
1406148	See Below		

Potentially affected work order(s)(SDG): 353340

Application Issues:

Failed Recovery for MS/PS

Sample Analyzed out of Holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203134380(MW−15)PS,1203134490(MW−16)PS 2. Sample Analyzed out of Holding: 353340 001,002,003,004	1. The spike recovery falls outside of the established acceptance limits due to matrix interference: 1203134380 and 1203134490 2. The following samples were received with insufficient time to prep and/or analyze within the remaining method−specified holding time. The samples were analyzed as soon as possible by the analyst. 353340001, 353340002, 353340003 and 353340004

Originator's Name:

Erin McCance 28−JUL−14

Data Validator/Group Leader:

Kristen Parson 06−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr. 01−AUG−14	**Division:** Industrial	**Quality Criteria:** Specifications	**Type:** Process
Instrument Type: BURET	**Test / Method:** SM 4500−SO3 (2−) B	**Matrix Type:** Liquid	**Client Code:** LATA, PTQA, SONO
Batch ID: 1406210	**Sample Numbers:** See Below		

Potentially affected work order(s)(SDG): 352694(WP−234),352929,353252,353259,353340,353403,353459

Application Issues:

Sample Analyzed out of Holding

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 352929 012 353252 001,002,003,004,005 353259 003 353340 009,011 353403 001,002,003,004 353459 001,002,003	1. Samples were received and analyzed outside of method specified holding time.

Originator's Name:

Patrick Orgel 01−AUG−14

Data Validator/Group Leader:

Elzbieta Szulc 01−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
05−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
SEMIVOA GC/MS	SW846 3510C/8270D	Liquid	CNUC, SONO
Batch ID:	**Sample Numbers:**		
1406981	See Below		

Potentially affected work order(s)(SDG): 353340

Application Issues:

Failed Yield for Surrogates

Specification and Requirements Exception Description:	**DER Disposition:**
1. SONO (353340009(MW−17)) failed surrogate recovery limits. Please see the QC summary report for specific failures.	1. The sample was re−extracted out of holding as part of batch 1408937 and passed recovery limits for all surrogates. There were no target analytes detected in the sample in both extractions. As the re−extraction, with passing surrogate recoveries, confirmed the absence of target analytes in the original extraction, the data from the original in−holding extraction are reported.

Originator's Name:

Josh Brooks 06−AUG−14

Data Validator/Group Leader:

Cameron Bearden 06−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
05−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
MANUAL	SW846 3510C	Liquid	SONO, WSRB
Batch ID:	**Sample Numbers:**		
1408936	See Below		

Potentially affected work order(s)(SDG): 353209,353340

Application Issues:

Sample Analyzed out of Holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample Analyzed out of Holding: 353209 001,002,003 353340 009	

Originator's Name:

Data Validator/Group Leader:

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
06−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ELECTRODE	EPA 150.1, SW846 9040C	Liquid	ESHL, GELC, SONO
Batch ID:	**Sample Numbers:**		
1408955	See Below		

Potentially affected work order(s)(SDG): 352833(2014−3832),352839(2014−3835),352844(2014−3837),352967(2014−3880),352987(2014−3885),352990(2014−3886),353259,353327,353340

Application Issues:

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 352833 002,004 352839 006 352844 002,005,007 352967 002 352987 002,006,010 352990 002,003,008 353259 003 353327 001,002 353340 009,011	1. Samples were received and analyzed outside of method specified holding time.

Originator's Name:

Patrick Orgel 06−AUG−14

Data Validator/Group Leader:

Kristen Parson 06−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
06−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
SEMIVOA GC/MS	SW846 3510C/8270D	Liquid	SONO, WSRB
Batch ID:	**Sample Numbers:**		
1408937	See Below		

Potentially affected work order(s)(SDG): 353209,353340

Application Issues:

Sample Prepped out of Holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample Prepped out of Holding: 353340009(MW−17).	1. Sample was re−extracted out of holding due to surrogate failure. Although the re−extraction met the recovery limits for all surrogates, it confirmed the absence of target analytes for the original extraction, therefore the data are reported from the original in−holding extraction.
2. Sample Prepped out of Holding: 353209001, 353209002, 353209003.	2. Samples were re−extracted out of holding due to surrogate failure. As the re−extractions met the recovery limits for all surrogates, data for these samples are reported from both sets of extractions.

Originator's Name:

Josh Brooks 07−AUG−14

Data Validator/Group Leader:

Cameron Bearden 07−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
13−AUG−14	Industrial	SOP	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
MERCURY	SW846 7470A	Liquid	DMAX, SONO, SOOP
Batch ID:	**Sample Numbers:**		
1407301	353340001, 353340002, 353340003, 1203137386, 1203137387, 1203137388, 1203137389, 1203137390, 1203137391, 1203137392		

Potentially affected work order(s)(SDG): 353340,353373,353433

Application Issues:

Other

Specification and Requirements Exception Description:	**DER Disposition:**
Ten samples between bracketing CCV and CCB.	Eleven samples were ran between bracketing CCV and CCB instead of ten.

Originator's Name:

Monifa Basdeo 13−AUG−14

Data Validator/Group Leader:

Nik−Cole Elmore 13−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
14−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP/MS	SW846 3005A/6020A	Liquid	SONO
Batch ID:	**Sample Numbers:**		
1406990	See Below		

Potentially affected work order(s)(SDG): 353340

Application Issues:

Failed Recovery for MS/PS

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203136432(MW−15)MS	The matrix spike recovery failed outside of the control limits for aluminum. The post spike passed the required control limits for all analytes. This verifies the absence of a matrix interference.

Originator's Name:

Paul Boyd 14−AUG−14

Data Validator/Group Leader:

Bryan Davis 14−AUG−14

GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

August 23, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 353743

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 31, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 353743 GEL Work Order: 353743

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

B The target analyte was detected in the associated blank.

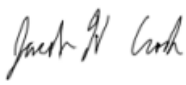
J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by 

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TB-073014
Sample ID: 353743001
Matrix: Water
Collect Date: 30-JUL-14 09:10
Receive Date: 31-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	ACJ	08/06/14	1423	1409489	1
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	BJ	0.360	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: August 23, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TB-073014	Project:	SONO00514C
Sample ID:	353743001	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	54.7 ug/L	50.0	109	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	52.3 ug/L	50.0	105	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	53.2 ug/L	50.0	106	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-03
Sample ID: 353743002
Matrix: Ground Water
Collect Date: 30-JUL-14 10:30
Receive Date: 31-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	08/08/14	1359	1407870	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	J	0.172	0.067	0.200	ug/L	1	MTM1	08/04/14	1124	1408293	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		81.1	1.00	5.00	ug/L	1	JWJ	08/01/14	2027	1407963	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		27800	15.0	50.0	ug/L	1	PRB	08/22/14	0402	1407965	4
Arsenic		11.4	1.70	5.00	ug/L	1					
Barium		38.5	0.600	2.00	ug/L	1					
Beryllium		0.946	0.200	0.500	ug/L	1					
Cadmium	J	0.267	0.110	1.00	ug/L	1					
Calcium		2430	60.0	200	ug/L	1					
Chromium		53.1	2.00	10.0	ug/L	1					
Cobalt		1.75	0.100	1.00	ug/L	1					
Copper		56.8	0.350	1.00	ug/L	1					
Lead		31.8	0.500	2.00	ug/L	1					
Magnesium		2070	10.0	30.0	ug/L	1					
Manganese		48.8	1.00	5.00	ug/L	1					
Nickel		9.01	0.500	2.00	ug/L	1					
Potassium		1820	80.0	300	ug/L	1					
Selenium	J	2.61	1.50	5.00	ug/L	1					
Sodium		9610	80.0	250	ug/L	1					
Zinc		29.3	3.50	10.0	ug/L	1					
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/23/14	0303	1407965	5
Iron		34100	33.0	100	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	3.00	10.0	ug/L	1	JLD1	08/04/14	0017	1407973	6
1,2,4,5-Tetrachlorobenzene	U	ND	3.00	10.0	ug/L	1					

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-03 Project: SONO00514C
Sample ID: 353743002 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.300	1.00	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	3.00	10.0	ug/L	1
2,4,5-Trichlorophenol	U	ND	3.00	10.0	ug/L	1
2,4,6-Trichlorophenol	U	ND	3.00	10.0	ug/L	1
2,4-Dichlorophenol	U	ND	3.00	10.0	ug/L	1
2,4-Dimethylphenol	U	ND	3.00	10.0	ug/L	1
2,4-Dinitrophenol	U	ND	5.00	20.0	ug/L	1
2,4-Dinitrotoluene	U	ND	3.00	10.0	ug/L	1
2,6-Dinitrotoluene	U	ND	3.00	10.0	ug/L	1
2-Chloronaphthalene	U	ND	0.410	1.00	ug/L	1
2-Chlorophenol	U	ND	3.00	10.0	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	3.00	10.0	ug/L	1
2-Methylnaphthalene	U	ND	0.300	1.00	ug/L	1
2-Nitrophenol	U	ND	3.00	10.0	ug/L	1
3,3'-Dichlorobenzidine	U	ND	3.00	10.0	ug/L	1
4-Bromophenylphenylether	U	ND	3.00	10.0	ug/L	1
4-Chloro-3-methylphenol	U	ND	3.00	10.0	ug/L	1
4-Chloroaniline	U	ND	3.30	10.0	ug/L	1
4-Chlorophenylphenylether	U	ND	3.00	10.0	ug/L	1
4-Nitrophenol	U	ND	3.00	10.0	ug/L	1
Acenaphthene	U	ND	0.300	1.00	ug/L	1
Acenaphthylene	U	ND	0.300	1.00	ug/L	1
Acetophenone	U	ND	3.00	10.0	ug/L	1
Anthracene	U	ND	0.300	1.00	ug/L	1
Atrazine	U	ND	3.00	10.0	ug/L	1
Benzaldehyde	U	ND	3.00	10.0	ug/L	1
Benzo(a)anthracene	U	ND	0.300	1.00	ug/L	1
Benzo(a)pyrene	U	ND	0.300	1.00	ug/L	1
Benzo(b)fluoranthene	U	ND	0.300	1.00	ug/L	1
Benzo(ghi)perylene	U	ND	0.300	1.00	ug/L	1
Benzo(k)fluoranthene	U	ND	0.300	1.00	ug/L	1
Butylbenzylphthalate	U	ND	3.00	10.0	ug/L	1
Caprolactam	U	ND	3.00	10.0	ug/L	1
Carbazole	U	ND	0.300	1.00	ug/L	1
Chrysene	U	ND	0.300	1.00	ug/L	1
Di-n-butylphthalate	U	ND	3.00	10.0	ug/L	1

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
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Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-03 Project: SONO00514C
Sample ID: 353743002 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	3.00	10.0	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.300	1.00	ug/L	1					
Dibenzofuran	U	ND	3.00	10.0	ug/L	1					
Diethylphthalate	U	ND	3.00	10.0	ug/L	1					
Dimethylphthalate	U	ND	3.00	10.0	ug/L	1					
Diphenylamine	U	ND	3.00	10.0	ug/L	1					
Fluoranthene	U	ND	0.300	1.00	ug/L	1					
Fluorene	U	ND	0.300	1.00	ug/L	1					
Hexachlorobenzene	U	ND	3.00	10.0	ug/L	1					
Hexachlorobutadiene	U	ND	3.00	10.0	ug/L	1					
Hexachlorocyclopentadiene	U	ND	3.00	10.0	ug/L	1					
Hexachloroethane	U	ND	3.00	10.0	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.300	1.00	ug/L	1					
Isophorone	U	ND	3.50	10.0	ug/L	1					
N-Nitrosodipropylamine	U	ND	3.00	10.0	ug/L	1					
Naphthalene	U	ND	0.300	1.00	ug/L	1					
Nitrobenzene	U	ND	3.00	10.0	ug/L	1					
Pentachlorophenol	U	ND	3.00	10.0	ug/L	1					
Phenanthrene	U	ND	0.300	1.00	ug/L	1					
Phenol	U	ND	3.00	10.0	ug/L	1					
Pyrene	U	ND	0.300	1.00	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	3.00	10.0	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	3.00	10.0	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	3.00	10.0	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	1					
m,p-Cresols	U	ND	3.70	10.0	ug/L	1					
m-Nitroaniline	U	ND	3.00	10.0	ug/L	1					
o-Cresol	U	ND	3.00	10.0	ug/L	1					
o-Nitroaniline	U	ND	3.00	10.0	ug/L	1					
p-Nitroaniline	U	ND	3.00	10.0	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	U	ND	0.015	0.050	mg/L	5	SXC5	07/31/14	0850	1407952	7

Volatile Organics

5030/8260B in Liquid "As Received"

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-03 Project: SONO00514C
Sample ID: 353743002 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	ACJ	08/06/14	1451	1409489	8
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	J	3.18	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-03 Project: SONO00514C
Sample ID: 353743002 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/31/14	1030	1407964
SW846 3005A	SW846 3005A for 6010C	KXP3	07/31/14	1030	1407962
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	DXF4	08/01/14	0600	1407969
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	08/01/14	1500	1408290
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/08/14	1331	1407868

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	
8	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	63.5 ug/L	100	63.5	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	28.6 ug/L	100	28.6	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	16.7 ug/L	100	16.7	(10%-104%)
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	32.6 ug/L	50.0	65.2	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	31.1 ug/L	50.0	62.1	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	34.8 ug/L	50.0	69.5	(34%-135%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	55.4 ug/L	50.0	111	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	55.3 ug/L	50.0	111	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	53.1 ug/L	50.0	106	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-03 DISSOLVED
Sample ID: 353743003
Matrix: Ground Water
Collect Date: 30-JUL-14 10:30
Receive Date: 31-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	08/08/14	1400	1407870	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	08/04/14	1126	1408293	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	3.58	1.00	5.00	ug/L	1	JWJ	08/01/14	2030	1407963	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum	J	28.4	15.0	50.0	ug/L	1	PRB	08/22/14	0408	1407965	4
Arsenic		8.06	1.70	5.00	ug/L	1					
Barium		6.26	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		2250	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt	J	0.152	0.100	1.00	ug/L	1					
Copper	U	ND	0.350	1.00	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		1840	10.0	30.0	ug/L	1					
Manganese		38.3	1.00	5.00	ug/L	1					
Nickel	U	ND	0.500	2.00	ug/L	1					
Potassium		1620	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Sodium		9780	80.0	250	ug/L	1					
Zinc	J	7.75	3.50	10.0	ug/L	1					
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/23/14	0308	1407965	5
Iron		26800	33.0	100	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	U	ND	0.003	0.010	mg/L	1	SXC5	07/31/14	0853	1407952	6

The following Prep Methods were performed:

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Certificate of Analysis

Report Date: August 23, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TW-03 DISSOLVED	Project:	SONO00514C
Sample ID:	353743003	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/31/14	1030	1407964
SW846 3005A	SW846 3005A for 6010C	KXP3	07/31/14	1030	1407962
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	08/01/14	1500	1408290
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/08/14	1331	1407868

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 7196A	

Notes:

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-02
Sample ID: 353743004
Matrix: Ground Water
Collect Date: 30-JUL-14 12:15
Receive Date: 31-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	08/08/14	1401	1407870	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	08/04/14	1128	1408293	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium		20.7	1.00	5.00	ug/L	1	JWJ	08/01/14	2033	1407963	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		9020	15.0	50.0	ug/L	1	PRB	08/22/14	0414	1407965	4
Arsenic		6.06	1.70	5.00	ug/L	1					
Barium		44.0	0.600	2.00	ug/L	1					
Beryllium	J	0.393	0.200	0.500	ug/L	1					
Cadmium	J	0.157	0.110	1.00	ug/L	1					
Calcium		10000	60.0	200	ug/L	1					
Chromium		107	2.00	10.0	ug/L	1					
Cobalt	J	0.704	0.100	1.00	ug/L	1					
Copper		21.6	0.350	1.00	ug/L	1					
Lead		12.4	0.500	2.00	ug/L	1					
Magnesium		2050	10.0	30.0	ug/L	1					
Manganese		98.2	1.00	5.00	ug/L	1					
Nickel		2.46	0.500	2.00	ug/L	1					
Potassium		3270	80.0	300	ug/L	1					
Selenium	J	1.82	1.50	5.00	ug/L	1					
Sodium		17100	80.0	250	ug/L	1					
Zinc		17.0	3.50	10.0	ug/L	1					
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/23/14	0314	1407965	5
Iron		14200	33.0	100	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	3.00	10.0	ug/L	1	JLD1	08/03/14	1730	1407973	6
1,2,4,5-Tetrachlorobenzene	U	ND	3.00	10.0	ug/L	1					

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Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-02 Project: SONO00514C
Sample ID: 353743004 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

1-Methylnaphthalene	U	ND	0.300	1.00	ug/L	1
2,3,4,6-Tetrachlorophenol	U	ND	3.00	10.0	ug/L	1
2,4,5-Trichlorophenol	U	ND	3.00	10.0	ug/L	1
2,4,6-Trichlorophenol	U	ND	3.00	10.0	ug/L	1
2,4-Dichlorophenol	U	ND	3.00	10.0	ug/L	1
2,4-Dimethylphenol	U	ND	3.00	10.0	ug/L	1
2,4-Dinitrophenol	U	ND	5.00	20.0	ug/L	1
2,4-Dinitrotoluene	U	ND	3.00	10.0	ug/L	1
2,6-Dinitrotoluene	U	ND	3.00	10.0	ug/L	1
2-Chloronaphthalene	U	ND	0.410	1.00	ug/L	1
2-Chlorophenol	U	ND	3.00	10.0	ug/L	1
2-Methyl-4,6-dinitrophenol	U	ND	3.00	10.0	ug/L	1
2-Methylnaphthalene	U	ND	0.300	1.00	ug/L	1
2-Nitrophenol	U	ND	3.00	10.0	ug/L	1
3,3'-Dichlorobenzidine	U	ND	3.00	10.0	ug/L	1
4-Bromophenylphenylether	U	ND	3.00	10.0	ug/L	1
4-Chloro-3-methylphenol	U	ND	3.00	10.0	ug/L	1
4-Chloroaniline	U	ND	3.30	10.0	ug/L	1
4-Chlorophenylphenylether	U	ND	3.00	10.0	ug/L	1
4-Nitrophenol	U	ND	3.00	10.0	ug/L	1
Acenaphthene	U	ND	0.300	1.00	ug/L	1
Acenaphthylene	U	ND	0.300	1.00	ug/L	1
Acetophenone	U	ND	3.00	10.0	ug/L	1
Anthracene	U	ND	0.300	1.00	ug/L	1
Atrazine	U	ND	3.00	10.0	ug/L	1
Benzaldehyde	U	ND	3.00	10.0	ug/L	1
Benzo(a)anthracene	U	ND	0.300	1.00	ug/L	1
Benzo(a)pyrene	U	ND	0.300	1.00	ug/L	1
Benzo(b)fluoranthene	U	ND	0.300	1.00	ug/L	1
Benzo(ghi)perylene	U	ND	0.300	1.00	ug/L	1
Benzo(k)fluoranthene	U	ND	0.300	1.00	ug/L	1
Butylbenzylphthalate	U	ND	3.00	10.0	ug/L	1
Caprolactam	U	ND	3.00	10.0	ug/L	1
Carbazole	U	ND	0.300	1.00	ug/L	1
Chrysene	U	ND	0.300	1.00	ug/L	1
Di-n-butylphthalate	U	ND	3.00	10.0	ug/L	1

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-02 Project: SONO00514C
Sample ID: 353743004 Client ID: GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Di-n-octylphthalate	U	ND	3.00	10.0	ug/L	1					
Dibenzo(a,h)anthracene	U	ND	0.300	1.00	ug/L	1					
Dibenzofuran	U	ND	3.00	10.0	ug/L	1					
Diethylphthalate	U	ND	3.00	10.0	ug/L	1					
Dimethylphthalate	U	ND	3.00	10.0	ug/L	1					
Diphenylamine	U	ND	3.00	10.0	ug/L	1					
Fluoranthene	U	ND	0.300	1.00	ug/L	1					
Fluorene	U	ND	0.300	1.00	ug/L	1					
Hexachlorobenzene	U	ND	3.00	10.0	ug/L	1					
Hexachlorobutadiene	U	ND	3.00	10.0	ug/L	1					
Hexachlorocyclopentadiene	U	ND	3.00	10.0	ug/L	1					
Hexachloroethane	U	ND	3.00	10.0	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.300	1.00	ug/L	1					
Isophorone	U	ND	3.50	10.0	ug/L	1					
N-Nitrosodipropylamine	U	ND	3.00	10.0	ug/L	1					
Naphthalene	U	ND	0.300	1.00	ug/L	1					
Nitrobenzene	U	ND	3.00	10.0	ug/L	1					
Pentachlorophenol	U	ND	3.00	10.0	ug/L	1					
Phenanthrene	U	ND	0.300	1.00	ug/L	1					
Phenol	U	ND	3.00	10.0	ug/L	1					
Pyrene	U	ND	0.300	1.00	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	3.00	10.0	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	3.00	10.0	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	3.00	10.0	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	1					
m,p-Cresols	U	ND	3.70	10.0	ug/L	1					
m-Nitroaniline	U	ND	3.00	10.0	ug/L	1					
o-Cresol	U	ND	3.00	10.0	ug/L	1					
o-Nitroaniline	U	ND	3.00	10.0	ug/L	1					
p-Nitroaniline	U	ND	3.00	10.0	ug/L	1					

Spectrometric Analysis

SW846_7196A Hexavalent Chromium "As Received"

Hexavalent Chromium	U	ND	0.015	0.050	mg/L	5	SXC5	07/31/14	0858	1407952	7

Volatile Organics

5030/8260B in Liquid "As Received"

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-02 Project: SONO00514C
Sample ID: 353743004 Client ID: GEEL003

Volatile Organics
5030/8260B in Liquid "As Received"

1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	ACJ	08/06/14	1519	1409489	8
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	U	ND	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					
Trichloroethylene	U	ND	0.300	1.00	ug/L	1					
Vinyl acetate	U	ND	1.50	5.00	ug/L	1					
Vinyl chloride	U	ND	0.300	1.00	ug/L	1					
Xylenes (total)	U	ND	0.300	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1					

The following Prep Methods were performed:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-02 Project: SONO00514C
Sample ID: 353743004 Client ID: GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/31/14	1030	1407964
SW846 3005A	SW846 3005A for 6010C	KXP3	07/31/14	1030	1407962
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	DXF4	08/01/14	0600	1407969
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	08/01/14	1500	1408290
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/08/14	1331	1407868

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3510C/8270D	
7	SW846 7196A	
8	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	57.3 ug/L	100	57.3	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	32.2 ug/L	100	32.2	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	21.5 ug/L	100	21.5	(10%-104%)
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	28.0 ug/L	50.0	56.0	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.4 ug/L	50.0	54.8	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	25.4 ug/L	50.0	50.8	(34%-135%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	55.1 ug/L	50.0	110	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	53.0 ug/L	50.0	106	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	53.2 ug/L	50.0	106	(80%-120%)

Notes:

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Certificate of Analysis

Report Date: August 23, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: TW-02 DISSOLVED
Sample ID: 353743005
Matrix: Ground Water
Collect Date: 30-JUL-14 12:15
Receive Date: 31-JUL-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	08/08/14	1402	1407870	1
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	08/04/14	1129	1408293	2
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	U	ND	1.00	5.00	ug/L	1	JWJ	08/01/14	2036	1407963	3
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		77.2	15.0	50.0	ug/L	1	PRB	08/22/14	0421	1407965	4
Arsenic	J	2.06	1.70	5.00	ug/L	1					
Barium		21.8	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		9080	60.0	200	ug/L	1					
Chromium	U	ND	2.00	10.0	ug/L	1					
Cobalt	U	ND	0.100	1.00	ug/L	1					
Copper	U	ND	0.350	1.00	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		1840	10.0	30.0	ug/L	1					
Manganese		84.7	1.00	5.00	ug/L	1					
Nickel	U	ND	0.500	2.00	ug/L	1					
Potassium		3050	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Sodium		17100	80.0	250	ug/L	1					
Zinc	U	ND	3.50	10.0	ug/L	1					
Antimony	U	ND	1.00	3.00	ug/L	1	PRB	08/23/14	0320	1407965	5
Iron		9830	33.0	100	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	U	ND	0.003	0.010	mg/L	1	SXC5	07/31/14	0859	1407952	6

The following Prep Methods were performed:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 23, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	TW-02 DISSOLVED	Project:	SONO00514C
Sample ID:	353743005	Client ID:	GEEL003

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	KXP3	07/31/14	1030	1407964
SW846 3005A	SW846 3005A for 6010C	KXP3	07/31/14	1030	1407962
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	08/01/14	1500	1408290
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/08/14	1331	1407868

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 7470A	
3	SW846 3005A/6010C	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 7196A	

Notes:

QC Summary

Report Date: August 23, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis												
Batch 1407870												
QC1203138804 353719004 DUP												
Cyanide, Total			10.7		8.25	ug/L	25.9 ^		(+/-5.00)	AXH3	08/08/14	13:35
QC1203138808 LCS												
Cyanide, Total	50.0				45.3	ug/L		90.6	(90%-110%)		08/08/14	13:33
QC1203138803 MB												
Cyanide, Total				U	ND	ug/L					08/08/14	13:32
QC1203138806 353719004 MS												
Cyanide, Total	100		10.7		120	ug/L		109	(60%-124%)		08/08/14	13:36
Metals Analysis - ICPMS												
Batch 1407965												
QC1203139100 353742001 DUP												
Aluminum			296		289	ug/L	2.66		(0%-20%)	PRB	08/22/14	03:10
Antimony		U	ND	U	ND	ug/L	N/A				08/23/14	02:16
Arsenic		U	ND	U	ND	ug/L	N/A				08/22/14	03:10
Barium			70.7		68.5	ug/L	3.11		(0%-20%)			
Beryllium		U	ND	U	ND	ug/L	N/A					
Cadmium		J	0.179	U	ND	ug/L	200 ^					
Calcium			4690		4640	ug/L	1.02		(0%-20%)			
Chromium		U	ND	U	ND	ug/L	N/A					
Cobalt			1.23		1.22	ug/L	0.491 ^		(+/-1.00)			
Copper			2.64		2.67	ug/L	1.17 ^		(+/-1.00)			
Iron			146		152	ug/L	4.34 ^		(+/-100)		08/23/14	02:16
Lead			2.33		2.24	ug/L	3.94 ^		(+/-2.00)		08/22/14	03:10
Magnesium			1930		1920	ug/L	0.661		(0%-20%)			

QC Summary

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1407965											
Manganese			36.8		37.3	ug/L	1.34		(0%-20%)	PRB	08/22/14 03:10
Nickel		J	1.83	J	1.79	ug/L	2.27 ^		(+/-2.00)		
Potassium			1550		1500	ug/L	3.25		(+/-300)		
Selenium		U	ND	U	ND	ug/L	N/A				
Silver		U	ND	U	ND	ug/L	N/A				08/23/14 02:16
Sodium			19000		18900	ug/L	0.897		(0%-20%)		08/22/14 03:10
Thallium		J	0.673	U	ND	ug/L	200 ^				08/23/14 02:16
Zinc			17.6		18.1	ug/L	2.56 ^		(+/-10.0)		08/22/14 03:10
QC1203139099 LCS											
Aluminum	2000				2110	ug/L		105	(80%-120%)		08/22/14 02:45
Antimony	50.0				53.8	ug/L		108	(80%-120%)		08/23/14 02:04
Arsenic	50.0				51.9	ug/L		104	(80%-120%)		08/22/14 02:45
Barium	50.0				48.7	ug/L		97.4	(80%-120%)		
Beryllium	50.0				59.8	ug/L		120	(80%-120%)		
Cadmium	50.0				53.3	ug/L		107	(80%-120%)		
Calcium	2000				2180	ug/L		109	(80%-120%)		
Chromium	50.0				54.2	ug/L		108	(80%-120%)		
Cobalt	50.0				54.7	ug/L		109	(80%-120%)		
Copper	50.0				57.0	ug/L		114	(80%-120%)		
Iron	2000				2210	ug/L		111	(80%-120%)		08/23/14 02:04
Lead	50.0				51.1	ug/L		102	(80%-120%)		08/22/14 02:45
Magnesium	2000				2100	ug/L		105	(80%-120%)		

QC Summary

Workorder: **353743**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1407965										
Manganese	50.0			53.3	ug/L		107	(80%-120%)	PRB	08/22/14 02:45
Nickel	50.0			55.2	ug/L		110	(80%-120%)		
Potassium	2000			2080	ug/L		104	(80%-120%)		
Selenium	50.0			54.7	ug/L		109	(80%-120%)		
Silver	50.0			55.3	ug/L		111	(80%-120%)		08/23/14 02:04
Sodium	2000			2140	ug/L		107	(80%-120%)		08/22/14 02:45
Thallium	50.0			50.3	ug/L		101	(80%-120%)		08/23/14 02:04
Zinc	50.0			55.5	ug/L		111	(80%-120%)		08/22/14 02:45
QC1203139098 MB										
Aluminum			U	ND	ug/L					08/22/14 02:38
Antimony			U	ND	ug/L					08/23/14 01:58
Arsenic			U	ND	ug/L					08/22/14 02:38
Barium			U	ND	ug/L					
Beryllium			U	ND	ug/L					
Cadmium			U	ND	ug/L					
Calcium			J	120	ug/L					
Chromium			U	ND	ug/L					
Cobalt			U	ND	ug/L					
Copper			U	ND	ug/L					
Iron			U	ND	ug/L					08/23/14 01:58
Lead			U	ND	ug/L					08/22/14 02:38
Magnesium			U	ND	ug/L					

QC Summary

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1407965											
Manganese				U	ND	ug/L				PRB	08/22/14 02:38
Nickel				U	ND	ug/L					
Potassium				U	ND	ug/L					
Selenium				U	ND	ug/L					
Silver				U	ND	ug/L					08/23/14 01:58
Sodium				U	ND	ug/L					08/22/14 02:38
Thallium				U	ND	ug/L					08/23/14 01:58
Zinc				U	ND	ug/L					08/22/14 02:38
QC1203139101 353742001 MS											
Aluminum	2000		296		2340	ug/L		102	(75%-125%)		08/22/14 03:17
Antimony	50.0	U	ND		52.7	ug/L		105	(75%-125%)		08/23/14 02:22
Arsenic	50.0	U	ND		49.1	ug/L		98.2	(75%-125%)		08/22/14 03:17
Barium	50.0		70.7		115	ug/L		87.9	(75%-125%)		
Beryllium	50.0	U	ND		58.5	ug/L		117	(75%-125%)		
Cadmium	50.0	J	0.179		51.7	ug/L		103	(75%-125%)		
Calcium	2000		4690		6550	ug/L		93.2	(75%-125%)		
Chromium	50.0	U	ND		52.6	ug/L		104	(75%-125%)		
Cobalt	50.0		1.23		53.3	ug/L		104	(75%-125%)		
Copper	50.0		2.64		56.3	ug/L		107	(75%-125%)		
Iron	2000		146		2230	ug/L		104	(75%-125%)		08/23/14 02:22
Lead	50.0		2.33		54.3	ug/L		104	(75%-125%)		08/22/14 03:17
Magnesium	2000		1930		3910	ug/L		99	(75%-125%)		

QC Summary

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1407965											
Manganese	50.0		36.8		87.3	ug/L		101	(75%-125%)	PRB	08/22/14 03:17
Nickel	50.0	J	1.83		54.2	ug/L		105	(75%-125%)		
Potassium	2000		1550		3490	ug/L		97.3	(75%-125%)		
Selenium	50.0	U	ND		51.0	ug/L		102	(75%-125%)		
Silver	50.0	U	ND		53.3	ug/L		107	(75%-125%)		08/23/14 02:22
Sodium	2000		19000		20200	ug/L		N/A	(75%-125%)		08/22/14 03:17
Thallium	50.0	J	0.673		49.4	ug/L		97.5	(75%-125%)		08/23/14 02:22
Zinc	50.0		17.6		68.8	ug/L		102	(75%-125%)		08/22/14 03:17
QC1203139102 353742001 SDILT											
Aluminum			296		55.7	ug/L	6.04		(0%-10%)		08/22/14 03:29
Antimony		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/23/14 02:34
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/22/14 03:29
Barium			70.7		12.6	ug/L	10.8*		(0%-10%)		
Beryllium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Cadmium		J	0.179	U	ND	ug/L	N/A		(0%-10%)		
Calcium			4690		922	ug/L	1.63		(0%-10%)		
Chromium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Cobalt			1.23	J	0.239	ug/L	2.53		(0%-10%)		
Copper			2.64	J	0.510	ug/L	3.41		(0%-10%)		
Iron			146	J	38.5	ug/L	32.2		(0%-10%)		08/23/14 02:34
Lead			2.33	U	ND	ug/L	N/A		(0%-10%)		08/22/14 03:29
Magnesium			1930		374	ug/L	3.28		(0%-10%)		

QC Summary

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1407965											
Manganese			36.8		7.01	ug/L	4.71		(0%-10%)	PRB	08/22/14 03:29
Nickel		J	1.83	U	ND	ug/L	N/A		(0%-10%)		
Potassium			1550	J	289	ug/L	6.52		(0%-10%)		
Selenium		U	ND	U	ND	ug/L	N/A		(0%-10%)		
Silver		U	ND	U	ND	ug/L	N/A		(0%-10%)		08/23/14 02:34
Sodium			19000		3620	ug/L	4.89		(0%-10%)		08/22/14 03:29
Thallium		J	0.673	J	0.658	ug/L	389		(0%-10%)		08/23/14 02:34
Zinc			17.6	J	4.61	ug/L	31.1		(0%-10%)		08/22/14 03:29
Metals Analysis-ICP											
Batch 1407963											
QC1203139095 353742001 DUP											
Vanadium		J	1.69	U	ND	ug/L	200 ^			JWJ	08/01/14 20:10
QC1203139094 LCS											
Vanadium	500				518	ug/L		104	(80%-120%)		08/01/14 20:04
QC1203139093 MB											
Vanadium				U	ND	ug/L					08/01/14 20:01
QC1203139096 353742001 MS											
Vanadium	500	J	1.69		526	ug/L		105	(75%-125%)		08/01/14 20:13
QC1203139097 353742001 SDILT											
Vanadium		J	1.69	U	ND	ug/L	N/A		(0%-10%)		08/01/14 20:16
Metals Analysis-Mercury											
Batch 1408293											
QC1203139995 352827001 DUP											
Mercury		U	ND	U	ND	ug/L	N/A			MTM1	08/04/14 11:01
QC1203139987 LCS											
Mercury	2.00				2.09	ug/L		104	(80%-120%)		08/04/14 10:54
QC1203139991 LCSD											
Mercury	2.00				2.04	ug/L	2.13	102	(0%-20%)		08/04/14 10:56

QC Summary

Workorder: 353743

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis-Mercury												
Batch 1408293												
QC1203139986 MB												
Mercury				U	ND	ug/L				MTM1	08/04/14	10:49
QC1203139996 352827001 MS												
Mercury	2.00	U	ND		2.07	ug/L		104	(75%-125%)		08/04/14	11:02
Semi-Volatile-GC/MS												
Batch 1407973												
QC1203139133 LCS												
2,4-Dinitrotoluene	50.0				42.3	ug/L		84.5	(45%-124%)	JLD1	08/03/14	23:47
2-Chlorophenol	50.0				31.1	ug/L		62.3	(39%-99%)			
4-Chloro-3-methylphenol	50.0				36.7	ug/L		73.4	(46%-111%)			
4-Nitrophenol	50.0			J	7.54	ug/L		15.1*	(16%-77%)			
Acenaphthene	50.0				36.2	ug/L		72.4	(40%-104%)			
N-Nitrosodipropylamine	50.0				40.1	ug/L		80.2	(39%-113%)			
Pentachlorophenol	50.0				31.3	ug/L		62.5	(27%-102%)			
Phenol	50.0				10.7	ug/L		21.3	(13%-77%)			
Pyrene	50.0				34.9	ug/L		69.8	(38%-127%)			
**2,4,6-Tribromophenol	100				75.9	ug/L		75.9	(26%-129%)			
**2-Fluorobiphenyl	50.0				34.0	ug/L		68.1	(32%-102%)			
**2-Fluorophenol	100				30.4	ug/L		30.4	(10%-78%)			
**Nitrobenzene-d5	50.0				35.4	ug/L		70.8	(36%-125%)			
**Phenol-d5	100				18.7	ug/L		18.7	(10%-104%)			
**p-Terphenyl-d14	50.0				35.4	ug/L		70.9	(34%-135%)			
QC1203139130 MB												
1,1'-Biphenyl				U	ND	ug/L					08/03/14	23:18
1,2,4,5-Tetrachlorobenzene				U	ND	ug/L						
1-Methylnaphthalene				U	ND	ug/L						

QC Summary

Workorder: 353743

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1407973											
2,3,4,6-Tetrachlorophenol			U	ND	ug/L				JLD1	08/03/14	23:18
2,4,5-Trichlorophenol			U	ND	ug/L						
2,4,6-Trichlorophenol			U	ND	ug/L						
2,4-Dichlorophenol			U	ND	ug/L						
2,4-Dimethylphenol			U	ND	ug/L						
2,4-Dinitrophenol			U	ND	ug/L						
2,4-Dinitrotoluene			U	ND	ug/L						
2,6-Dinitrotoluene			U	ND	ug/L						
2-Chloronaphthalene			U	ND	ug/L						
2-Chlorophenol			U	ND	ug/L						
2-Methyl-4,6-dinitrophenol			U	ND	ug/L						
2-Methylnaphthalene			U	ND	ug/L						
2-Nitrophenol			U	ND	ug/L						
3,3'-Dichlorobenzidine			U	ND	ug/L						
4-Bromophenylphenylether			U	ND	ug/L						
4-Chloro-3-methylphenol			U	ND	ug/L						
4-Chloroaniline			U	ND	ug/L						
4-Chlorophenylphenylether			U	ND	ug/L						
4-Nitrophenol			U	ND	ug/L						
Acenaphthene			U	ND	ug/L						
Acenaphthylene			U	ND	ug/L						

QC Summary

Workorder: **353743**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1407973											
Acetophenone			U	ND	ug/L						
Anthracene			U	ND	ug/L				JLD1	08/03/14	23:18
Atrazine			U	ND	ug/L						
Benzaldehyde			U	ND	ug/L						
Benzo(a)anthracene			U	ND	ug/L						
Benzo(a)pyrene			U	ND	ug/L						
Benzo(b)fluoranthene			U	ND	ug/L						
Benzo(ghi)perylene			U	ND	ug/L						
Benzo(k)fluoranthene			U	ND	ug/L						
Butylbenzylphthalate			U	ND	ug/L						
Caprolactam			U	ND	ug/L						
Carbazole			U	ND	ug/L						
Chrysene			U	ND	ug/L						
Di-n-butylphthalate			U	ND	ug/L						
Di-n-octylphthalate			U	ND	ug/L						
Dibenzo(a,h)anthracene			U	ND	ug/L						
Dibenzofuran			U	ND	ug/L						
Diethylphthalate			U	ND	ug/L						
Dimethylphthalate			U	ND	ug/L						
Diphenylamine			U	ND	ug/L						
Fluoranthene			U	ND	ug/L						
Fluorene			U	ND	ug/L						

QC Summary

Workorder: **353743**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1407973											
Hexachlorobenzene			U	ND	ug/L						
Hexachlorobutadiene			U	ND	ug/L				JLD1	08/03/14	23:18
Hexachlorocyclopentadiene			U	ND	ug/L						
Hexachloroethane			U	ND	ug/L						
Indeno(1,2,3-cd)pyrene			U	ND	ug/L						
Isophorone			U	ND	ug/L						
N-Nitrosodipropylamine			U	ND	ug/L						
Naphthalene			U	ND	ug/L						
Nitrobenzene			U	ND	ug/L						
Pentachlorophenol			U	ND	ug/L						
Phenanthrene			U	ND	ug/L						
Phenol			U	ND	ug/L						
Pyrene			U	ND	ug/L						
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/L						
bis(2-Chloroethoxy)methane			U	ND	ug/L						
bis(2-Chloroethyl) ether			U	ND	ug/L						
bis(2-Ethylhexyl)phthalate			U	ND	ug/L						
m,p-Cresols			U	ND	ug/L						
m-Nitroaniline			U	ND	ug/L						
o-Cresol			U	ND	ug/L						
o-Nitroaniline			U	ND	ug/L						
p-Nitroaniline			U	ND	ug/L						

QC Summary

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS											
Batch 1407973											
**2,4,6-Tribromophenol	100				56.7	ug/L		56.7	(26%-129%)		
**2-Fluorobiphenyl	50.0				30.5	ug/L		61	(32%-102%)	JLD1	08/03/14 23:18
**2-Fluorophenol	100				27.8	ug/L		27.8	(10%-78%)		
**Nitrobenzene-d5	50.0				31.5	ug/L		63	(36%-125%)		
**Phenol-d5	100				17.0	ug/L		17	(10%-104%)		
**p-Terphenyl-d14	50.0				32.5	ug/L		65	(34%-135%)		
QC1203139131 353732001 MS											
2,4-Dinitrotoluene	100	U	ND		80.7	ug/L		80.7	(34%-126%)		08/04/14 00:45
2-Chlorophenol	100	U	ND		62.2	ug/L		62.2	(31%-103%)		
4-Chloro-3-methylphenol	100	U	ND		77.5	ug/L		77.5	(31%-119%)		
4-Nitrophenol	100	U	ND		21.3	ug/L		21.3	(16%-71%)		
Acenaphthene	100	U	ND		68.4	ug/L		68.4	(31%-103%)		
N-Nitrosodipropylamine	100	U	ND		74.8	ug/L		74.8	(29%-116%)		
Pentachlorophenol	100	U	ND		66.1	ug/L		66.1	(19%-112%)		
Phenol	100	U	ND		31.7	ug/L		31.7	(10%-88%)		
Pyrene	100	U	ND		65.5	ug/L		65.5	(27%-126%)		
**2,4,6-Tribromophenol	200		52.0		142	ug/L		71	(26%-129%)		
**2-Fluorobiphenyl	100		26.2		64.7	ug/L		64.7	(32%-102%)		
**2-Fluorophenol	200		20.8		75.1	ug/L		37.5	(10%-78%)		
**Nitrobenzene-d5	100		26.6		62.8	ug/L		62.8	(36%-125%)		
**Phenol-d5	200		12.9		55.3	ug/L		27.7	(10%-104%)		
**p-Terphenyl-d14	100		23.3		65.7	ug/L		65.7	(34%-135%)		
QC1203139132 353732001 MSD											
2,4-Dinitrotoluene	100	U	ND		77.8	ug/L	3.68	77.8	(0%-30%)		08/04/14 01:14

QC Summary

Workorder: 353743

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS											
Batch 1407973											
2-Chlorophenol	100	U	ND		68.1	ug/L	9.11	68.1	(0%-30%)	JLD1	08/04/14 01:14
4-Chloro-3-methylphenol	100	U	ND		74.7	ug/L	3.60	74.7	(0%-30%)		
4-Nitrophenol	100	U	ND	J	19.3	ug/L	10.2	19.3	(0%-30%)		
Acenaphthene	100	U	ND		63.3	ug/L	7.65	63.3	(0%-30%)		
N-Nitrosodipropylamine	100	U	ND		74.8	ug/L	0.0802	74.8	(0%-30%)		
Pentachlorophenol	100	U	ND		59.1	ug/L	11.1	59.1	(0%-30%)		
Phenol	100	U	ND		33.5	ug/L	5.51	33.5	(0%-30%)		
Pyrene	100	U	ND		64.8	ug/L	0.982	64.8	(0%-30%)		
**2,4,6-Tribromophenol	200		52.0		141	ug/L		70.5	(26%-129%)		
**2-Fluorobiphenyl	100		26.2		66.1	ug/L		66.1	(32%-102%)		
**2-Fluorophenol	200		20.8		89.1	ug/L		44.6	(10%-78%)		
**Nitrobenzene-d5	100		26.6		68.1	ug/L		68.1	(36%-125%)		
**Phenol-d5	200		12.9		61.3	ug/L		30.7	(10%-104%)		
**p-Terphenyl-d14	100		23.3		68.7	ug/L		68.7	(34%-135%)		
Spectrometric Analysis											
Batch 1407952											
QC1203139059 353742001 DUP											
Hexavalent Chromium		U	ND	U	ND	mg/L	N/A			SXC5	07/31/14 08:47
QC1203139058 LCS											
Hexavalent Chromium	0.050				0.053	mg/L		106	(85%-115%)		07/31/14 08:45
QC1203139057 MB											
Hexavalent Chromium				U	ND	mg/L					07/31/14 08:44
QC1203139060 353742001 PS											
Hexavalent Chromium	0.050	U	ND		0.0552	mg/L		109	(85%-115%)		07/31/14 08:49
Volatile-GC/MS											

QC Summary

Workorder: 353743

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1409489											
QC1203143143 LCS											
1,2,4-Trichlorobenzene	50.0			48.3	ug/L		96.5	(70%-130%)	ACJ	08/06/14	12:30
tert-Butyl methyl ether	50.0			53.0	ug/L		106	(70%-130%)			
1,1-Dichloroethylene	50.0			53.1	ug/L		106	(70%-130%)			
4-Methyl-2-pentanone	250			259	ug/L		104	(70%-130%)			
Benzene	50.0			51.5	ug/L		103	(70%-130%)			
Chlorobenzene	50.0			49.9	ug/L		99.9	(70%-130%)			
Chloroform	50.0			52.8	ug/L		106	(70%-130%)			
Toluene	50.0			51.2	ug/L		102	(70%-130%)			
Trichloroethylene	50.0		B	53.1	ug/L		106	(70%-130%)			
Vinyl chloride	50.0			62.5	ug/L		125	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			53.5	ug/L		107	(78%-124%)			
**Bromofluorobenzene	50.0			52.9	ug/L		106	(80%-120%)			
**Toluene-d8	50.0			52.3	ug/L		105	(80%-120%)			
QC1203143140 MB											
1,1,1-Trichloroethane			U	ND	ug/L					08/06/14	13:54
1,1,2,2-Tetrachloroethane			U	ND	ug/L						
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						
2-Hexanone			U	ND	ug/L						

QC Summary

Workorder: **353743**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1409489											
4-Methyl-2-pentanone			U	ND	ug/L				ACJ	08/06/14	13:54
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						
Carbon disulfide			U	ND	ug/L						
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						
Chloroform			U	ND	ug/L						
Chloromethane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						
Tetrachloroethylene			U	ND	ug/L						
Toluene			U	ND	ug/L						
Trichloroethylene			J	0.470	ug/L						
Vinyl acetate			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						

QC Summary

Workorder: **353743**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 1409489											
Xylenes (total)				U	ND	ug/L					
cis-1,2-Dichloroethylene				U	ND	ug/L				ACJ	08/06/14 13:54
cis-1,3-Dichloropropylene				U	ND	ug/L					
trans-1,2-Dichloroethylene				U	ND	ug/L					
trans-1,3-Dichloropropylene				U	ND	ug/L					
**1,2-Dichloroethane-d4	50.0				53.6	ug/L		107	(78%-124%)		
**Bromofluorobenzene	50.0				52.0	ug/L		104	(80%-120%)		
**Toluene-d8	50.0				52.9	ug/L		106	(80%-120%)		
QC1203143141 353743002 PS											
1,2,4-Trichlorobenzene	50.0	U	ND		40.8	ug/L		81.5	(59%-126%)		08/06/14 21:54
tert-Butyl methyl ether	50.0	U	ND		53.9	ug/L		108	(71%-124%)		
1,1-Dichloroethylene	50.0	U	ND		51.8	ug/L		104	(74%-130%)		
4-Methyl-2-pentanone	250	U	ND		251	ug/L		101	(70%-132%)		
Benzene	50.0	U	ND		50.7	ug/L		101	(75%-120%)		
Chlorobenzene	50.0	U	ND		48.9	ug/L		97.7	(74%-120%)		
Chloroform	50.0	U	ND		53.3	ug/L		107	(75%-123%)		
Toluene	50.0	U	ND		49.1	ug/L		98.2	(72%-120%)		
Trichloroethylene	50.0	U	ND	B	51.2	ug/L		102	(75%-125%)		
Vinyl chloride	50.0	U	ND		59.4	ug/L		119	(52%-129%)		
**1,2-Dichloroethane-d4	50.0		55.4		56.7	ug/L		113	(78%-124%)		
**Bromofluorobenzene	50.0		55.3		54.6	ug/L		109	(80%-120%)		
**Toluene-d8	50.0		53.1		52.5	ug/L		105	(80%-120%)		
QC1203143142 353743002 PSD											
1,2,4-Trichlorobenzene	50.0	U	ND		43.9	ug/L	7.42	87.8	(0%-20%)		08/06/14 22:22

QC Summary

Workorder: 353743

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 1409489											
tert-Butyl methyl ether	50.0	U	ND		58.0	ug/L	7.30	116	(0%-20%)	ACJ	08/06/14 22:22
1,1-Dichloroethylene	50.0	U	ND		55.1	ug/L	6.29	110	(0%-20%)		
4-Methyl-2-pentanone	250	U	ND		267	ug/L	6.09	107	(0%-20%)		
Benzene	50.0	U	ND		53.6	ug/L	5.51	107	(0%-20%)		
Chlorobenzene	50.0	U	ND		50.9	ug/L	4.07	102	(0%-20%)		
Chloroform	50.0	U	ND		55.6	ug/L	4.22	111	(0%-20%)		
Toluene	50.0	U	ND		52.0	ug/L	5.72	104	(0%-20%)		
Trichloroethylene	50.0	U	ND	B	53.4	ug/L	4.23	106	(0%-20%)		
Vinyl chloride	50.0	U	ND		60.2	ug/L	1.34	120	(0%-20%)		
**1,2-Dichloroethane-d4	50.0		55.4		55.5	ug/L		111	(78%-124%)		
**Bromofluorobenzene	50.0		55.3		55.1	ug/L		110	(80%-120%)		
**Toluene-d8	50.0		53.1		53.3	ug/L		107	(80%-120%)		

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies

QC Summary

Workorder: **353743**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N	Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UJ	Compound cannot be extracted
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 23 August 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−14
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: _____ of _____
Project #: SON00051 4
GEL Quote #: _____
COC Number [1]: _____
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 353743

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Engineering Phone #:
Project/Site Name: Seneca Products Company Fax #:
Address: 1 N. 2nd St. Hartsville, SC
Collected by: Client (Rhett Dlw) Send Results To: S. Nix, T. Putney

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	TAL Metals, Hg	Dissolved TAL Metals Hg	Hex chrome	Dissolved Hex Chrome	Cyanide	Dissolved Cyanide	TCL VOCs	TCL SVOCs			<-- Preservative Type (6)
									NI	NI			SH	SH					
TB-073014	07-30-14	09:10	TB	N	W			4							X				Dissolved Samples
TW-03	↓	10:30	G	N	GW			12	1	1	1	1	1	1	4	2			were field filtered
TW-02	↓	12:15	G	N	GW			12	1	1	1	1	1	1	4	2			

Comments
Note: extra sample is required for sample specific QC

TAT Requested: Normal: ____ Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
Eastern Pacific
Central Other _____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Rhett Dlw	7-30-14	17:40	JP	7-31-14	0715
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SONO	**SDG/AR/COC/Work Order:** 353742/353743/353744
Received By: JP	**Date Received:** 7-31-14

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 cpm
Classified Radioactive II or III by RSO?		✓	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		✓	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		✓	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Ice bags) Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius 2
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: 130460966 Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS (Field Services) Courier Other

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials HF Date 8/31/14 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
05−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
SEMIVOA GC/MS	SW846 3510C/8270D	Liquid	SONO, WSRB
Batch ID:	**Sample Numbers:**		
1407973	See Below		

Potentially affected work order(s)(SDG): 353732,353743

Application Issues:

Container scanning event for custody missed

Failed Recovery for LCS/LCSD

Failed Yield for Surrogates

Specification and Requirements Exception Description:	**DER Disposition:**
1. Container scanning event for custody missed: 353732005. 2. LCS (1203139133) did not meet spike recovery limits for 4−Nitrophenol at 15.1% (SPC limits: 16.0%−77.0%). 3. WSRB (353732012) failed surrogate recovery limits for p−Terphenyl−d14 at 32.7% (SPC limits: 34.0%−135.0%).	1. The analyst did not scan samples into his/her custody. The analyst had physical custody of the sample during the analysis. 2. 4−Nitrophenol accounts for less than 5% of the total number of requested spiking analytes. The data have been reported. 3. The sample was re−extracted as part of batch 1409306 and confirmed the surrogate failures. The data from the original extraction have been reported.

Originator's Name:
Josh Brooks 07−AUG−14

Data Validator/Group Leader:
Cameron Bearden 07−AUG−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
07−AUG−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
VOA GC/MS	SW846 8260B, SW846 8260B SC_NPDES	Liquid	DRTA, SONO
Batch ID:	**Sample Numbers:**		
1409489	See Below		

Potentially affected work order(s)(SDG): 353743,353916,353939

Application Issues:

Failed Recovery for MS/PS

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	**DER Disposition:**
1. QC samples 1203143141(TW−03)MS and 1203143142(TW−03)MSD were outside the spike recovery acceptance limits for Vinyl Acetate.	1. Narrate and report data. The MS/MSD recovered in a similar manner and passed %RPD. The matrix of the parent sample was muddy water.

Originator's Name:

Amy Jamison 07−AUG−14

Data Validator/Group Leader:

Erin Haubert 07−AUG−14

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171 F 843.766.1178

www.gel.com

September 18, 2014

Mr. Stephen Nix
GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina 29607

Re: Phase II investigation
Work Order: 356059

Dear Mr. Nix:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 04, 2014. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

Joanne Harley for
Jake Crook
Project Manager

Purchase Order: GELP13-0637
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GEEL003 GEL Engineering, LLC

Client SDG: 356059 GEL Work Order: 356059

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

B The target analyte was detected in the associated blank.

H Analytical holding time was exceeded

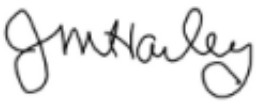
J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by 

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 18, 2014

Company : GEL Engineering
Address : 111 Smith Hines Road
Suite J
Greenville, South Carolina 29607
Contact: Mr. Stephen Nix
Project: Phase II investigation

Client Sample ID: SO-03
Sample ID: 356059001
Matrix: Ground Water
Collect Date: 04-SEP-14 13:05
Receive Date: 04-SEP-14
Collector: Client

Project: SONO00514C
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.67	5.00	ug/L	1	AXH3	09/08/14	1021	1416793	1
Ion Chromatography											
SW846 9056A Anions "As Received"											
Nitrate-N	U	ND	0.033	0.100	mg/L	1	RXB5	09/05/14	0334	1416765	2
Nitrite-N	U	ND	0.038	0.100	mg/L	1					
Sulfate		19.9	0.266	0.800	mg/L	2	RXB5	09/06/14	0839	1416765	3
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	09/08/14	1119	1416827	4
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	2.12	1.00	5.00	ug/L	1	TXT1	09/10/14	0958	1416791	5
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		534	15.0	50.0	ug/L	1	SKJ	09/16/14	1754	1416787	6
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		27.3	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		1100	60.0	200	ug/L	1					
Chromium	J	2.34	2.00	10.0	ug/L	1					
Cobalt		2.10	0.100	1.00	ug/L	1					
Copper	J	0.459	0.350	1.00	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		910	10.0	30.0	ug/L	1					
Manganese		13.4	1.00	5.00	ug/L	1					
Nickel	J	1.70	0.500	2.00	ug/L	1					
Potassium		628	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		5610	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Antimony	U	ND	1.00	3.00	ug/L	1	SKJ	09/15/14	2221	1416787	7
Iron		1730	33.0	100	ug/L	1	PRB	09/18/14	1007	1416787	8

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Certificate of Analysis

Report Date: September 18, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03	Project:	SONO00514C
Sample ID:	356059001	Client ID:	GEEL003

Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Zinc		15.0	3.50	10.0	ug/L	1	PRB	09/17/14	1808	1419752	9
Semi-Volatile-GC/MS											
8270D Semivolatile Analysis by Separatory Funnel "As Received"											
1,1'-Biphenyl	U	ND	3.00	10.0	ug/L	1	AGS1	09/09/14	0733	1416934	10
1,2,4,5-Tetrachlorobenzene	U	ND	3.00	10.0	ug/L	1					
1-Methylnaphthalene	U	ND	0.300	1.00	ug/L	1					
2,3,4,6-Tetrachlorophenol	U	ND	3.00	10.0	ug/L	1					
2,4,5-Trichlorophenol	U	ND	3.00	10.0	ug/L	1					
2,4,6-Trichlorophenol	U	ND	3.00	10.0	ug/L	1					
2,4-Dichlorophenol	U	ND	3.00	10.0	ug/L	1					
2,4-Dimethylphenol	U	ND	3.00	10.0	ug/L	1					
2,4-Dinitrotoluene	U	ND	3.00	10.0	ug/L	1					
2,6-Dinitrotoluene	U	ND	3.00	10.0	ug/L	1					
2-Chloronaphthalene	U	ND	0.410	1.00	ug/L	1					
2-Chlorophenol	U	ND	3.00	10.0	ug/L	1					
2-Methyl-4,6-dinitrophenol	U	ND	3.00	10.0	ug/L	1					
2-Methylnaphthalene	U	ND	0.300	1.00	ug/L	1					
2-Nitrophenol	U	ND	3.00	10.0	ug/L	1					
3,3'-Dichlorobenzidine	U	ND	3.00	10.0	ug/L	1					
4-Bromophenylphenylether	U	ND	3.00	10.0	ug/L	1					
4-Chloro-3-methylphenol	U	ND	3.00	10.0	ug/L	1					
4-Chloroaniline	U	ND	3.30	10.0	ug/L	1					
4-Chlorophenylphenylether	U	ND	3.00	10.0	ug/L	1					
4-Nitrophenol	U	ND	3.00	10.0	ug/L	1					
Acenaphthene	U	ND	0.300	1.00	ug/L	1					
Acenaphthylene	U	ND	0.300	1.00	ug/L	1					
Acetophenone	U	ND	3.00	10.0	ug/L	1					
Anthracene	U	ND	0.300	1.00	ug/L	1					
Atrazine	U	ND	3.00	10.0	ug/L	1					
Benzaldehyde	U	ND	3.00	10.0	ug/L	1					
Benzo(a)anthracene	U	ND	0.300	1.00	ug/L	1					
Benzo(a)pyrene	U	ND	0.300	1.00	ug/L	1					
Benzo(b)fluoranthene	U	ND	0.300	1.00	ug/L	1					
Benzo(ghi)perylene	U	ND	0.300	1.00	ug/L	1					
Benzo(k)fluoranthene	U	ND	0.300	1.00	ug/L	1					
Butylbenzylphthalate	U	ND	3.00	10.0	ug/L	1					

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Certificate of Analysis

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Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03	Project:	SONO00514C
Sample ID:	356059001	Client ID:	GEEL003

Semi-Volatile-GC/MS

8270D Semivolatile Analysis by Separatory Funnel "As Received"

Caprolactam	U	ND	3.00	10.0	ug/L	1					
Carbazole	U	ND	0.300	1.00	ug/L	1					
Chrysene	U	ND	0.300	1.00	ug/L	1					
Di-n-butylphthalate	U	ND	3.00	10.0	ug/L	1					
Di-n-octylphthalate	U	ND	3.00	10.0	ug/L	1					
Dibenzofuran	U	ND	3.00	10.0	ug/L	1					
Diethylphthalate	U	ND	3.00	10.0	ug/L	1					
Dimethylphthalate	U	ND	3.00	10.0	ug/L	1					
Diphenylamine	U	ND	3.00	10.0	ug/L	1					
Fluoranthene	U	ND	0.300	1.00	ug/L	1					
Fluorene	U	ND	0.300	1.00	ug/L	1					
Hexachlorobenzene	U	ND	3.00	10.0	ug/L	1					
Hexachlorobutadiene	U	ND	3.00	10.0	ug/L	1					
Hexachlorocyclopentadiene	U	ND	3.00	10.0	ug/L	1					
Hexachloroethane	U	ND	3.00	10.0	ug/L	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.300	1.00	ug/L	1					
Isophorone	U	ND	3.50	10.0	ug/L	1					
N-Nitrosodipropylamine	U	ND	3.00	10.0	ug/L	1					
Naphthalene	U	ND	0.300	1.00	ug/L	1					
Nitrobenzene	U	ND	3.00	10.0	ug/L	1					
Pentachlorophenol	U	ND	3.00	10.0	ug/L	1					
Phenanthrene	U	ND	0.300	1.00	ug/L	1					
Phenol	U	ND	3.00	10.0	ug/L	1					
Pyrene	U	ND	0.300	1.00	ug/L	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	3.00	10.0	ug/L	1					
bis(2-Chloroethoxy)methane	U	ND	3.00	10.0	ug/L	1					
bis(2-Chloroethyl) ether	U	ND	3.00	10.0	ug/L	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	1					
m,p-Cresols	U	ND	3.70	10.0	ug/L	1					
m-Nitroaniline	U	ND	3.00	10.0	ug/L	1					
o-Cresol	U	ND	3.00	10.0	ug/L	1					
o-Nitroaniline	U	ND	3.00	10.0	ug/L	1					
2,4-Dinitrophenol	U	ND	5.00	20.0	ug/L	1	JMB3	09/09/14	0756	1416934	11
Dibenzo(a,h)anthracene	U	ND	0.300	1.00	ug/L	1					
p-Nitroaniline	U	ND	3.00	10.0	ug/L	1					

Spectrometric Analysis

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Certificate of Analysis

Report Date: September 18, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03	Project:	SONO00514C
Sample ID:	356059001	Client ID:	GEEL003

Spectrometric Analysis											
SW846_7196A Hexavalent Chromium "As Received"											
Hexavalent Chromium	U	ND	0.003	0.010	mg/L	1	SXC5	09/05/14	1005	1416797	12
Titration and Ion Analysis											
SM4500 Sulfite Liquid "As Received"											
Sulfite	H	1.00	0.500	1.00	mg/L		PXO1	09/04/14	1917	1416763	13
SW9040C pH "As Received"											
pH at Temp 11.7C	H	4.15	0.010	0.100	SU	1	PXO1	09/06/14	1447	1417108	14
Volatile Organics											
5030/8260B in Liquid "As Received"											
1,1,1-Trichloroethane	U	ND	0.300	1.00	ug/L	1	ACJ	09/11/14	1235	1418300	15
1,1,2,2-Tetrachloroethane	U	ND	0.300	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloroethane	U	ND	0.300	1.00	ug/L	1					
1,2-Dichloropropane	U	ND	0.300	1.00	ug/L	1					
2-Butanone	U	ND	1.50	5.00	ug/L	1					
2-Hexanone	U	ND	1.50	5.00	ug/L	1					
4-Methyl-2-pentanone	U	ND	1.50	5.00	ug/L	1					
Acetone	U	ND	1.50	5.00	ug/L	1					
Benzene	U	ND	0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND	0.300	1.00	ug/L	1					
Bromoform	U	ND	0.300	1.00	ug/L	1					
Bromomethane	U	ND	0.300	1.00	ug/L	1					
Carbon disulfide	U	ND	1.50	5.00	ug/L	1					
Carbon tetrachloride	U	ND	0.300	1.00	ug/L	1					
Chlorobenzene	U	ND	0.300	1.00	ug/L	1					
Chloroethane	U	ND	0.300	1.00	ug/L	1					
Chloroform	U	ND	0.300	1.00	ug/L	1					
Chloromethane	U	ND	0.300	1.00	ug/L	1					
Dibromochloromethane	U	ND	0.300	1.00	ug/L	1					
Ethylbenzene	U	ND	0.300	1.00	ug/L	1					
Methylene chloride	BJ	1.33	1.00	2.00	ug/L	1					
Styrene	U	ND	0.300	1.00	ug/L	1					
Tetrachloroethylene	U	ND	0.300	1.00	ug/L	1					
Toluene	U	ND	0.300	1.00	ug/L	1					

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Certificate of Analysis

Report Date: September 18, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03	Project:	SONO00514C
Sample ID:	356059001	Client ID:	GEEL003

Volatile Organics

5030/8260B in Liquid "As Received"

Trichloroethylene	U	ND	0.300	1.00	ug/L	1
Vinyl acetate	U	ND	1.50	5.00	ug/L	1
Vinyl chloride	U	ND	0.300	1.00	ug/L	1
Xylenes (total)	U	ND	0.300	3.00	ug/L	1
cis-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
cis-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1
trans-1,2-Dichloroethylene	U	ND	0.300	1.00	ug/L	1
trans-1,3-Dichloropropylene	U	ND	0.300	1.00	ug/L	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM5	09/08/14	0800	1416786
SW846 3005A	ICP-MS 3005A PREP	KXP3	09/17/14	1015	1419751
SW846 3005A	SW846 3005A for 6010C	JXM5	09/05/14	0800	1416790
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SJW1	09/08/14	1150	1416932
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	09/05/14	1300	1416826
SW846 9010C Distillation	SW846 9010C Prep	AXH3	09/08/14	0940	1416792

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Certificate of Analysis

Report Date: September 18, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03	Project:	SONO00514C
Sample ID:	356059001	Client ID:	GEEL003

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	SW846 9056A	
3	SW846 9056A	
4	SW846 7470A	
5	SW846 3005A/6010C	
6	SW846 3005A/6020A	
7	SW846 3005A/6020A	
8	SW846 3005A/6020A	
9	SW846 3005A/6020A	
10	SW846 3510C/8270D	
11	SW846 3510C/8270D	
12	SW846 7196A	
13	SM 4500-SO3 (2-) B	
14	SW846 9040C	
15	SW846 8260B SC_NPDES	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2,4,6-Tribromophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	69.6 ug/L	100	69.6	(26%-129%)
2-Fluorophenol	8270D Semivolatile Analysis by Separatory Funnel "As Received"	46.3 ug/L	100	46.3	(10%-78%)
Phenol-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	27.9 ug/L	100	27.9	(10%-104%)
2-Fluorobiphenyl	8270D Semivolatile Analysis by Separatory Funnel "As Received"	35.7 ug/L	50.0	71.4	(32%-102%)
Nitrobenzene-d5	8270D Semivolatile Analysis by Separatory Funnel "As Received"	35.0 ug/L	50.0	69.9	(36%-125%)
p-Terphenyl-d14	8270D Semivolatile Analysis by Separatory Funnel "As Received"	38.7 ug/L	50.0	77.3	(34%-135%)
1,2-Dichloroethane-d4	5030/8260B in Liquid "As Received"	49.7 ug/L	50.0	99.4	(78%-124%)
Bromofluorobenzene	5030/8260B in Liquid "As Received"	52.2 ug/L	50.0	104	(80%-120%)
Toluene-d8	5030/8260B in Liquid "As Received"	53.7 ug/L	50.0	107	(80%-120%)

Notes:

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: September 18, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03 Dissolved	Project:	SONO00514C
Sample ID:	356059002	Client ID:	GEEL003
Matrix:	Ground Water		
Collect Date:	04-SEP-14 13:05		
Receive Date:	04-SEP-14		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA											
7470 Cold Vapor Hg Liquid "As Received"											
Mercury	U	ND	0.067	0.200	ug/L	1	MTM1	09/08/14	1120	1416827	1
Metals Analysis-ICP											
SW846 3005A/6010C Liquid "As Received"											
Vanadium	J	1.82	1.00	5.00	ug/L	1	TXT1	09/10/14	1012	1416791	2
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Aluminum		320	15.0	50.0	ug/L	1	SKJ	09/16/14	1813	1416787	3
Arsenic	U	ND	1.70	5.00	ug/L	1					
Barium		26.6	0.600	2.00	ug/L	1					
Beryllium	U	ND	0.200	0.500	ug/L	1					
Cadmium	U	ND	0.110	1.00	ug/L	1					
Calcium		1130	60.0	200	ug/L	1					
Chromium	J	2.37	2.00	10.0	ug/L	1					
Cobalt		2.08	0.100	1.00	ug/L	1					
Copper	J	0.506	0.350	1.00	ug/L	1					
Lead	U	ND	0.500	2.00	ug/L	1					
Magnesium		890	10.0	30.0	ug/L	1					
Manganese		13.4	1.00	5.00	ug/L	1					
Nickel		2.51	0.500	2.00	ug/L	1					
Potassium		623	80.0	300	ug/L	1					
Selenium	U	ND	1.50	5.00	ug/L	1					
Silver	U	ND	0.200	1.00	ug/L	1					
Sodium		5680	80.0	250	ug/L	1					
Thallium	U	ND	0.450	2.00	ug/L	1					
Antimony	U	ND	1.00	3.00	ug/L	1	SKJ	09/15/14	2240	1416787	4
Iron		1760	33.0	100	ug/L	1	PRB	09/18/14	1020	1416787	5
Zinc		13.7	3.50	10.0	ug/L	1	PRB	09/17/14	1822	1419752	6
Spectrometric Analysis											
SW846_7196A Hexavalent Chromium Dissolved "As Received"											
Hexavalent Chromium	U	ND	0.003	0.010	mg/L	1	SXC5	09/05/14	1006	1416797	7

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM5	09/08/14	0800	1416786
SW846 3005A	ICP-MS 3005A PREP	KXP3	09/17/14	1015	1419751

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Certificate of Analysis

Report Date: September 18, 2014

Company :	GEL Engineering
Address :	111 Smith Hines Road Suite J Greenville, South Carolina 29607
Contact:	Mr. Stephen Nix
Project:	Phase II investigation

Client Sample ID:	SO-03 Dissolved	Project:	SONO00514C
Sample ID:	356059002	Client ID:	GEEL003

SW846 3005A	SW846 3005A for 6010C	JXM5	09/05/14	0800	1416790
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	09/05/14	1300	1416826

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6010C	
3	SW846 3005A/6020A	
4	SW846 3005A/6020A	
5	SW846 3005A/6020A	
6	SW846 3005A/6020A	
7	SW846 7196A	

Notes:

QC Summary

Report Date: September 18, 2014

GEL Engineering
111 Smith Hines Road
Suite J
Greenville, South Carolina

Contact: **Mr. Stephen Nix**

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis											
Batch 1416793											
QC1203161473 356035001 DUP											
Cyanide, Total		U	ND	U	ND	ug/L	N/A			AXH3	09/08/14 10:11
QC1203161471 LCS											
Cyanide, Total	50.0				50.3	ug/L		101	(90%-110%)		09/08/14 09:56
QC1203161470 MB											
Cyanide, Total				U	ND	ug/L					09/08/14 09:56
QC1203161476 356035001 MS											
Cyanide, Total	100	U	ND		108	ug/L		108	(60%-124%)		09/08/14 10:12
Ion Chromatography											
Batch 1416765											
QC1203161413 356059001 DUP											
Nitrate-N		U	ND	U	ND	mg/L	N/A			RXB5	09/05/14 04:05
Nitrite-N		U	ND	U	ND	mg/L	N/A				
Sulfate			19.9		20.5	mg/L	3.07		(0%-20%)		09/06/14 09:10
QC1203161412 LCS											
Nitrate-N	2.50				2.34	mg/L		93.8	(90%-110%)		09/05/14 03:03
Nitrite-N	2.50				2.38	mg/L		95.2	(90%-110%)		
Sulfate	10.0				9.67	mg/L		96.7	(90%-110%)		
QC1203161411 MB											
Nitrate-N				U	ND	mg/L					09/05/14 02:32
Nitrite-N				U	ND	mg/L					
Sulfate				U	ND	mg/L					
QC1203161414 356059001 PS											
Nitrate-N	2.50	U	ND		2.41	mg/L		96.2	(90%-110%)		09/05/14 04:36
Nitrite-N	2.50	U	ND		2.40	mg/L		96	(90%-110%)		
Sulfate	10.0		9.96		19.9	mg/L		99.6	(90%-110%)		09/06/14 09:41

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 1416765										
Metals Analysis - ICPMS										
Batch 1416787										
QC1203161461 356059001 DUP										
Aluminum		534		528	ug/L	1.11		(0%-20%)	SKJ	09/16/14 17:58
Antimony	U	ND	U	ND	ug/L	N/A				09/15/14 22:25
Arsenic	U	ND	U	ND	ug/L	N/A				09/16/14 17:58
Barium		27.3		26.9	ug/L	1.31		(0%-20%)		
Beryllium	U	ND	U	ND	ug/L	N/A				
Cadmium	U	ND	U	ND	ug/L	N/A				
Calcium		1100		1100	ug/L	0.488		(0%-20%)		
Chromium	J	2.34	J	2.03	ug/L	13.9 ^		(+/-10.0)		
Cobalt		2.10		2.11	ug/L	0.522 ^		(+/-1.00)		
Copper	J	0.459	J	0.435	ug/L	5.37 ^		(+/-1.00)		
Iron		1730		1670	ug/L	3.82		(0%-20%)	PRB	09/18/14 10:08
Lead	U	ND	U	ND	ug/L	N/A			SKJ	09/16/14 17:58
Magnesium		910		900	ug/L	1.12		(0%-20%)		
Manganese		13.4		13.4	ug/L	0.104 ^		(+/-5.00)		
Nickel	J	1.70	J	1.70	ug/L	0.353 ^		(+/-2.00)		
Potassium		628		628	ug/L	0.00843 ^		(+/-300)		
Selenium	U	ND	U	ND	ug/L	N/A				
Silver	U	ND	U	ND	ug/L	N/A				
Sodium		5610		5570	ug/L	0.672		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A				

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1416787										
QC1203161460 LCS										
Aluminum	2000			1970	ug/L		98.4	(80%-120%)	SKJ	09/16/14 17:43
Antimony	50.0			50.7	ug/L		101	(80%-120%)		09/15/14 22:10
Arsenic	50.0			50.2	ug/L		100	(80%-120%)		09/16/14 17:43
Barium	50.0			47.8	ug/L		95.5	(80%-120%)		
Beryllium	50.0			50.6	ug/L		101	(80%-120%)		
Cadmium	50.0			50.2	ug/L		100	(80%-120%)		
Calcium	2000			2000	ug/L		99.9	(80%-120%)		
Chromium	50.0			49.7	ug/L		99.5	(80%-120%)		
Cobalt	50.0			49.7	ug/L		99.4	(80%-120%)		
Copper	50.0			51.4	ug/L		103	(80%-120%)		
Iron	2000			2130	ug/L		106	(80%-120%)	PRB	09/18/14 10:03
Lead	50.0			50.7	ug/L		101	(80%-120%)	SKJ	09/16/14 17:43
Magnesium	2000			1920	ug/L		96.1	(80%-120%)		
Manganese	50.0			50.2	ug/L		100	(80%-120%)		
Nickel	50.0			51.2	ug/L		102	(80%-120%)		
Potassium	2000			1990	ug/L		99.6	(80%-120%)		
Selenium	50.0			50.5	ug/L		101	(80%-120%)		
Silver	50.0			52.0	ug/L		104	(80%-120%)		
Sodium	2000			1930	ug/L		96.4	(80%-120%)		
Thallium	50.0			49.4	ug/L		98.8	(80%-120%)		
QC1203161459 MB										
Aluminum			U	ND	ug/L					09/16/14 17:39

QC Summary

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS												
Batch 1416787												
Antimony				U	ND	ug/L				SKJ	09/15/14	22:06
Arsenic				U	ND	ug/L					09/16/14	17:39
Barium				U	ND	ug/L						
Beryllium				U	ND	ug/L						
Cadmium				U	ND	ug/L						
Calcium				U	ND	ug/L						
Chromium				U	ND	ug/L						
Cobalt				U	ND	ug/L						
Copper				U	ND	ug/L						
Iron				U	ND	ug/L				PRB	09/18/14	10:02
Lead				U	ND	ug/L				SKJ	09/16/14	17:39
Magnesium				U	ND	ug/L						
Manganese				U	ND	ug/L						
Nickel				U	ND	ug/L						
Potassium				U	ND	ug/L						
Selenium				U	ND	ug/L						
Silver				U	ND	ug/L						
Sodium				U	ND	ug/L						
Thallium				U	ND	ug/L						
QC1203161462 356059001 MS												
Aluminum	2000		534		2390	ug/L		93	(75%-125%)		09/16/14	18:02
Antimony	50.0	U	ND		51.0	ug/L		102	(75%-125%)		09/15/14	22:28

QC Summary

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1416787											
Arsenic	50.0	U	ND		50.6	ug/L		99.5	(75%-125%)	SKJ	09/16/14 18:02
Barium	50.0		27.3		73.3	ug/L		92	(75%-125%)		
Beryllium	50.0	U	ND		51.3	ug/L		102	(75%-125%)		
Cadmium	50.0	U	ND		50.1	ug/L		100	(75%-125%)		
Calcium	2000		1100		3090	ug/L		99.5	(75%-125%)		
Chromium	50.0	J	2.34		51.3	ug/L		98	(75%-125%)		
Cobalt	50.0		2.10		50.9	ug/L		97.5	(75%-125%)		
Copper	50.0	J	0.459		51.3	ug/L		102	(75%-125%)		
Iron	2000		1730		3980	ug/L		112	(75%-125%)	PRB	09/18/14 10:09
Lead	50.0	U	ND		51.8	ug/L		103	(75%-125%)	SKJ	09/16/14 18:02
Magnesium	2000		910		2610	ug/L		85.1	(75%-125%)		
Manganese	50.0		13.4		62.9	ug/L		98.9	(75%-125%)		
Nickel	50.0	J	1.70		52.0	ug/L		101	(75%-125%)		
Potassium	2000		628		2660	ug/L		101	(75%-125%)		
Selenium	50.0	U	ND		49.5	ug/L		98.6	(75%-125%)		
Silver	50.0	U	ND		51.4	ug/L		103	(75%-125%)		
Sodium	2000		5610		7490	ug/L		94	(75%-125%)		
Thallium	50.0	U	ND		49.6	ug/L		99.2	(75%-125%)		
QC1203161463 356059001 SDILT											
Aluminum			534		109	ug/L	2.14		(0%-10%)		09/16/14 18:09
Antimony		U	ND	U	ND	ug/L	N/A		(0%-10%)		09/15/14 22:36
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-10%)		09/16/14 18:09

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1416787										
Barium		27.3		5.60	ug/L	2.57		(0%-10%)	SKJ	09/16/14 18:09
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Calcium		1100		228	ug/L	3.22		(0%-10%)		
Chromium	J	2.34	J	2.29	ug/L	390		(0%-10%)		
Cobalt		2.10	J	0.434	ug/L	3.28		(0%-10%)		
Copper	J	0.459	U	ND	ug/L	N/A		(0%-10%)		
Iron		1730		360	ug/L	3.77		(0%-10%)	PRB	09/18/14 10:19
Lead	U	ND	U	ND	ug/L	N/A		(0%-10%)	SKJ	09/16/14 18:09
Magnesium		910		180	ug/L	1.06		(0%-10%)		
Manganese		13.4	J	2.77	ug/L	3.33		(0%-10%)		
Nickel	J	1.70	U	ND	ug/L	N/A		(0%-10%)		
Potassium		628	J	168	ug/L	33.4		(0%-10%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Sodium		5610		1100	ug/L	2.08		(0%-10%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Batch 1419752										
QC1203169094 356059001 DUP										
Zinc		15.0		14.4	ug/L	4.20 ^		(+/-10.0)	PRB	09/17/14 18:11
QC1203169093 LCS										
Zinc	50.0			46.5	ug/L		93	(80%-120%)		09/17/14 18:00
QC1203169092 MB										
Zinc			U	ND	ug/L					09/17/14 17:57

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1419752										
QC1203169095 356059001 MS										
Zinc	50.0	15.0		61.5	ug/L		93	(75%-125%)	PRB	09/17/14 18:14
QC1203169096 356059001 SDILT										
Zinc		15.0	J	3.53	ug/L	17.5		(0%-10%)		09/17/14 18:19
Metals Analysis-ICP										
Batch 1416791										
QC1203161466 356059001 DUP										
Vanadium	J	2.12	J	2.06	ug/L	3.25 ^		(+/-5.00)	TXT1	09/10/14 10:02
QC1203161465 LCS										
Vanadium	500			518	ug/L		104	(80%-120%)		09/10/14 09:55
QC1203161464 MB										
Vanadium			U	ND	ug/L					09/10/14 09:51
QC1203161467 356059001 MS										
Vanadium	500 J	2.12		522	ug/L		104	(75%-125%)		09/10/14 10:06
QC1203161468 356059001 SDILT										
Vanadium	J	2.12	U	ND	ug/L	N/A		(0%-10%)		09/10/14 10:09
Metals Analysis-Mercury										
Batch 1416827										
QC1203161581 355179001 DUP										
Mercury	U	ND	U	ND	ug/L	N/A			MTM1	09/08/14 10:52
QC1203161580 LCS										
Mercury	2.00			2.04	ug/L		102	(80%-120%)		09/08/14 10:40
QC1203161579 MB										
Mercury			U	ND	ug/L					09/08/14 10:38
QC1203161582 355179001 MS										
Mercury	2.00 U	ND		1.89	ug/L		91.4	(75%-125%)		09/08/14 10:53
QC1203161583 355179001 SDILT										
Mercury	U	ND	U	ND	ug/L	N/A		(0%-10%)		09/08/14 10:58
Semi-Volatile-GC/MS										
Batch 1416934										
QC1203161892 LCS										
1,4-Dichlorobenzene	50.0			23.5	ug/L		46.9	(24%-88%)	AGS1	09/08/14 23:21

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1416934											
2,4-Dinitrotoluene	50.0			39.3	ug/L		78.6	(45%-124%)			
2-Chlorophenol	50.0			37.2	ug/L		74.3	(39%-99%)	AGS1	09/08/14	23:21
4-Chloro-3-methylphenol	50.0			39.4	ug/L		78.8	(46%-111%)			
4-Nitrophenol	50.0		J	11.9	ug/L		23.9	(16%-77%)			
Acenaphthene	50.0			34.7	ug/L		69.4	(40%-104%)			
N-Nitrosodipropylamine	50.0			38.6	ug/L		77.2	(39%-113%)			
Pentachlorophenol	50.0			36.8	ug/L		73.6	(27%-102%)			
Phenol	50.0			16.8	ug/L		33.6	(13%-77%)			
Pyrene	50.0			42.3	ug/L		84.7	(38%-127%)			
**2,4,6-Tribromophenol	100			80.3	ug/L		80.3	(26%-129%)			
**2-Fluorobiphenyl	50.0			35.9	ug/L		71.8	(32%-102%)			
**2-Fluorophenol	100			48.9	ug/L		48.9	(10%-78%)			
**Nitrobenzene-d5	50.0			32.8	ug/L		65.5	(36%-125%)			
**Phenol-d5	100			30.9	ug/L		30.9	(10%-104%)			
**p-Terphenyl-d14	50.0			39.9	ug/L		79.8	(34%-135%)			
QC1203161891 MB											
1,1'-Biphenyl			U	ND	ug/L					09/08/14	22:53
1,2,4,5-Tetrachlorobenzene			U	ND	ug/L						
1-Methylnaphthalene			U	ND	ug/L						
2,3,4,6-Tetrachlorophenol			U	ND	ug/L						
2,4,5-Trichlorophenol			U	ND	ug/L						
2,4,6-Trichlorophenol			U	ND	ug/L						
2,4-Dichlorophenol			U	ND	ug/L						

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1416934											
2,4-Dimethylphenol			U	ND	ug/L				AGS1	09/08/14	22:53
2,4-Dinitrophenol			U	ND	ug/L				JMB3	09/08/14	23:14
2,4-Dinitrotoluene			U	ND	ug/L				AGS1	09/08/14	22:53
2,6-Dinitrotoluene			U	ND	ug/L						
2-Chloronaphthalene			U	ND	ug/L						
2-Chlorophenol			U	ND	ug/L						
2-Methyl-4,6-dinitrophenol			U	ND	ug/L						
2-Methylnaphthalene			U	ND	ug/L						
2-Nitrophenol			U	ND	ug/L						
3,3'-Dichlorobenzidine			U	ND	ug/L						
4-Bromophenylphenylether			U	ND	ug/L						
4-Chloro-3-methylphenol			U	ND	ug/L						
4-Chloroaniline			U	ND	ug/L						
4-Chlorophenylphenylether			U	ND	ug/L						
4-Nitrophenol			U	ND	ug/L						
Acenaphthene			U	ND	ug/L						
Acenaphthylene			U	ND	ug/L						
Acetophenone			U	ND	ug/L						
Anthracene			U	ND	ug/L						
Atrazine			U	ND	ug/L						
Benzaldehyde			U	ND	ug/L						

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1416934											
Benzo(a)anthracene			U	ND	ug/L						
Benzo(a)pyrene			U	ND	ug/L				AGS1	09/08/14	22:53
Benzo(b)fluoranthene			U	ND	ug/L						
Benzo(ghi)perylene			U	ND	ug/L						
Benzo(k)fluoranthene			U	ND	ug/L						
Butylbenzylphthalate			U	ND	ug/L						
Caprolactam			U	ND	ug/L						
Carbazole			U	ND	ug/L						
Chrysene			U	ND	ug/L						
Di-n-butylphthalate			U	ND	ug/L						
Di-n-octylphthalate			U	ND	ug/L						
Dibenzo(a,h)anthracene			U	ND	ug/L				JMB3	09/08/14	23:14
Dibenzofuran			U	ND	ug/L				AGS1	09/08/14	22:53
Diethylphthalate			U	ND	ug/L						
Dimethylphthalate			U	ND	ug/L						
Diphenylamine			U	ND	ug/L						
Fluoranthene			U	ND	ug/L						
Fluorene			U	ND	ug/L						
Hexachlorobenzene			U	ND	ug/L						
Hexachlorobutadiene			U	ND	ug/L						
Hexachlorocyclopentadiene			U	ND	ug/L						
Hexachloroethane			U	ND	ug/L						

QC Summary

Workorder: 356059

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1416934											
Indeno(1,2,3-cd)pyrene			U	ND	ug/L						
Isophorone			U	ND	ug/L				AGS1	09/08/14	22:53
N-Nitrosodipropylamine			U	ND	ug/L						
Naphthalene			U	ND	ug/L						
Nitrobenzene			U	ND	ug/L						
Pentachlorophenol			U	ND	ug/L						
Phenanthrene			U	ND	ug/L						
Phenol			U	ND	ug/L						
Pyrene			U	ND	ug/L						
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/L						
bis(2-Chloroethoxy)methane			U	ND	ug/L						
bis(2-Chloroethyl) ether			U	ND	ug/L						
bis(2-Ethylhexyl)phthalate			U	ND	ug/L						
m,p-Cresols			U	ND	ug/L						
m-Nitroaniline			U	ND	ug/L						
o-Cresol			U	ND	ug/L						
o-Nitroaniline			U	ND	ug/L						
p-Nitroaniline			U	ND	ug/L				JMB3	09/08/14	23:14
**2,4,6-Tribromophenol	100			71.1	ug/L		71.1	(26%-129%)	AGS1	09/08/14	22:53
**2-Fluorobiphenyl	50.0			36.2	ug/L		72.5	(32%-102%)			
**2-Fluorophenol	100			50.1	ug/L		50.1	(10%-78%)			
**Nitrobenzene-d5	50.0			33.7	ug/L		67.5	(36%-125%)			

QC Summary

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS											
Batch 1416934											
**Phenol-d5	100				31.2	ug/L		31.2	(10%-104%)		
**p-Terphenyl-d14	50.0				39.0	ug/L		78	(34%-135%)	AGS1	09/08/14 22:53
QC1203161893 356053001 MS											
1,4-Dichlorobenzene	103	U	ND		34.7	ug/L		33.6	(20%-86%)		09/09/14 05:08
2,4-Dinitrotoluene	103	U	ND		85.4	ug/L		82.8	(34%-126%)		
2-Chlorophenol	103	U	ND		70.4	ug/L		68.3	(31%-103%)		
4-Chloro-3-methylphenol	103	U	ND		84.3	ug/L		81.8	(31%-119%)		
4-Nitrophenol	103	U	ND		43.3	ug/L		42	(16%-71%)		
Acenaphthene	103	U	ND		69.5	ug/L		67.4	(31%-103%)		
N-Nitrosodipropylamine	103	U	ND		76.3	ug/L		74	(29%-116%)		
Pentachlorophenol	103	U	ND		54.0	ug/L		52.4	(19%-112%)		
Phenol	103	U	ND		51.5	ug/L		50	(10%-88%)		
Pyrene	103	U	ND		81.6	ug/L		79.2	(27%-126%)		
**2,4,6-Tribromophenol	206		60.8		160	ug/L		77.7	(26%-129%)		
**2-Fluorobiphenyl	103		30.6		75.5	ug/L		73.3	(32%-102%)		
**2-Fluorophenol	206		40.9		118	ug/L		57.2	(10%-78%)		
**Nitrobenzene-d5	103		29.8		66.1	ug/L		64.2	(36%-125%)		
**Phenol-d5	206		25.4		93.7	ug/L		45.5	(10%-104%)		
**p-Terphenyl-d14	103		36.8		79.1	ug/L		76.8	(34%-135%)		
QC1203161894 356053001 MSD											
1,4-Dichlorobenzene	103	U	ND		56.0	ug/L	47.1*	54.4	(0%-30%)		09/09/14 05:37
2,4-Dinitrotoluene	103	U	ND		91.1	ug/L	6.45	88.3	(0%-30%)		
2-Chlorophenol	103	U	ND		81.2	ug/L	14.3	78.8	(0%-30%)		
4-Chloro-3-methylphenol	103	U	ND		90.5	ug/L	7.12	87.8	(0%-30%)		

QC Summary

Workorder: 356059

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS												
Batch 1416934												
4-Nitrophenol	103	U	ND		46.0	ug/L	6.10	44.6	(0%-30%)	AGS1	09/09/14	05:37
Acenaphthene	103	U	ND		72.7	ug/L	4.52	70.6	(0%-30%)			
N-Nitrosodipropylamine	103	U	ND		83.7	ug/L	9.28	81.2	(0%-30%)			
Pentachlorophenol	103	U	ND		64.8	ug/L	18.1	62.8	(0%-30%)			
Phenol	103	U	ND		54.8	ug/L	6.09	53.1	(0%-30%)			
Pyrene	103	U	ND		91.9	ug/L	11.9	89.2	(0%-30%)			
**2,4,6-Tribromophenol	206		60.8		173	ug/L		83.8	(26%-129%)			
**2-Fluorobiphenyl	103		30.6		77.4	ug/L		75.1	(32%-102%)			
**2-Fluorophenol	206		40.9		129	ug/L		62.7	(10%-78%)			
**Nitrobenzene-d5	103		29.8		71.7	ug/L		69.5	(36%-125%)			
**Phenol-d5	206		25.4		98.6	ug/L		47.8	(10%-104%)			
**p-Terphenyl-d14	103		36.8		86.5	ug/L		83.9	(34%-135%)			
Spectrometric Analysis												
Batch 1416797												
QC1203161491 356059001 DUP												
Hexavalent Chromium		U	ND	U	ND	mg/L	N/A			SXC5	09/05/14	10:05
QC1203161490 LCS												
Hexavalent Chromium	0.050				0.0486	mg/L		97.2	(85%-115%)		09/05/14	10:05
QC1203161489 MB												
Hexavalent Chromium				U	ND	mg/L					09/05/14	10:04
QC1203161492 356059001 PS												
Hexavalent Chromium	0.050	U	ND		0.0371	mg/L		72.8*	(85%-115%)		09/05/14	10:06
Titration and Ion Analysis												
Batch 1416763												
QC1203161406 356059001 DUP												
Sulfite		H	1.00	H	1.00	mg/L	0.00 ^		(+/-1.00)	PXO1	09/04/14	19:18

QC Summary

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Titration and Ion Analysis												
Batch 1416763												
QC1203161405 LCS												
Sulfite	100				90.0	mg/L		90	(90%-110%)	PXO1	09/04/14	19:03
QC1203161404 MB												
Sulfite				U	ND	mg/L					09/04/14	19:02
QC1203161407 356059001 MS												
Sulfite	100	H	1.00	H	94.5	mg/L		93.5	(80%-120%)		09/04/14	19:21
QC1203161408 356059001 MSD												
Sulfite	100	H	1.00	H	94.5	mg/L	0.00	93.5	(0%-20%)		09/04/14	19:21
Batch 1417108												
QC1203162257 356069011 DUP												
pH		H	5.53	H	5.47	SU	1.09		(0%-5%)	PXO1	09/06/14	14:55
QC1203162255 LCS												
pH	7.00				6.95	SU		99.3	(99%-101%)		09/06/14	14:32
Volatile-GC/MS												
Batch 1418300												
QC1203165438 LCS												
1,1-Dichloroethylene	50.0				44.4	ug/L		88.8	(70%-130%)	ACJ	09/11/14	10:42
4-Methyl-2-pentanone	250				240	ug/L		96.2	(70%-130%)			
Benzene	50.0				44.1	ug/L		88.1	(70%-130%)			
Chlorobenzene	50.0				47.9	ug/L		95.8	(70%-130%)			
Chloroform	50.0				44.5	ug/L		88.9	(70%-130%)			
Toluene	50.0				47.1	ug/L		94.1	(70%-130%)			
Trichloroethylene	50.0				43.5	ug/L		87	(70%-130%)			
Vinyl chloride	50.0				59.2	ug/L		118	(70%-130%)			
**1,2-Dichloroethane-d4	50.0				48.3	ug/L		96.6	(78%-124%)			
**Bromofluorobenzene	50.0				51.4	ug/L		103	(80%-120%)			
**Toluene-d8	50.0				51.1	ug/L		102	(80%-120%)			
QC1203165437 MB												
1,1,1-Trichloroethane				U	ND	ug/L					09/11/14	12:07

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1418300											
1,1,2,2-Tetrachloroethane			U	ND	ug/L				ACJ	09/11/14	12:07
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						
2-Hexanone			U	ND	ug/L						
4-Methyl-2-pentanone			U	ND	ug/L						
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						
Carbon disulfide			U	ND	ug/L						
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						
Chloroform			U	ND	ug/L						
Chloromethane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						

QC Summary

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch 1418300												
Ethylbenzene				U	ND	ug/L						
Methylene chloride				J	1.62	ug/L				ACJ	09/11/14	12:07
Styrene				U	ND	ug/L						
Tetrachloroethylene				U	ND	ug/L						
Toluene				U	ND	ug/L						
Trichloroethylene				U	ND	ug/L						
Vinyl acetate				U	ND	ug/L						
Vinyl chloride				U	ND	ug/L						
Xylenes (total)				U	ND	ug/L						
cis-1,2-Dichloroethylene				U	ND	ug/L						
cis-1,3-Dichloropropylene				U	ND	ug/L						
trans-1,2-Dichloroethylene				U	ND	ug/L						
trans-1,3-Dichloropropylene				U	ND	ug/L						
**1,2-Dichloroethane-d4	50.0				48.9	ug/L		97.8	(78%-124%)			
**Bromofluorobenzene	50.0				53.0	ug/L		106	(80%-120%)			
**Toluene-d8	50.0				53.6	ug/L		107	(80%-120%)			
QC1203165439 356059001 PS												
1,1-Dichloroethylene	50.0	U	ND		45.8	ug/L		91.7	(74%-130%)		09/11/14	20:07
4-Methyl-2-pentanone	250	U	ND		250	ug/L		100	(70%-132%)			
Benzene	50.0	U	ND		47.0	ug/L		94.1	(75%-120%)			
Chlorobenzene	50.0	U	ND		50.7	ug/L		101	(74%-120%)			
Chloroform	50.0	U	ND		48.4	ug/L		96.8	(75%-123%)			
Toluene	50.0	U	ND		51.3	ug/L		103	(72%-120%)			

QC Summary

Workorder: **356059**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 1418300											
Trichloroethylene	50.0	U	ND		45.9	ug/L		91.8	(75%-125%)	ACJ	09/11/14 20:07
Vinyl chloride	50.0	U	ND		56.4	ug/L		113	(52%-129%)		
**1,2-Dichloroethane-d4	50.0		49.7		51.1	ug/L		102	(78%-124%)		
**Bromofluorobenzene	50.0		52.2		52.9	ug/L		106	(80%-120%)		
**Toluene-d8	50.0		53.7		53.5	ug/L		107	(80%-120%)		
QC1203165440 356059001 PSD											
1,1-Dichloroethylene	50.0	U	ND		44.1	ug/L	3.82	88.2	(0%-20%)		09/11/14 20:35
4-Methyl-2-pentanone	250	U	ND		249	ug/L	0.629	99.6	(0%-20%)		
Benzene	50.0	U	ND		45.6	ug/L	3.15	91.1	(0%-20%)		
Chlorobenzene	50.0	U	ND		47.7	ug/L	6.28	95.3	(0%-20%)		
Chloroform	50.0	U	ND		47.3	ug/L	2.26	94.6	(0%-20%)		
Toluene	50.0	U	ND		47.6	ug/L	7.36	95.3	(0%-20%)		
Trichloroethylene	50.0	U	ND		43.5	ug/L	5.37	87	(0%-20%)		
Vinyl chloride	50.0	U	ND		57.3	ug/L	1.60	115	(0%-20%)		
**1,2-Dichloroethane-d4	50.0		49.7		49.9	ug/L		99.7	(78%-124%)		
**Bromofluorobenzene	50.0		52.2		52.5	ug/L		105	(80%-120%)		
**Toluene-d8	50.0		53.7		52.1	ug/L		104	(80%-120%)		

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N	Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UJ	Compound cannot be extracted
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: **356059**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

List of current GEL Certifications as of 18 September 2014

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California NELAP	01151CA
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA130005
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235−14−9
Utah NELAP	SC000122014−14
Vermont	VT87156
Virginia NELAP	460202
Washington	C780−12
Wisconsin	999887790

Page: _____ of _____
Project #: SDN000514
GEL Quote #:
COC Number (1):
PO Number:

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 355059%

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: GEL Eng. Phone #: 843-769-7378
Project/Site Name: Sonoco Products Fax #:
Address: Hartsville, SC
Collected by: client, SR Send Results To: Tom Putney

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Φ	HA	Φ	Φ	SA	NI	NI	Φ	Φ	NI EDTA	<-- Preservative Type (6)
									VOC's	VOC's	Cr Lo	Cr Lo Dissolved	Cn	metals / Hg	Dissolved metals / Hg	BNA's	NO3, NO2, SO4, PO4	Sodium Sulfite	
SO-03	09/04/14	1305	N	N	GW			14	3	3	1		1	1		2	1	1	
SO-03	09/04/14	1305	N	Y	GW			2				1			1				Filtered in field
~~Trip Blank~~ 9-4-14	~~09/04/14~~	~~1305~~	~~TB~~	~~N~~	~~DI~~	9-4-14		~~3~~ 2			1	SC							

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge)
Fax Results: Yes / No
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
(Eastern) Central Mountain Pacific Other _____

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Steve Rucker	09/04/14	1625	P. Klent	9/4/14	1625
2						
3						

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment:
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: _____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SONO			**SDG/AR/COC/Work Order:** 356059
Received By: P. Went			**Date Received:** 9/4/14
Suspected Hazard Information	**Yes**	**No**	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 21cpm
Classified Radioactive II or III by RSO?		X	If yes, Were swipes taken of sample contatiners < action levels?
COC/Samples marked containing PCBs?		X	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		X	If yes, samples are to be segregeated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	X			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius. 1C
2a	Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): 130462966
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	X			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	X			Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Sample ID's affected:
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?	X			
13	COC form is properly signed in relinquished/received sections?	X			
14	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials PD Date 9/4/14 Page 1 of 1

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
05−SEP−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
VIS SPECTROMETER	SW846 7196A	Liquid	SONO
Batch ID:	**Sample Numbers:**		
1416797	See Below		

Potentially affected work order(s)(SDG): 356059

Application Issues:

Failed Recovery for MS/PS

Specification and Requirements Exception Description:	**DER Disposition:**
1. Failed Recovery for MS/PS: QC 1203161492(SO−03)PS	1. The spike recovery falls outside of the established acceptance limits due to matrix interference.

Originator's Name:

Sarah Carson 05−SEP−14

Data Validator/Group Leader:

Elzbieta Szulc 18−SEP−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
09−SEP−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ELECTRODE	See Below	Liquid	BNKS, EDFR, ESHL, NFSR,
Batch ID:	**Sample Numbers:**		
1417108	See Below		

Potentially affected work order(s)(SDG): 356021(AKR−14−011),356046,356059,356069(2014−4464),356076(2014−4465),356142,356158(2014−4474),356197

Application Issues:

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
Test/Methods: EPA 150.1, SM 4500−H B, SW846 9040B/9040C, SW846 9040C 1. Sample received out of holding: 356021 001,003,005,007 356046 002 356059 001 356069 006,011 356076 006 356142 006 356158 006,014,025 356197 001	1.Sample received out of holding.

Originator's Name:

Patrick Orgel 09−SEP−14

Data Validator/Group Leader:

Elzbieta Szulc 10−SEP−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
09−SEP−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
BURET	SM 4500−SO3 (2−) B	Liquid	SONO
Batch ID:	**Sample Numbers:**		
1416763	See Below		

Potentially affected work order(s)(SDG): 356059

Application Issues:

Sample received out of holding

Specification and Requirements Exception Description:	**DER Disposition:**
1. Sample received out of holding: 356059 001	1.The following sample from this sample group was received by the lab outside of the method specified holding time:

Originator's Name:

Patrick Orgel 09−SEP−14

Data Validator/Group Leader:

Elzbieta Szulc 18−SEP−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
09−SEP−14	Industrial	SOP	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
MERCURY	SW846 7470A	Liquid	PNTX, SONO, WSRB
Batch ID:	**Sample Numbers:**		
1416827	355179001, 1203161579, 1203161580, 1203161581, 1203161582		

Potentially affected work order(s)(SDG): 355179,355251,356059

Application Issues:

10 Samples between CCVs

Specification and Requirements Exception Description:	**DER Disposition:**
More than 10 samples within continuing calibration checks (CCV) and CCB bracketing analyses.	Eleven samples were analyzed within the bracketing CCV and CCB. All analyses were within range of calibration.

Originator's Name:

Monifa Basdeo 09−SEP−14

Data Validator/Group Leader:

Jamie Johnson 09−SEP−14

DATA EXCEPTION REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
10−SEP−14	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
SEMIVOA GC/MS	SW846 3510C/8270D, SW846 8270D	Liquid	ALMX, HMSA, SNDC, SONO,
Batch ID:	**Sample Numbers:**		
1416934	See Below		

Potentially affected work order(s)(SDG): 355850,356016(GEL356016),356029,356035,356052,356053,356059

Application Issues:

Failed RPD for MS/MSD, or PS/PSD

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	**DER Disposition:**
1. The RPD between the MS(1203161893) and the MSD(1203161894) did not meet the 0.00%−30.00% RPD limits for WSRB sample 356035001 for 1,2−Dichlorobenzene at 44.3%, for 1,3−Dichlorobenzene at 47.4% and for 1,4−Dichlorobenzene at 47.1%.	1. The individual MS and MSD recoveries for these analytes were within their established acceptance criteria. These analytes were not required by the parent sample (WSRB 356053001). The data are reported unqualified for the RPD value failures.

Originator's Name:

Anne Salter 10−SEP−14

Data Validator/Group Leader:

Herbert Maier 11−SEP−14

Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

Page ___ of ___

Date (mm/dd/yy): 07/23/14
Field Personnel: S. Rucker
Facility Name: Sonoco / sono00514
EPA I.D.#: _____ Well I.D #: MW-13
Upgradient ___ Downgradient ___ Upright X Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature: _____ °C Proj. Mgr.: SKN
Total Well Depth (TWD) = 20.58 Casing / Protective Casing
Depth to Groundwater (DGW)= 5.15 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 15.43 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 2.52 gallons
3 Casing Volumes = 7.55 gal = Standard Evacuation Volume
Method of Well Evacuation: Peristaltic Pump
Method of Sample Collection: Peristaltic Pump
Total Volume of Water Removed: _____ gallons

Casing Diameter: 2 inches
Casing Material: PVC
Measuring Point Elevation: _____ 1/100 ft.
Steel Guard Pipe Around Casing: YES ___ NO ___
Locking Cap: YES ___ NO ___
Protective Abutment: YES ___ NO ___
Well Integrity Satisfactory: YES ___ NO ___
Well Yeild (Circle): Low ___ Moderate ___ High ___

Comments: _____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	2.75	5.50	8.25				
Time (military)	14:05	14:16	14:27				
pH (s.u.)	5.47	5.39	5.38				
Specific Cond. (µmhos/cm)	92	91	92				
Water Temp (°C)	23.13	23.04	22.90				
Turbidity (NTU)	5.18	3.97	4.11				

Sample Time: 14:30 Sample Date: 07/23/14 Sampled By: WSR Reviewed By: _____

COMMENTS/OBSERVATIONS: DO: 1.92, 1.90
ORP: -93, -84

fldinfo 2/88

Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy) 07/ 23/14
Field Personnel S. Rucker
Facility Name Sonoco / sono00514
EPA I.D.# ____ Well I.D # MW-14
Upgradient ___ Downgradient ____ Upright X Flush Mount ____
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ____ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 20.24 Casing / Protective Casing
Depth to Groundwater (DGW)= 7.06 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 13.18 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 2.15 gallons
3 Casing Volumes = 6.45 gal = Standard Evacuation Volume
Method of Well Evacuation Peristaltic Pump
Method of Sample Collection Peristaltic Pump
Total Volume of Water Removed ____ gallons

Casing Diameter 2 inches
Casing Material PVC
Measuring Point Elevation: ____ 1/100 ft.
Steel Guard Pipe Around Casing YES ✓ NO ____
Locking Cap YES ✓ NO ____
Protective Abutment YES ✓ NO ____
Well Integrity Satisfactory YES ✓ NO ____
Well Yeild (Circle) Low ____ Moderate ____ High ____

Comments: ____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	2.25	4.50	6.75				
Time (military)	12:58	13:08	13:18				
pH (s.u.)	5.81	5.79	5.85				
Specific Cond. (µmhos/cm)	401	397	403				
Water Temp (°C)	23.57	23.59	23.66				
Turbidity (NTU)	11.56	7.18	6.08				

Sample Time: 13:20 Sample Date: 07/23/14 Sampled By: WSR Reviewed By: ____

COMMENTS/OBSERVATIONS: DO: 0.00, 0.00, 0.00
ORP: -177, -176, -182

fldinfo 2/88

Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy) 07/23/14
Field Personnel S. Rucker
Facility Name Sonoco / sono00514
EPA I.D.# ____ Well I.D # MW-15
Upgradient ___ Downgradient ___ Upright X Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ___ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 35.82 Casing / Protective Casing
Depth to Groundwater (DGW)= 22.84 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 12.98 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 2.12 gallons
3 Casing Volumes = 6.35 gal = Standard Evacuation Volume
Method of Well Evacuation Peristaltic Pump
Method of Sample Collection Peristaltic Pump
Total Volume of Water Removed ___ gallons

Casing Diameter 2 inches
Casing Material PVC
Measuring Point Elevation: ___ 1/100 ft.
Steel Guard Pipe Around Casing YES / NO ___
Locking Cap YES / NO ___
Protective Abutment YES / NO ___
Well Integrity Satisfactory YES / NO ___
Well Yeild (Circle) Low ___ Moderate / High ___

Comments: ___

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	2.25	4.5	6.75	@ Sample			
Time (military)	08:52	09:00	09:08	09:10			
pH (s.u.)	6.4	6.4	6.4	6.4			
Specific Cond. (µmhos/cm)	689	694	704	705			
Water Temp (°C)	25.2	25.2	25.2	25.2			
Turbidity (NTU)	50.5	54.2	33.3	13.7			

Sample Time: 09:10 Sample Date: 07/23/14 Sampled By: WSR Reviewed By: ___

COMMENTS/OBSERVATIONS: DO: 0.34 mg/L , 0.02 , 0.0 , 0.0
ORP: -148 mV , -151 , -152 , -152

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Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

Page ___ of ___

Date (mm/dd/yy) 07/23/14
Field Personnel S. Rucker
Facility Name Sonoco / sono00514
EPA I.D.# ____ Well I.D # MW-16
Upgradient ___ Downgradient ___ Upright X Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ___ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 35.27 Casing / Protective Casing
Depth to Groundwater (DGW)= 15.21 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 20.06 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 3.27 gallons
3 Casing Volumes = 9.81 gal = Standard Evacuation Volume
Method of Well Evacuation Peristaltic Pump
Method of Sample Collection Peristaltic Pump
Total Volume of Water Removed ___ gallons

Casing Diameter 2 inches
Casing Material PVC
Measuring Point Elevation: ___ 1/100 ft.
Steel Guard Pipe Around Casing YES ✓ NO ___
Locking Cap YES ✓ NO ___
Protective Abutment YES ✓ NO ___
Well Integrity Satisfactory YES ✓ NO ___
Well Yeild (Circle) Low ___ Moderate ✓ High ___

Comments: ___

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	3.5	7.0	10.5				
Time (military)	09:58	10:10	10:22				
pH (s.u.)	6.0	6.0	5.9				
Specific Cond. (µmhos/cm)	127	127	127				
Water Temp (°C)	22.8	22.8	22.75				
Turbidity (NTU)	10.78	16.45	7.94				

Sample Time: 10:25 Sample Date: 07/23/14 Sampled By: WSR Reviewed By: ___

COMMENTS/OBSERVATIONS: DO: 0.00, 0.00, 0.00
ORP: -85, -87, -88

fldinfo 2/88

Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy) 07/23/14
Field Personnel S. Rucker
Facility Name Sonoco / sono00514
EPA I.D.# ____ Well I.D # MW-17
Upgradient ___ Downgradient ____ Upright X Flush Mount ____
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ____ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 21.11 Casing / Protective Casing
Depth to Groundwater (DGW)= 4.77 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 16.34 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 2.66 gallons
3 Casing Volumes = 7.99 gal = Standard Evacuation Volume
Method of Well Evacuation Peristaltic Pump
Method of Sample Collection Peristaltic Pump
Total Volume of Water Removed ____ gallons

Casing Diameter 2 inches
Casing Material PVC
Measuring Point Elevation: ____ 1/100 ft.
Steel Guard Pipe Around Casing YES ✓ NO ____
Locking Cap YES ✓ NO ____
Protective Abutment YES ✓ NO ____
Well Integrity Satisfactory YES ✓ NO ____
Well Yeild (Circle) Low ____ Moderate ✓ High ____

Comments: ____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	2.75	5.50	8.25				
Time (military)	11:26	11:35	11:44				
pH (s.u.)	6.46	6.2	6.11				
Specific Cond. (µmhos/cm)	310	311	304				
Water Temp (°C)	24.32	24.39	24.39				
Turbidity (NTU)	15.33	10.18	9.55				

Sample Time: 11:45 Sample Date: 07/23/14 Sampled By: WSR Reviewed By: ____

COMMENTS/OBSERVATIONS: DO: 0.10, 0.00, 0.0
ORP: -306, -324, -337

Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy): 07/22/14
Field Personnel: S. Rucker
Facility Name: Sonoco / sono00514
EPA I.D.#: ____ Well I.D #: MW-18
Upgradient ___ Downgradient ___ Upright X Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ___ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 19.90 Casing / Protective Casing
Depth to Groundwater (DGW)= 7.01 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 12.89 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 2.1 gallons
3 Casing Volumes = 6.30 gal = Standard Evacuation Volume
Method of Well Evacuation: Peristaltic Pump
Method of Sample Collection: Peristaltic Pump
Total Volume of Water Removed: 6.75 gallons

Casing Diameter: 2 inches
Casing Material: PVC
Measuring Point Elevation: ____ 1/100 ft.
Steel Guard Pipe Around Casing: YES ✓ NO ___
Locking Cap: YES ✓ NO ___
Protective Abutment: YES ✓ NO ___
Well Integrity Satisfactory: YES ✓ NO ___
Well Yeild (Circle): Low ___ Moderate ✓ High ___

Comments: ____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773
Horiba Multi Meter

FIELD ANALYSIS

Volume Purged (gallons)	2.25	4.5	6.75				
Time (military)	15:26	15:38	15:50				
pH (s.u.)	5.92	5.82	5.81				
Specific Cond. (µmhos/cm)	382	345	348				
Water Temp (°C)	24.58	24.58	24.44				
Turbidity (NTU)	5.32	3.91	2.08				

Sample Time: 15:58 Sample Date: 07/22/14 Sampled By: WSR Reviewed By: ___

COMMENTS/OBSERVATIONS: DO: 0.06 mg/L 0.14 0.15
ORP: -274 mV -265 -279

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Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy) 07/23/14
Field Personnel S. Rucker
Facility Name Sonoco / sono00514
EPA I.D.# _____ Well I.D # MW-19
Upgradient ___ Downgradient ____ Upright X Flush Mount ____
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ____ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 30.42 Casing / Protective Casing
Depth to Groundwater (DGW)= 22.61 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 7.81 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 1.27 gallons
3 Casing Volumes = 3.82 gal = Standard Evacuation Volume
Method of Well Evacuation Peristaltic Pump
Method of Sample Collection Peristaltic Pump
Total Volume of Water Removed ____ gallons

Casing Diameter 2 inches
Casing Material PVC
Measuring Point Elevation: ____ 1/100 ft.
Steel Guard Pipe Around Casing YES ✓ NO ____
Locking Cap YES ✓ NO ____
Protective Abutment YES ✓ NO ____
Well Integrity Satisfactory YES ✓ NO ____
Well Yeild (Circle) Low ____ Moderate ✓ High ____

Comments: ____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	1.5	3.0	4.5	6.0	7.5		
Time (military)	12:00	12:05	12:10	12:15	12:20		
pH (s.u.)	6.29	5.69	5.33	5.24	5.21		
Specific Cond. (µmhos/cm)	69	62	60	60	60		
Water Temp (°C)	24.59	24.44	24.36	24.23	24.26		
Turbidity (NTU)	8.71	3.96	4.30	6.04	5.09		

Sample Time: 12:25 Sample Date: 07/23/14 Sampled By: WSR Reviewed By: ____

COMMENTS/OBSERVATIONS: DO: 4.90, 5.06, 5.22, 5.24, 5.23
ORP: 205, -152, -101, -70, -65

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Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy): 07/22/14
Field Personnel: S. Rucker
Facility Name: Sonoco / sono00514
EPA I.D.#: ____ Well I.D #: TW-01
Upgradient ___ Downgradient ___ Upright X Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ____ °C Proj. Mgr. SKN
Total Well Depth (TWD) = 4.90 Casing / Protective Casing
Depth to Groundwater (DGW)= 2.21 Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = 2.69 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 0.44 gallons
3 Casing Volumes = 1.32 gal = Standard Evacuation Volume
Method of Well Evacuation: Peristaltic Pump
Method of Sample Collection: Peristaltic Pump
Total Volume of Water Removed: ____ gallons

Casing Diameter: 2 inches
Casing Material: PVC
Measuring Point Elevation: ____ 1/100 ft.
Steel Guard Pipe Around Casing: YES ___ NO ✓
Locking Cap: YES ✓ NO ___
Protective Abutment: YES ___ NO ✓
Well Integrity Satisfactory: YES ✓ NO ___
Well Yeild (Circle): Low ✓ Moderate ___ High ___

Comments: ____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 62627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	0.5	1.0	1.5	@ sample			
Time (military)	12:51			13:06			
pH (s.u.)	6.0			6.1			
Specific Cond. (µmhos/cm)	1670			1680			
Water Temp (°C)	27.0			27.5			
Turbidity (NTU)	>1000			>1000			

Sample Time: 13:15 Sample Date: 07/22/14 Sampled By: WSR Reviewed By: ____

COMMENTS/OBSERVATIONS: DO: 6.57 mg/L, 3.67 Dry @ 1st Vol.
ORP -62 mV, -104

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Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy) 07/30/14
Field Personnel R. Gardner, S. Nix
Facility Name Sonoco / sono00514
EPA I.D.# ____ Well I.D # TW-02
Upgradient ___ Downgradient ___ Upright ___ Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ____ °C Proj. Mgr. REM
Total Well Depth (TWD) = 9 Casing / Protective Casing
Depth to Groundwater (DGW)= ____ Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = ____ 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.041 / 0.163 = ____ gallons
3 Casing Volumes = ____ gal = Standard Evacuation Volume
Method of Well Evacuation Peristaltic Pump
Method of Sample Collection Peristaltic Pump
Total Volume of Water Removed ____ gallons

Casing Diameter 1 / 2 inches
Casing Material PVC
Measuring Point Elevation: ____ 1/100 ft.
Steel Guard Pipe Around Casing YES ___ NO x
Locking Cap YES ___ NO x
Protective Abutment YES ___ NO x
Well Integrity Satisfactory YES x NO ___
Well Yeild (Circle) Low x Moderate ___ High ___

Comments: ____

pH Meter Model #: pH 82 SC Meter Model #: sc72
pH Meter Serial #: 62627 SC Meter Serial #: E00073

FIELD ANALYSIS

Volume Purged (gallons)	at sample						
Time (military)	12:15						
pH (s.u.)	5.81						
Specific Cond. (µmhos/cm)	178						
Water Temp (°C)	22.34						
Turbidity (NTU)	615						

Sample Time: 12:15 Sample Date: 7/30/14 Sampled By: RSG Reviewed By: ____

COMMENTS/OBSERVATIONS: ORP: 11
DO: 3.17

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Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

Page ___ of ___

Date (mm/dd/yy): 07/30/14
Field Personnel: R. Gardner, S. Nix
Facility Name: Sonoco / sono00514
EPA I.D.#: _____ Well I.D #: TW- 03
Upgradient ___ Downgradient ___ Upright ___ Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / Hot / Cold
Air Temperature ___ °C Proj. Mgr. REM
Total Well Depth (TWD) = 9 Casing / Protective Casing
Depth to Groundwater (DGW)= ___ Casing / Protective Casing
Length of Water Column LWC) = TWD-DGW = ___ 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.041 / 0.163 = ___ gallons
3 Casing Volumes = ___ gal = Standard Evacuation Volume
Method of Well Evacuation: Peristaltic Pump
Method of Sample Collection: Peristaltic Pump
Total Volume of Water Removed ___ gallons

Casing Diameter: 1 / 2 inches
Casing Material: PVC
Measuring Point Elevation: ___ 1/100 ft.
Steel Guard Pipe Around Casing YES ___ NO x
Locking Cap YES ___ NO x
Protective Abutment YES ___ NO x
Well Integrity Satisfactory YES x NO ___
Well Yeild (Circle) Low x Moderate ___ High ___

Comments: ___

pH Meter Model #: pH 82 SC Meter Model #: sc72
pH Meter Serial #: 62627 SC Meter Serial #: E00073

FIELD ANALYSIS

Volume Purged (gallons)	at sample						
Time (military)	10:30						
pH (s.u.)	6.05						
Specific Cond. (µmhos/cm)	130						
Water Temp (°C)	22.03						
Turbidity (NTU)	99.1						

Sample Time: 10:30 Sample Date: 7/30/14 Sampled By: RSG Reviewed By: ___

COMMENTS/OBSERVATIONS: ___

fldinfo 2/88

Field Data Information Sheet for Ground-Water Sampling

General Engineering Environmental, LLC
2040 Savage Road
Charleston, SC 29414

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Date (mm/dd/yy): 09/04/14
Field Personnel: S. Rucker
Facility Name: Sonoco Products Company / sono00514
EPA I.D.#: ____ Well I.D. # SO-03
Upgradient ___ Downgradient ___ Upright X Flush Mount ___
Weather Conditions: Rain / Clear / Windy / Cloudy / (Hot) / Cold
Air Temperature ___ °C Proj. Mgr. TP
Total Well Depth (TWD) = 39.02 (Casing) / Protective Casing
Depth to Groundwater (DGW)= 6.70 (Casing) / Protective Casing
Length of Water Column LWC) = TWD-DGW = 32.32 1/100 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 5.27 gallons
3 Casing Volumes = 15.81 gal = Standard Evacuation Volume
Method of Well Evacuation: Peristaltic Pump
Method of Sample Collection: Peristaltic Pump
Total Volume of Water Removed: 16.5 gallons

Casing Diameter: 2 inches
Casing Material: PVC
Measuring Point Elevation: ___ 1/100 ft.
Steel Guard Pipe Around Casing: YES ✓ NO ___
Locking Cap: YES ✓ NO ___
Protective Abutment: YES ✓ NO ___
Well Integrity Satisfactory: YES ✓ NO ___
Well Yeild (Circle): Low ___ Moderate ✓ High ___

Comments: ____

pH Meter Model #: ph82 SC Meter Model #: sc 72
pH Meter Serial #: 82627 SC Meter Serial #: E000773

FIELD ANALYSIS

Volume Purged (gallons)	5.5	11.0	16.5				
Time (military)	1218	1237	1300				
pH (s.u.)	4.4	4.4	4.5				
Specific Cond. (µmhos/cm)	75.2	74.4	73.5				
Water Temp (°C)	21.3	20.9	21.3				
Turbidity (NTU)	5.79	6.22	7.02				

Sample Time: 1305 Sample Date: 09/04/14 Sampled By: WSR Reviewed By: ___

COMMENTS/OBSERVATIONS: ____