



Environment

Prepared for:  
CNA Holdings LLC  
Dallas, Texas

Prepared by:  
AECOM  
Atlanta, GA  
60313404  
May 2016

# 2015 Annual Report

Needmore Road Landfill Facility  
Salisbury, North Carolina





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## Contents

<b>1.0 Introduction.....</b>	<b>1-1</b>
1.1 Site Background.....	1-1
<b>2.0 Summary of Monitoring Activities.....</b>	<b>2-1</b>
<b>3.0 Summary of May 2015 and November 2015 Monitoring Results.....</b>	<b>3-1</b>
3.1 Ethylene Glycol.....	3-1
3.2 1,4-Dioxane.....	3-2
3.3 DowTherm A™.....	3-2
3.4 Surface Water Sampling Results.....	3-3
3.5 Phytoremediation System and Landfill Cover Inspections.....	3-4
<b>4.0 Conclusions.....</b>	<b>4-1</b>

## List of Tables

Table 1	May Groundwater and Surface Water Sampling Plan
Table 2	November Groundwater and Surface Water Sampling Plan
Table 3	Groundwater Analytical Summary
Table 4	Surface Water Analytical Summary
Table 5	Summary of Detected Constituents in Groundwater
Table 6	Time vs. Concentration Plots – Ethylene Glycol
Table 7	Time vs. Concentration Plots – 1,4-Dioxane
Table 8	Time vs. Concentration Plots – Biphenyl Ether

## List of Figures

- Figure 1 Site Location Map
- Figure 2 Sample Location Map – May 2015
- Figure 3 Sample Location Map – November 2015
- Figure 4 Groundwater Elevation Data – November 2015
- Figure 5 Ethylene Glycol Map – May 2015
- Figure 6 Ethylene Glycol Map – November 2015
- Figure 7 1,4-Dioxane Map – May 2015
- Figure 8 1,4-Dioxane Map – November 2015
- Figure 9 1,1-Biphenyl Map – November 2015
- Figure 10 Biphenyl Ether Map – November 2015

## List of Appendices

- Appendix A May 2015 and November 2015 Laboratory Analytical Reports
- Appendix B Completed Inspection Forms for Landfill Cap and Phytoremediation System

## List of Acronyms

CAP Corrective Action Plan

mg/L milligrams per liter

MNA monitored natural attenuation

NCDEQ North Carolina Department of Environment and Natural Resources

NPDES National Pollutant Discharge Elimination System

NRLF Needmore Road Landfill Facility

VFA Volatile Fatty Acid

## 1.0 Introduction

This annual report has been prepared to present activities completed between May 2015 and April 2016, including the sampling results for the May 2015 and November 2015 monitoring events for the Needmore Road Landfill Facility (NRLF). This report includes an updated summary of data and findings at the site. Additionally, this report presents the status of the monitored natural attenuation (MNA) and phytoremediation programs established in the Corrective Action Plan (CAP).

### 1.1 Site Background

The Needmore Road Landfill site, located at 345 Messick Farm Road, Salisbury, Rowan County, North Carolina, was used until 1990 to dispose of by-products of polyester resin manufacturing from the Hoechst Celanese plant located on U.S. Route 70 near Salisbury, North Carolina. These by-products primarily included waste materials containing ethylene glycol with some other impurities, including 1,4-dioxane, 1,1-biphenyl, and biphenyl ether. There were four main disposal areas at this site and were referred to as Taylor's Pit, the 14-Acre Site, the 16-Acre Site, and the Secondary Site. Taylor's Pit was consolidated into the main part of the landfill prior to final landfill closure. The site consists of an approximately 243-acre tract of land that is bounded by the South Yadkin River to the east. The current North Carolina Department of Environment Quality (NCDEQ) status of the site is "closed." A site location map is included as Figure 1.

The landfill lies within the central portion of the Charlotte Metamorphic Belt of the Piedmont Physiographic Province. Bedrock in this area is composed of a complex series of meta-sedimentary, meta-volcanic, and igneous intrusive rock types. This geologic matrix has undergone repeated cycles of folding, faulting, metamorphism, and intrusions, which have resulted in regional northeasterly strike and southeasterly dip directions.

A basic understanding of the geology at the landfill has been established during several phases of work, during which numerous monitoring and extraction wells were installed. Based on an evaluation of the subsurface boring logs, the site is underlain by diorite, gabbro, and granite bedrock. Some localized gneissic and schistose metamorphism has been noted in several of the borings drilled at the site. These profiles are generally well weathered, and occur in the zone above competent rock.

Remedial activities that were completed at the landfill prior to 2004 included the installation of an impermeable cover on the landfill, regrading of the surface of the landfill (to improve surface drainage), and the installation of groundwater extraction wells. Groundwater was extracted and treated by a UV/peroxide oxidation process and discharged under a National Pollutant Discharge Elimination System (NPDES) permit. Groundwater extraction was suspended in June 2002.

Soon after the deactivation of the extraction system, a groundwater seep manifested itself as surface flow traveling from a sump located at the toe of the landfill. The seep area is located at the northeast end of the landfill and southwest of the South Yadkin River. The surface flow meandered across the flat area between the landfill and the South Yadkin River and appeared to re-enter the shallow groundwater near the river bank. This occurrence also coincided with an end to a period of extreme drought and a return to normal rainfall patterns. The origin of this seep was believed to be associated with the presence of a drain system at the toe of landfill. During 2004, modifications were made to the

drain system, including the installation of 40 feet of solid pipe to replace a section of perforated pipe and the installation of an anti-seepage concrete collar around the drain pipe.

The installation of the collar appeared to eliminate the original seep; however, several weeks after the drain system modifications were made, a new, lower volume surface water flow was observed coming out of a culvert pipe further downgradient. After leaving the culvert pipe, the surface water flow meandered across the cleared area toward the river and infiltrated into the ground prior to reaching the river. Based on the shallow groundwater elevations in this area, it was interpreted that this surface water flow was the partial re-establishment of a natural creek that existed prior to the installation of the extraction system.

In response to the seep, a phytoremediation plan was initiated in 2004. The phytoremediation system is positioned downgradient of the landfill face before the seep location.

Groundwater monitoring data in the reports submitted semiannually from November 2004 until the present have demonstrated that the existing groundwater impact has been generally contained and is not expanding, and biological activity is present in the source areas. Additionally, the levels of impact in groundwater are not anticipated to exceed surface water quality standards nor pose an unacceptable risk to the receptors. Based on these data, the reports concluded that MNA with phytoremediation is a viable remedy. A final CAP was established in 2007 defining a combination of MNA and phytoremediation as the site remedy.

Biological degradation has been a significant component of natural attenuation of ethylene glycol and DowTherm A™ components at the site. The original MNA parameters supplemented with the additional sampling requested by NCDEQ indicate that biological degradation is occurring at the site to control the ethylene glycol and DowTherm A™ plume. Phytoremediation is currently being utilized to supplement the MNA in order to treat the 1,4-dioxane plume through evapotranspiration while also providing additional hydraulic control.

Groundwater and surface water monitoring, as well as regular inspections of the phytoremediation system and landfill cap, have been ongoing at the site following the schedule detailed in the CAP and revised in early 2009.

Because the primary constituents at the site have generally remained stable since 2007, and the MNA and phytoremediation systems have remained effective as designed, AECOM recommended in the semiannual report submitted to NCDEQ in May 2014 that the groundwater and surface water monitoring continue to be conducted semiannually in May and November and the reporting frequency be reduced from semiannual to annual. The NCDEQ approved the reduction of the reporting frequency in a letter dated on September 10, 2014. Annual report is prepared since May 2015. This annual report is the second annual report for this site, including the field activities from May 2015 to April 2016 and analytical results of the May 2015 and November 2015 sampling events

## 2.0 Summary of Monitoring Activities

The ongoing MNA/phytoremediation activities for the NRLF include:

- semiannual groundwater and surface water sampling and analyses;
- continued ongoing maintenance and monthly inspection of the landfill cap; and
- continued ongoing maintenance and monthly inspections of the phytoremediation tree farm.

The May 2015 and November 2015 groundwater and surface water sampling events were conducted using methodologies detailed in the CAP. A reduced scope plan for all May events was approved in 2009, as shown in Table 1. All November events include the full sampling plan shown in Table 2, as originally presented in the CAP. Replacement of Volatile Fatty Acids (VFAs) with acetic acid analysis was approved by NCDEQ in 2010.

Sample location maps for the May 2015 and November 2015 sampling events are included as Figure 2 and Figure 3, respectively. During the November 2015 sampling event, wells B-24A and B-24B could not be sampled due to the high water level at these two locations. These two wells will be sampled in May 2016 for all the missing analytical parameters in November 2015, and the sampling results will be included in the next annual report to be submitted in May 2017. Laboratory analytical reports for groundwater and surface water sampling are included in Appendix A.

Completed monthly inspection forms for the phytoremediation system for May 2015 through April 2016 are included in Appendix B.

### 3.0 Summary of May 2015 and November 2015 Monitoring Results

Nine groundwater monitoring wells along with two surface water locations were sampled during the May 2015 monitoring event. Surface water location CSW-2 was not sampled because it was dry. Twelve groundwater monitoring wells along with six surface water locations were sampled during the November 2015 monitoring event. Wells B-24A and B-24B were not sampled because the wells could not be approached due to the high water levels in that area. Laboratory analytical reports for groundwater and surface water sampling are summarized in Tables 3 and 4, respectively. Parameters detected in at least one sample are included on Tables 3 and 4. Complete analytical reports are included as Appendix A of this report. Previous reports identified that the primary constituents in groundwater are ethylene glycol, 1,4-dioxane, 1,1-biphenyl, and biphenyl ether. Monitoring updates for these constituents are presented in the following sections.

The May 2015 and November 2015 groundwater elevation data are consistent with the groundwater flow patterns established in the CAP (October 2007), which indicated that groundwater under the site flows northeast and northwest toward the South Yadkin River. Groundwater elevations collected during the November 2015 event, combined with historic site data, were used to develop the potentiometric surface presented on Figure 4. The potentiometric surface indicates that the groundwater flow patterns underlying the site flow northeast toward the Yadkin River.

#### 3.1 Ethylene Glycol

During the May 2015 sampling event, ethylene glycol was not detected in any wells sampled (reporting limit was 5.0 milligrams per liter [mg/L]). Similarly, during the November 2015 sampling event, ethylene glycol was not detected in any wells sampled. It should be noted that the reporting limits for the November 2015 sampling event was 50 mg/L and 500 mg/L due to the sample dilution. Ethylene glycol remained below analytical reporting limits (non-detect) in samples collected from 2007 to November 2012. During the 2013 and 2014 sampling events, ethylene glycol was detected in a few wells including B-01, B-09C, B-10, B-23A, and B-23B, with concentrations ranging from 200 mg/L to 800 mg/L, greater than the NC 2L groundwater quality standard of 10 mg/L, but most concentrations were lower than the historic detections in the same wells.

Ethylene glycol concentrations at the site were significantly reduced at the time of the 2007 CAP and have remained non-detectable during most of the sampling events after 2007. These results support the ethylene glycol natural attenuation conclusions presented in the 2007 CAP. The landfill cap has significantly reduced or eliminated the transport of ethylene glycol concentrations from the landfill into groundwater, and ethylene glycol concentrations, which had entered the groundwater prior to the installation of the cap, were degraded or attenuated (CAP, 2007). Since ethylene glycol is fully miscible in water and mobile, it was predicted in the 2007 CAP and subsequent monitoring reports that additional detections may possibly be observed in future samples. Considering the fact that ethylene glycol is easily degraded in the water through natural attenuation and the source has been isolated, the rebound of the ethylene glycol concentration in 2013 and 2014 were temporary, as expected. Ethylene glycol will continue to be monitored. Additional temporary increases may be observed in the future, but the landfill cover combined with MNA remains an effective remedy.

Historic data summaries for ethylene glycol and other site parameters are presented in Table 5. Select trend plots of ethylene glycol concentrations over time are presented in Table 6. In addition, ethylene glycol concentrations are included on Figure 5 for the May 2015 sampling event and Figure 6 for the November 2015 sampling event.

### 3.2 1,4-Dioxane

1,4-Dioxane has been historically detected in wells near all of the four former disposal sites. The concentration trend plots presented in Table 7 indicate that 1,4-dioxane concentrations in most wells are generally either stable or declining; however, the 1,4-dioxane concentrations in samples from three monitoring wells (B-12, B-23A, and B-23B) increased notably during recent sampling events. The 1,4-dioxane concentration in B-12 increased from 0.132 mg/L in May 2012 to 3.68 mg/L in November 2012, then remained around 2.5 to 3.5 mg/L during the sampling events in 2013 through 2015, however these results are within the historical range. The 1,4-dioxane concentrations also increased in B-23A and B-23B during recent sampling events. The 1,4-dioxane concentrations in B-23A increased from 2.76 mg/L in November 2013 to 3.54 mg/L in November 2014, decreased slightly in 2015, but still remain above 3.0 mg/L. The 1,4-dioxane concentration in B-23B increased from 2.88 mg/L in November 2013 to above 3.0 mg/L in 2014, and fluctuated in that range during 2015.

The increases noted in 2012 corresponded to a sharp decline in groundwater elevations of 1.5 to 4 feet across the site. Because site conditions are otherwise unchanged, trends of these miscible compounds were interpreted as response to plume migration impacted by the change in groundwater elevation. The groundwater elevations have returned to typical levels and the 1,4-dioxane concentrations have subsequently remained stable to declining. Continued monitoring is expected to continue demonstration that the on-going cover and phytoremediation system maintenance activities maintain overall site conditions and are the appropriate selected site remedy.

Data used to generate the plots in Table 7 can be found in Table 5. Plume maps for 1,4-dioxane are included as Figure 7 for the May 2015 sampling event and Figure 8 for the November 2015 sampling event. The small area of impact to the southwest of the main area on Figure 7 and Figure 8 indicates an isolated location of impact continues to exist near the former Taylor's Pit area.

These results indicate that the release of 1,4-dioxane from the former disposal sites is being controlled by the landfill cover, and the residual plume has extended toward the downgradient areas. The short-term trends shown in Table 7 indicate that this long-term process has declined in rate and the site has become significantly more stable.

### 3.3 DowTherm A™

#### 1,1-Biphenyl

1,1-Biphenyl results are presented in Table 3, and the 1,1-biphenyl plume map for November 2015 is shown on Figure 9.

Since 2003, 1,1-biphenyl has only been detected in samples collected from monitoring well B-10. The result from B-10 was 0.0828 mg/L in May 2015 and 0.192 mg/L in November 2015, similar to the 2014 sampling results. The NC 2L standard for 1,1-biphenyl is 0.40 mg/L. Historic data for 1,1-biphenyl at B-10 has typically remained below the 0.40 mg/L level but has occasionally exceeded this level. The historic maximum was 0.461 mg/L reported in 1999.

### Biphenyl Ether

NCDEQ has not developed a 2L standard for biphenyl ether; therefore, the practical quantitation limit (PQL) has been used as the screening criteria for the presence of this constituent at the site. Biphenyl ether has been historically detected at several wells located near the former disposal sites and at the downgradient wells. The May 2015 and November 2015 biphenyl ether data are presented in Table 3. The highest concentration was detected in the sample collected from monitoring well B-10 (2.11 mg/L in November 2015). Biphenyl ether ranged from approximately 1.1 to 4.5 mg/L in recent years, and has demonstrated a decreasing trend since December 2009.

Biphenyl ether was also detected in samples from monitoring wells B-01, B-09C, and B-22B, with concentrations below 0.2 mg/L. Biphenyl ether was not detected in the sample from other monitoring wells sampled. Selected biphenyl ether trends can be observed in Table 8 and on Figure 10.

The data continue to indicate that migration of 1,1-biphenyl and biphenyl ether is being controlled by the landfill cap and through natural attenuation mechanisms.

## **3.4 Surface Water Sampling Results**

Surface water monitoring was conducted at two surface water locations (CSW-1 and SW-5) during the May 2015 sampling event, and at six surface water monitoring locations (SW-3, SW-5, SW-7, SW-8, CSW-1 and CSW-2) during the November 2015 event. The surface water results are summarized in Table 4. No samples were collected from CSW-2 during the May 2015 sampling event due to this location being dry. CSW-2 is a monitoring location associated with the surface water seep. This location has been dry for the majority of sampling events since the phytoremediation program was initiated. It is located downstream in the creek bed fed by the seep.

Monitoring events prior to the current phytoremediation system indicated concentrations of 1,4-dioxane at CSW-1 of approximately 0.5 mg/L and lower concentrations at downgradient CSW-2. When water is present, the concentrations of 1,4-dioxane have declined to less than 50 percent of the prior concentrations. Results at CSW-1 have varied between approximately 0.08 and 0.25 mg/L. The 1,4-dioxane concentration in CSW-1 was 0.0821 mg/L in May 2015 and 0.014 mg/L in November 2015. The 1,4-dioxane concentration in CSW-2 was 0.0124 mg/L in November 2015. The data collected when water is present suggest that the phytoremediation is providing control of the 1,4-dioxane mass in the treatment area.

The May 2015 result is the lowest result reported to date for locations CSW-1. The November 2015 result was nearly an order of magnitude lower, but the site conditions at the time included significant flooding from the Pacolet River. Locations CSW-1 and CSW-2 were not submerged, but the concentrations reported may include atypical levels of dilution resulting from inflow of high water.

Concentrations of 1,4-dioxane, ethylene glycol, biphenyl ether, and 1,1-biphenyl at surface water monitoring locations SW-3, SW-5, SW-7, and SW-8 were below detection levels. Surface water location SW-05 has been sampled for 1,4-dioxane analysis since 1998. The results for all samples prior to 2014 were non-detect (<0.010 mg/L). In May 2014 a detection of 0.326 mg/L was reported for the sample from this location and a much higher concentration was reported in the duplicate sample. The concentration decreased to non-detect (<0.002 mg/L) in November 2014 and remained non-detect in 2015. The May 2014 result is therefore considered to be an error resulting from contamination during the sampling or analytical process.

### 3.5 Phytoremediation System and Landfill Cover Inspections

Monthly inspections of the phytoremediation system and landfill cap were conducted for the period of May 2015 through April 2016 and are presented in Appendix B. Based on these inspections, most of the trees remained in good health during this reporting period. The willows planted in 2012 are in good health. During the March 2016 inspection, six trees were found broken due to wind storm. The broken trees were removed during this inspection event. No other tree losses were reported during this reporting period, May 2015 through April 2016.

AECOM will review the phytoremediation system and determine if it is appropriate to replace the six damaged trees and/or any other trees. This assessment will include possibly harvesting other trees as needed to maintain the remedial performance and hydraulic control.

The landfill cap has been in good condition during this reporting period.

As previously described, the associated surface water sampling has demonstrated that the treatment system is effective. Groundwater concentrations of 1,4-dioxane in the vicinity of the treatment system have also remained stable or declining.

The landfill cover has been in place since the early 1990s. The phytoremediation system was first implemented in 2004 and has been upgraded and maintained consistently since that time. Groundwater monitoring has consistently demonstrated that these systems remain effective and combine with MNA to maintain stable to improving conditions as described in the 2007 CAP.

Because the systems have established a long term reliable behavior, we are requesting that the monthly inspection schedule be reduced to quarterly. The historic data demonstrate that the conditions are controlled as designed and not changing rapidly. Therefore, quarterly inspections will continue to provide adequate notice for any maintenance or repairs which may be needed.

Routine mowing and cover service will continue without change in schedule.

Maintenance of the phytoremediation system will also be continued as long as groundwater detections exceed the 2L standards as described in the CAP. The maintenance will include periodic removal of trees based on damage, age, or overcrowding and additional trees will be installed as needed to continue meeting the objectives of the CAP.

## 4.0 Conclusions

The CAP was submitted in November 2007, and subsequent semiannual reports submitted have reported declining or stabilized concentrations and extent for the various plumes within the Needmore Road Landfill Facility. . Per NCDEQ's approval in a letter dated September 10, 2014, the reporting frequency was reduced from semiannual to annual. This report is the second annual report including the field activities from May 2015 to April 2016 and analytical results of the May 2015 and November 2015 sampling events. Semiannual monitoring and regular inspections of the phytoremediation system were conducted for the period of May 2015 to April 2016

During the May 2015 and November 2015 sampling events, the concentrations of one of the primary constituents of concern, ethylene glycol, decreased to a non-detect level. Considering the fact that ethylene glycol is easily degraded in water through natural attenuation and the source has been isolated, the rebound of the ethylene glycol concentrations in 2013 and 2014 is considered temporary.

1,1-Biphenyl was only detected at monitoring well B-10, and historical data for this well indicate a decreasing trend since 2008. Biphenyl ether concentrations in the former disposal areas have decreased or stabilized over time due to the natural attenuation processes. Additionally, although monitoring well data indicate detectable levels of 1,4-dioxane exceeding the NC 2L standard, in most wells, concentrations remain well below historical levels observed at the site with generally mostly stable to declining trends. There are three wells in which the 1,4-dioxane concentrations increased notably in 2012 but have remained stable to declining since that event.

Based on surface water monitoring data, no site parameters have been observed that could impact the South Yadkin River.

The phytoremediation systems generally remain in good condition after the maintenance activities completed during this reporting period. In addition, the landfill cap continues to be in good condition.

We have requested a reduction in inspection frequency to quarterly because the data have consistently shown stable and effective performance of the current systems.

A review of the phytoremediation system will be completed to determine if tree replacements are required as a result of the recent loss of six trees. Future maintenance of the phytoremediation system, including pruning, harvesting and/or installing of new trees will be continued as described in the CAP.

Groundwater and surface water monitoring will be continued. The next monitoring event is scheduled for May 2016. The scope of the May 2016 event will be as presented in Table 1. Additionally, wells B-24A and B-24 will be sampled and analyzed for the parameters that were missed in the November 2015 sampling event. The next full sampling program presented in the CAP will be completed in November 2016 as shown in Table 2. The May 2016 data and November 2016 data will be presented in the next annual report to be submitted in May 2017.

## Tables

**Table 1**  
**May Groundwater and Surface Water Sampling Plan**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Location	1,4-Dioxane	DowTherm A™	Ethylene Glycol	MNA*
B-01	X		X	X
B-09C	X		X	X
B-10	X	X	X	X
B-12	X	X		X
B-17C	X			X
B-22B	X			X
B-23A	X		X	X
B-23B	X		X	X
B-24A	X			X
SW-5	X	X	X	
CSW-1	X			
CSW-2	X			

**Notes:**

\* MNA: alkalinity, nitrate, phosphate, sulfate, DO, ORP, and ferrous iron

**Table 2**  
**November Groundwater and Surface Water Sampling Plan**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Location	1,4-Dioxane	DowTherm A™	Ethylene Glycol	VOCs*	MNA**	Expanded MNA***
B-01	X	X	X	X	X	X
B-09C	X	X	X	X	X	
B-10	X	X	X	X	X	X
B-12	X	X			X	
B-17B	X	X			X	X
B-17C	X	X			X	X
B-21B	X				X	
B-22A	X	X		X	X	X
B-22B	X	X		X	X	X
B-23A	X	X	X	X	X	X
B-23B	X	X	X	X	X	X
B-24A	X	X		X	X	
B-24B	X	X		X	X	
B-32B	X	X	X		X	X
CSW-1	X					
CSW-2	X					
SW-3	X	X	X			
SW-5	X	X	X			
SW-7	X	X	X			
SW-8	X	X	X			

**Notes:**

\* VOCs to be analyzed annually (November only - revised from CAP schedule of May only)

\*\* MNA: alkalinity, nitrate, phosphate, sulfate, DO, ORP, and ferrous iron

\*\*\* Expanded MNA: TOC, ethane, ethene, methane, carbon dioxide, hydrogen, and volatile fatty acids

**Table 3**  
**Groundwater Analytical Summary**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Chemical Name	Unit	NC 2L Standard	B-01 5/7/2015	B-01 11/11/2015	B-09C 5/6/2015	B-09C 11/10/2015	B-10 5/7/2015	B-10 11/11/2015	B-12 5/6/2015	B-12 11/11/2015	B-17B 11/11/2015	B-17C 5/6/2015	B-17C 11/11/2015	B-21B 11/11/2015	B-22A 11/10/2015
1,1-biphenyl	mg/L	0.4	NA	<0.01	NA	<0.01	0.0828	0.192	<0.01	<0.01	<0.01	NA	<0.01	NA	<0.01
biphenyl ether	mg/L	PQL*	NA	0.122	NA	0.0106	1.09	2.11	<0.01	<0.01	<0.01	NA	<0.01	NA	<0.01
ethylene glycol	mg/L	10	<5.0	<50	<5.0	<500	<5.0	<50	NA	NA	NA	NA	NA	NA	NA
1,4-dioxane	mg/L	0.003	2.89	2.64	0.972	0.909	0.511	0.404	3.09	2.9	0.135	2.9	1.81	0.092	1.69
acetone	mg/L	6	NA	<1.25	NA	2.66	NA	<0.625	NA	NA	NA	NA	NA	NA	<0.025
2-butanone	mg/L	4	NA	<0.5	NA	0.256	NA	<0.25	NA	NA	NA	NA	NA	NA	<0.01
chlorobenzene	mg/L	0.05	NA	<0.25	NA	<0.1	NA	<0.125	NA	NA	NA	NA	NA	NA	0.0075
chloroethane	mg/L	3	NA	<0.5	NA	<0.2	NA	<0.25	NA	NA	NA	NA	NA	NA	<0.01
1,1-dichloroethane	mg/L	0.006	NA	<0.25	NA	<0.1	NA	<0.125	NA	NA	NA	NA	NA	NA	0.0065
alkalinity	mg/L	--	1470	1430	2500	2260	664	694	310	313	240	336	329	282	544
nitrate nitrogen	mg/L	10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.031	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
nitrite nitrogen	mg/L	1	<0.02	<0.02	0.12	0.073	0.044	0.067	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05
orthophosphate phosphorus	mg/L	--	1.6	0.94	<0.25	0.32	<0.25	0.68	0.13	0.2	0.16	0.21	0.34	0.25	<0.25
sulfate	mg/L	250	3.1	28.5	<1	<1	<1	<1	1.3	1.2	2.3	1	1.4	15.1	<1
total organic carbon	mg/L	--	NA	3660	NA	NA	NA	31.6	NA	NA	53.3	NA	61.2	NA	5.5
<b>Field Parameters</b>															
dissolved oxygen	mg/L	--	0.41	0.27	0.31	0.3	0.48	0.29	1.17	0.96	1.02	0.44	0.66	1.35	0.72
Ferrous Iron	mg/L	--	NA	6.2	NA	5	NA	1.2	NA	0.2	1.1	NA	0.8	1.4	3.2
groundwater elevation	feet MSL	--	695.74	695.31	673.24	671.1	702.38	701.15	656.94	656.18	659.51	659.54	659.94	661.86	658.94
ORP	mV	--	60.8	-6.4	-74.4	-115.9	-45.4	-87.4	35.9	23.4	-71.2	70.6	57.8	-46.1	-125.9
pH	su	--	5.2	5.1	6.61	6.3	6.49	6.24	6.69	6.29	6.26	6.76	6.39	6.49	6.37
specific conductance	umhos/cm	--	5092	5475	5016	4631	1218	1369	719	714	498	679	688	594	1186
temperature	degrees C	--	16.92	18.6	18.98	15.78	16.86	19.69	18.97	14.45	12.7	16.48	14.69	16.04	17.14
turbidity	NTU	--	4.7	2.1	4.7	4.9	3.7	5.5	7.9	5.8	3.2	3.8	3.9	3.2	5.8

**Notes:**

PQL – Practical Quantitation Limit

\* site-specific target chemical

-- no standard specified under 15A NCAC 2L.0202

mg/L – milligrams per liter

mV – millivolts

su – standard units

umhos/cm – micromhos per centimeter

degrees C – degrees Celsius

feet MSL – feet above mean sea level

NTU – Nephelometric Turbidity Units

NA – Not Analyzed

**Table 3**  
**Groundwater Analytical Summary**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Chemical Name	Unit	NC 2L Standard	B-22B 5/6/2015	B-22B 11/10/2015	B-22B Dup 11/10/2015	B-23A 5/6/2015	B-23A 11/10/2015	B-23B 5/6/2015	B-23B 11/10/2015	B-24A 5/6/2015	B-24A 11/10/2015	B-24B 11/10/2015	B-32B 11/11/2015
1,1-biphenyl	mg/L	0.4	NA	<0.01	<0.01	NA	<0.1	NA	<0.01	NA	NA	NA	<0.01
biphenyl ether	mg/L	PQL*	NA	0.0117	0.0103	NA	<0.1	NA	<0.01	NA	NA	NA	<0.01
ethylene glycol	mg/L	10	NA	NA	NA	<5.0	<50	<5.0	<50	NA	NA	NA	<50
1,4-dioxane	mg/L	0.003	1.73	1.72	1.61	3.24	3.35	2.78	3.33	0.103	NA	NA	0.0183
acetone	mg/L	6	NA	<0.025	<0.025	NA	5.12	NA	5.09	NA	NA	NA	NA
2-butanone	mg/L	4	NA	<0.01	<0.01	NA	0.483	NA	0.488	NA	NA	NA	NA
chlorobenzene	mg/L	0.05	NA	0.0089	0.0087	NA	<0.1	NA	<0.1	NA	NA	NA	NA
chloroethane	mg/L	3	NA	0.0118	0.0103	NA	<0.2	NA	<0.2	NA	NA	NA	NA
1,1-dichloroethane	mg/L	0.006	NA	<0.005	<0.005	NA	<0.1	NA	<0.1	NA	NA	NA	NA
alkalinity	mg/L	--	615	724	615	2490	2540	2160	2250	211	NA	NA	194
nitrate nitrogen	mg/L	10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	NA	0.14
nitrite nitrogen	mg/L	1	0.032	<0.02	0.032	0.035	0.04	0.16	0.12	<0.02	NA	NA	<0.02
orthophosphate phosphorus	mg/L	--	<0.05	0.38	<0.05	0.47	1.3	<0.25	0.96	<0.05	NA	NA	0.13
sulfate	mg/L	250	<1	<1	<1	9	7.7	5.3	7.5	2	NA	NA	<1
total organic carbon	mg/L	--	NA	6.7	NA	NA	2780	NA	2890	NA	NA	NA	40.8
<b>Field Parameters</b>													
dissolved oxygen	mg/L	--	0.38	0.25	0.38	0.44	0.75	0.39	0.34	1.35	NA	NA	1
Ferrous Iron	mg/L	--	NA	2.9	NA	NA	5.1	NA	1.2	NA	NA	NA	2
groundwater elevation	feet MSL	--	657.89	657.95	657.89	656.88	657.7	657.22	657.88	654.68	NA	NA	714.2
ORP	mV	--	-40.3	-93	-40.3	-24	-88.1	-56.8	-84	-76.8	NA	NA	-98.9
pH	su	--	6.72	6.38	6.72	6.29	6.22	6.59	6.14	6.79	NA	NA	6.44
specific conductance	umhos/cm	--	1182	1340	1182	5560	5597	4661	5275	466	NA	NA	464
temperature	degrees C	--	18.95	16.19	18.95	20.87	16.22	21.28	16.98	15.72	NA	NA	17.65
turbidity	NTU	--	4.3	4.7	4.3	7.6	7.2	6.9	5	1.1	NA	NA	2.1

**Notes:**

PQL – Practical Quantitation Limit

\* site-specific target chemical

-- no standard specified under 15A NCAC 2L.0202

mg/L – milligrams per liter

mV – millivolts

su – standard units

umhos/cm – micromhos per centimeter

degrees C – degrees Celsius

feet MSL – feet above mean sea level

NTU – Nephelometric Turbidity Units

NA – Not Analyzed

**Table 4**  
**Surface Water Analytical Summary**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Chemical Name	Unit	SW-3	SW-05	SW-5	SW-7	SW-8	CSW-1	CSW-1	CSW-2
		11/10/2015	5/6/2015	11/10/2015	11/10/2015	11/10/2015	5/6/2015	11/10/2015	11/10/2015
1,1-biphenyl	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA	NA
biphenyl ether	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA	NA
turbidity	NTU	29.5	<0.002	49.2	70	82.6	4.6	48.6	52.6
1,4-dioxane	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	0.0821	0.014	0.0124
ethylene glycol	mg/L	<50	<5.0	<50	<50	<50	NA	NA	NA
temperature	degrees C	13.76	19.82	14.37	12.19	12.96	17.69	15.62	13.66
ORP	mV	61.1	-69.1	31.8	42	99.5	-39.7	31.7	46.5
dissolved oxygen	mg/L	7.09	7.49	7.94	10.27	7.71	2.18	6.45	6.27
pH	su	6.79	7.81	7.18	7.69	6.55	7.34	6.97	6.87
specific conductance	umhos/cm	69	91	63	54	67	347	106	69

**Notes:**

- mg/L – milligrams per liter
- NTU – Nephelometric Turbidity Units
- degrees C – degrees Celsius
- mV – millivolts
- su – standard units
- umhos/cm – micromhos per centimeter
- NA – Not Analyzed

**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
NC 2L Standard	0.4	0.003	PQL	14
<b>B-01</b>				
Jun-04	<0.05	4.07	0.0723	<28
Nov-04	<0.01	0.202	0.0211	492
May-05	<2.5	2.93	<2.5	1160
Nov-05	<0.01	3.69	0.02	<70
May-06	<0.02	2.75	0.0419	93.9
Nov-06	<0.01	4.68	0.0446	2000
May-07	<0.01	3.43	0.0716	<140
Nov-07	<0.04	3.01	0.0662	<7
May-08	<0.04	2.15	0.0635	<7
Nov-08	<0.01	3.31	0.0565	<7
May-09	NA	2.26	NA	<7
Dec-09	<0.01	3.54	0.0423	<35
May-10	NA	3.56	NA	<35
Nov-10	<0.01	3.24	0.0811	<35
May-11	NA	2.15	NA	NA
Nov-11	<0.01	3.25	0.083	<35
May-12	NA	3.85	NA	NA
Nov-12	<1	3.41	<1	<14
May-13	NA	3.07	NA	254
Nov-13	<0.1	2.74	<0.1	38.5
May-14	NA	1.96	NA	796
Nov-14	<0.01	3.27	0.0858	648
May-15	NA	2.89	NA	<5.0
Nov-15	<0.01	2.64	0.122	<50
<b>B-09C</b>				
Jun-04	<0.5	0.791	<0.5	<70
Nov-04	<0.05	1.04	0.0545	1420
May-05	<0.2	0.776	<0.2	<70
Nov-05	<0.01	1.31	0.0324	363
May-06	<0.02	0.668	0.0492	85.8
Nov-06	<0.01	1.29	<0.01	2020
May-07	<0.01	1.11	0.0377	<140
Nov-07	<0.01	0.995	0.0352	<7
May-08	<0.01	0.486	0.0312	<7
Nov-08	<0.01	1.11	0.0438	<7
May-09	NA	0.873	NA	<7
Dec-09	<0.01	1.15	0.0581	<35
May-10	NA	1.03	NA	<35
Nov-10	<0.01	0.951	0.0542	<35
May-11	NA	0.782	NA	NA
Nov-11	<0.01	1.1	0.0451	<35
May-12	NA	1.46	NA	NA
Nov-12	<0.01	1.15	0.0255	<14
May-13	NA	0.803	NA	448
Nov-13	<0.01	0.766	0.0272	77
May-14	NA	0.86	NA	288
Nov-14	<0.01	0.893	0.029	406
May-15	NA	0.972	NA	<5.0
Nov-15	<0.01	0.909	0.0106	<500

**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
NC 2L Standard	0.4	0.003	PQL	14
<b>B-10</b>				
Jun-04	<1	0.723	4.63	<28
Nov-04	<0.4	0.592	3.33	354
May-05	0.02	0.419	0.193	647
Nov-05	0.31	0.62	3.62	57.5
May-06	0.29	0.328	3.01	<7
Nov-06	0.28	0.509	3.12	284
May-07	0.28	0.564	3.26	<28
Nov-07	0.31	0.413	3.46	<7
May-08	0.405	0.461	3.22	<7
Nov-08	0.352	0.481	3.12	<7
May-09	0.319	0.412	3.09	<7
Dec-09	0.391	0.649	4.58	<14
May-10	0.288	0.417	2.91	<14
Nov-10	0.25	0.39	2.55	<14
May-11	0.328	0.553	3.34	NA
Nov-11	0.3	0.306	2.53	<14
May-12	0.157	0.484	1.45	NA
Nov-12	0.165	0.546	1.82	<14
May-13	0.106	0.421	1.12	252
Nov-13	0.157	0.47	1.69	<35
May-14	0.0728	0.599	0.73	<10
Nov-14	0.169	0.508	1.84	<10
May-15	0.0828	0.511	1.09	<5.0
Nov-15	0.192	0.404	2.11	<50
<b>B-12</b>				
Feb-04	<0.01	0.315	<0.01	<7
May-04	<0.01	0.521	<0.01	<7
Jun-04	<0.01	0.775	0.0102	<7
Nov-04	<0.01	0.942	0.0115	<7
May-05	<0.01	0.222	0.0108	<7
Nov-05	<0.01	0.165	<0.01	<7
May-06	<0.01	0.151	<0.01	NA
Nov-06	<0.01	0.216	<0.01	NA
May-07	<0.01	0.118	<0.01	NA
Nov-07	<0.01	0.169	<0.01	NA
May-08	<0.01	0.121	<0.01	<7
Nov-08	<0.01	0.102	<0.01	NA
May-09	<0.01	0.105	0.0108	NA
Dec-09	<0.01	0.128	0.0119	NA
May-10	<0.01	0.11	<0.01	NA
Nov-10	<0.01	0.0946	<0.01	NA
May-11	<0.01	0.11	<0.01	NA
Nov-11	<0.01	0.0761	<0.01	NA
May-12	<0.01	0.13	<0.01	NA
May-12	<0.01	0.132	<0.01	NA
Nov-12	<0.01	3.68	<0.01	NA
May-13	<0.01	3.44	<0.01	NA
Nov-13	<0.01	3.24	<0.01	NA
May-14	<0.01	2.59	<0.01	NA
Nov-14	<0.01	3.27	<0.01	NA
May-15	<0.01	3.09	<0.01	NA
Nov-15	<0.01	2.9	<0.01	NA

**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
<b>NC 2L Standard</b>	<b>0.4</b>	<b>0.003</b>	<b>PQL</b>	<b>14</b>
<b>B-17B</b>				
Feb-04	<0.01	2.98	<0.01	<7
May-04	<0.01	2.33	0.0125	<7
Jun-04	<0.01	4.96	<0.01	<7
Nov-04	<0.01	3.11	<0.01	<7
May-05	<0.01	2.83	0.0102	<7
Nov-05	<0.01	1.87	0.0107	<7
May-06	<0.01	2.42	<0.01	NA
Nov-06	<0.01	2.84	<0.01	NA
May-07	<0.01	2.62	<0.01	NA
Nov-07	<0.01	3.33	<0.01	NA
May-08	<0.01	3.52	<0.01	<7
Nov-08	<0.01	2.35	<0.01	NA
Dec-09	<0.01	2.54	<0.01	NA
Nov-10	<0.01	2.75	<0.01	NA
Nov-11	<0.01	2.59	<0.01	NA
Nov-12	<0.01	0.291	<0.01	NA
Nov-13	<0.01	0.113	<0.01	NA
Nov-14	<0.01	0.271	<0.01	NA
Nov-15	<0.01	0.135	<0.01	NA
<b>B-17C</b>				
Feb-04	<0.01	3.29	<0.01	<7
May-04	<0.01	2.21	<0.01	<7
Jun-04	<0.01	3.01	<0.01	<7
Nov-04	<0.01	3.22	0.0117	<7
May-05	<0.01	2.51	<0.01	<8.5
Nov-05	<0.01	2.44	<0.01	<7
May-06	<0.01	2.68	<0.01	NA
Nov-06	<0.01	2.92	<0.01	NA
May-07	<0.01	2.93	<0.01	NA
Nov-07	<0.01	3.06	<0.01	NA
May-08	<0.01	2.90	<0.01	<7
Nov-08	<0.01	2.10	<0.01	NA
Dec-09	<0.01	2.40	<0.01	NA
May-10	NA	1.95	NA	NA
Nov-10	<0.01	2.39	<0.01	NA
May-11	NA	2.02	NA	NA
Nov-11	<0.01	2.15	<0.01	NA
May-12	NA	2.47	NA	NA
Nov-12	<0.01	3.18	<0.01	NA
May-13	NA	3.61	NA	NA
Nov-13	<0.01	3.1	<0.01	NA
May-14	NA	3.71	NA	NA
Nov-14	<0.01	2.42	<0.01	NA
May-15	NA	2.9	NA	NA
Nov-15	<0.01	1.81	<0.01	NA

**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
NC 2L Standard	0.4	0.003	PQL	14
<b>B-21B</b>				
Jun-04	<0.01	0.0391	<0.01	<7
Nov-04	<0.01	0.047	<0.01	<7
May-05	<0.01	0.0338	<0.01	<7
Nov-05	<0.01	0.0477	<0.01	<7
May-06	NA	0.0348	NA	NA
Nov-06	NA	0.0507	NA	NA
May-07	NA	0.0511	NA	NA
Nov-07	NA	0.0686	NA	NA
May-08	NA	0.0557	NA	<7
Nov-08	NA	0.0598	NA	NA
Dec-09	NA	0.0698	NA	NA
Nov-10	NA	0.0534	NA	NA
Nov-11	NA	0.0573	NA	NA
Nov-12	NA	0.0811	NA	NA
Nov-13	NA	0.0665	NA	NA
Nov-14	NA	0.0832	NA	NA
Nov-15	NA	0.092	NA	NA
<b>B-22A</b>				
Feb-04	<0.01	0.67	0.0634	<7
May-04	<0.01	0.322	0.0514	<7
Jun-04	<0.01	1.06	0.0449	<7
Nov-04	<0.01	0.895	0.0427	<7
May-05	<0.01	0.722	0.0284	<7.9
Nov-05	<0.01	0.572	0.0268	<7
May-06	<0.01	0.949	0.025	NA
Nov-06	<0.01	1.12	0.0259	NA
May-07	<0.01	1.13	0.0186	NA
Nov-07	<0.01	1.3	0.0213	NA
May-08	<0.01	1.18	0.0242	<7
Nov-08	<0.01	1.04	0.0214	NA
Dec-09	<0.01	1.25	0.0141	NA
Nov-10	<0.01	1.74	<0.01	NA
Nov-11	<0.01	1.22	<0.01	NA
Nov-12	<0.01	2.05	<0.01	NA
Nov-13	<0.01	1.71	<0.01	NA
Nov-14	<0.01	1.64	<0.01	NA
Nov-15	<0.01	1.69	<0.01	NA

**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
NC 2L Standard	0.4	0.003	PQL	14
<b>B-22B</b>				
Feb-04	<0.01	2.64	0.0323	<7
May-04	<0.01	1.9	0.0346	<7
Jun-04	<0.01	2.78	0.033	<7
Nov-04	<0.01	2.72	0.0362	<7
May-05	<0.01	2.32	0.0351	<10.8
Nov-05	<0.01	1.22	0.0365	<7
May-06	<0.01	2.46	0.0329	NA
Nov-06	<0.01	2.33	0.028	NA
May-07	<0.01	2.79	0.0284	NA
Nov-07	<0.01	2.62	0.0295	NA
May-08	<0.01	2.42	0.023	<7
Nov-08	<0.01	1.87	0.0236	NA
May-09	NA	2.39	NA	NA
Dec-09	<0.01	2.14	0.0265	NA
May-10	NA	2.01	NA	NA
Nov-10	<0.01	2.14	0.0316	NA
May-11	NA	1.75	NA	NA
Nov-11	<0.01	1.5	0.0251	NA
May-12	NA	1.95	NA	NA
Nov-12	<0.01	2.08	0.0243	NA
Nov-12	<0.01	2.2	0.0227	NA
May-13	NA	1.88	NA	NA
Nov-13	<0.01	1.69	0.0222	NA
May-14	NA	2.05	NA	NA
Nov-14	<0.01	2.8	0.0202	NA
May-15	NA	1.73	NA	NA
Nov-15	<0.01	1.72	0.0117	NA
<b>B-23A</b>				
Feb-04	<0.01	1.5	0.115	<7
May-04	<0.01	1.21	0.0928	<7
Jun-04	<0.01	2.03	0.0911	<7
Nov-04	<0.01	1.45	0.0769	227
May-05	<0.01	1.41	0.0108	278
Nov-05	<0.01	1.29	0.0919	<70
May-06	<0.01	0.711	0.0823	286
Nov-06	<0.01	2.01	0.0791	255
May-07	<0.01	1.51	0.0768	<70
Nov-07	<0.01	1.45	0.112	<7
May-08	<0.01	1.91	0.0936	NA
Nov-08	<0.01	1.97	0.0711	<7
May-09	NA	1.34	NA	<7
Dec-09	<0.01	1.84	0.131	<7
May-10	NA	1.96	NA	<7
Nov-10	<0.01	1.81	0.1	<7
May-11	NA	1.3	NA	NA
Nov-11	<0.01	2.41	0.0884	<7
May-12	NA	2.45	NA	NA
Nov-12	<0.01	3.35	0.0772	<7
May-13	NA	2.82	NA	120
Nov-13	<0.01	2.76	0.0755	146
May-14	NA	3.06	NA	<100
Nov-14	<0.01	3.54	0.0708	329
May-15	NA	3.24	NA	<5.0
Nov-15	<0.1	3.35	<0.1	<50

**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
NC 2L Standard	0.4	0.003	PQL	14
<b>B-23B</b>				
Feb-04	<0.01	1.67	0.124	594
May-04	<0.01	1.14	0.115	<7
Jun-04	<0.01	1.76	0.101	<35
Nov-04	<0.01	1.82	0.0857	393
May-05	<0.2	1.29	<0.2	<35
Nov-05	<0.01	1.33	0.129	<35
May-06	<0.01	0.891	0.116	51.9
Nov-06	<0.02	1.7	0.128	907
May-07	<0.02	2.29	0.0973	<70
Nov-07	<0.01	1.94	0.128	<7
May-08	<0.01	2.31	0.123	<7
Nov-08	<0.01	2.54	0.112	<7
May-09	NA	1.77	NA	<7
Dec-09	<0.01	2.46	0.183	<7
May-10	NA	2.14	NA	<7
Nov-10	<0.01	2.02	0.0768	<7
May-11	NA	2.15	NA	NA
Nov-11	<0.01	2.49	0.0982	<7
May-12	NA	2.39	NA	NA
Nov-12	<0.01	3.52	0.0811	<7
May-13	NA	2.72	NA	120
Nov-13	<0.01	2.88	0.0759	82.3
May-14	NA	3.01	NA	381
Nov-14	<0.0111	3.4	0.103	542
May-15	NA	2.78	NA	<5.0
Nov-15	<0.01	3.33	<0.01	<50
<b>B-24A</b>				
Feb-04	<0.01	0.0548	<0.01	7.8
May-04	<0.01	0.022	<0.01	<7
Jun-04	<0.01	0.0625	<0.01	<7
Nov-04	<0.01	0.0796	<0.01	<7
May-05	<0.01	0.0885	<0.01	<7
Nov-05	<0.01	0.0726	0.0111	<7
May-06	<0.01	0.105	0.0102	NA
Nov-06	<0.01	0.158	0.0126	NA
May-07	<0.01	0.141	<0.01	NA
Nov-07	<0.01	0.161	0.0124	NA
May-08	<0.01	0.159	<0.01	<7
Nov-08	<0.01	0.125	0.0124	NA
May-09	NA	0.113	NA	NA
Dec-09	<0.01	0.15	0.0169	NA
May-10	NA	0.135	NA	NA
Nov-10	<0.01	0.133	0.01	NA
May-11	NA	0.102	NA	NA
Nov-11	<0.01	0.132	0.0118	NA
Nov-12	<0.01	0.218	0.011	NA
May-13	NA	0.126	NA	NA
Nov-13	<0.01	0.158	<0.01	NA
May-14	NA	0.189	NA	NA
Nov-14	<0.01	0.23	0.0124	NA
May-15	NA	0.103	NA	NA
Nov-15	NA	NA	NA	NA

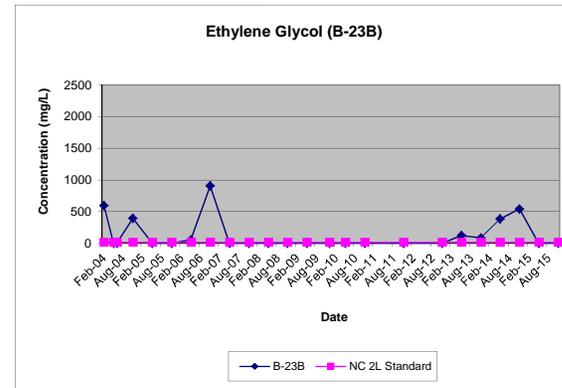
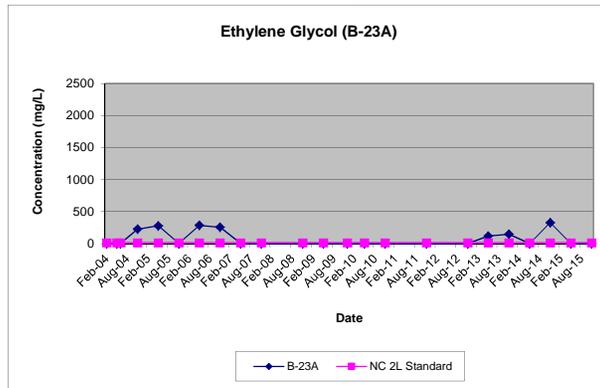
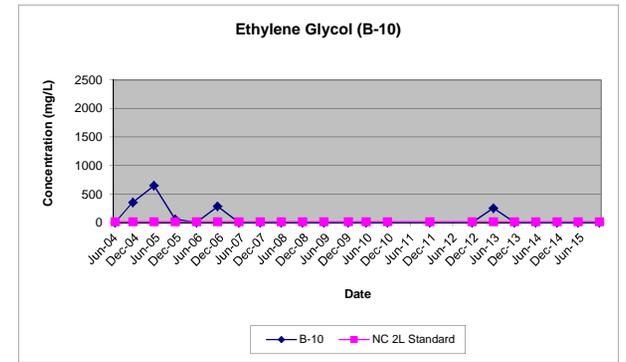
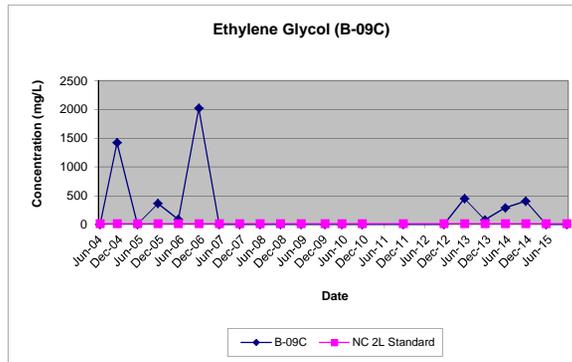
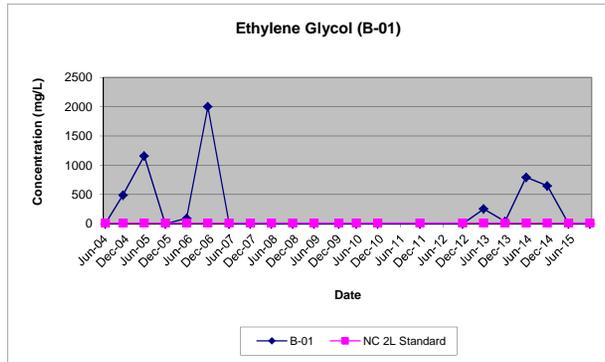
**Table 5**  
**Summary of Detected Constituents in Groundwater**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**

Parameter	1,1-Biphenyl	1,4-Dioxane	Biphenyl Ether	Ethylene Glycol
Units	mg/L	mg/L	mg/L	mg/L
<b>NC 2L Standard</b>	<b>0.4</b>	<b>0.003</b>	<b>PQL</b>	<b>14</b>
<b>B-24B</b>				
Feb-04	<0.01	0.0586	0.0184	<7
May-04	<0.01	0.0439	0.0178	<7
Jun-04	<0.01	0.0892	0.0146	<7
Nov-04	<0.01	0.082	0.0181	<7
May-05	<0.01	0.0722	0.0194	<7
Nov-05	<0.01	0.0591	0.0165	<7
May-06	<0.01	0.0746	0.0178	NA
Nov-06	<0.01	0.101	0.018	NA
May-07	<0.01	0.0962	0.015	NA
Nov-07	<0.01	0.102	0.0158	NA
May-08	<0.01	0.113	0.0151	<7
Nov-08	<0.01	0.0877	0.0178	NA
Dec-09	<0.01	0.0931	0.0226	NA
Nov-10	<0.01	0.0896	0.0151	NA
Nov-11	<0.01	0.0874	0.0144	NA
May-12	NA	0.103	NA	NA
Nov-12	<0.01	0.118	0.0136	NA
Nov-13	<0.01	0.0918	<0.01	NA
Nov-14	<0.01	0.103	0.0101	NA
Nov-15	NA	NA	NA	NA
<b>B-32B</b>				
Jun-04	<0.01	0.176	0.0577	<28
Nov-04	<0.01	0.198	0.0575	162
May-05	<0.2	0.115	<0.2	<14
Nov-05	<0.01	0.072	0.0416	<14
May-06	<0.01	0.0818	0.0617	27.6
Nov-06	<0.01	0.0996	0.0558	344
May-07	<0.01	0.149	0.0414	<35
Nov-07	<0.01	0.117	0.0816	<7
May-08	<0.01	0.0796	0.0329	<7
Nov-08	<0.01	0.173	0.0816	<7
Dec-09	<0.01	0.104	0.0621	<7
Nov-10	<0.01	0.144	0.0566	<7
Nov-11	<0.01	0.0988	0.0399	<7
Nov-12	<0.01	0.0755	<0.01	<7
Nov-13	<0.01	0.0275	0.0106	<7
Nov-14	<0.01	0.0178	<0.01	<10
Nov-15	<0.01	0.0183	<0.01	<50

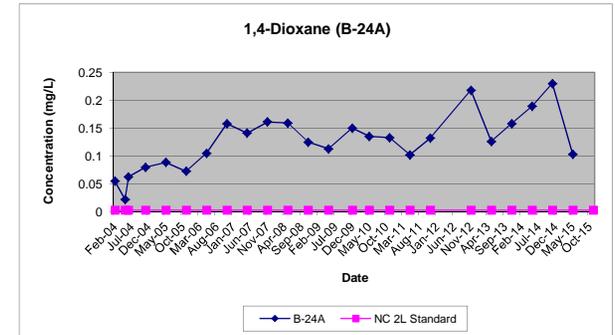
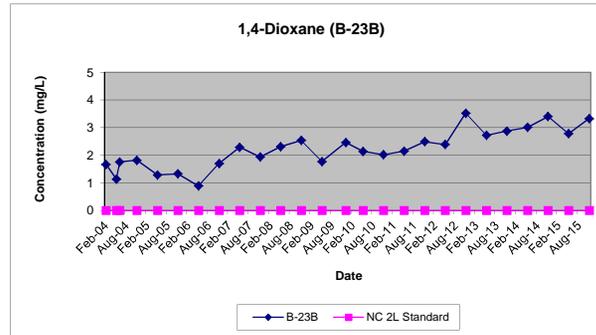
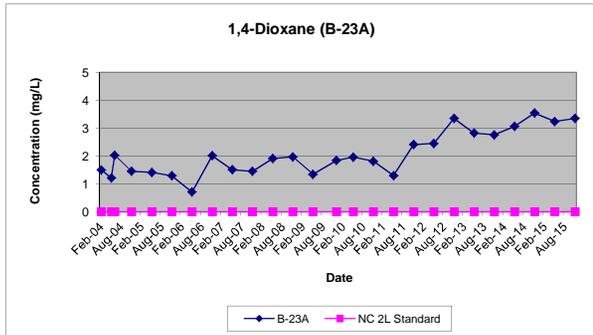
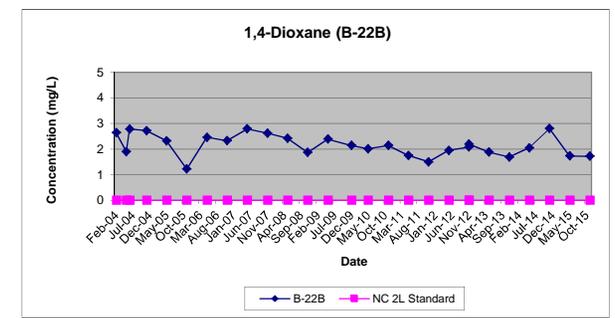
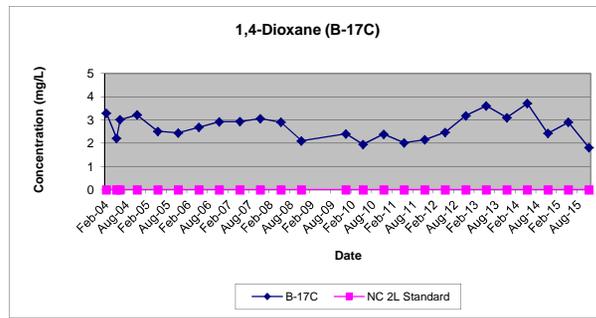
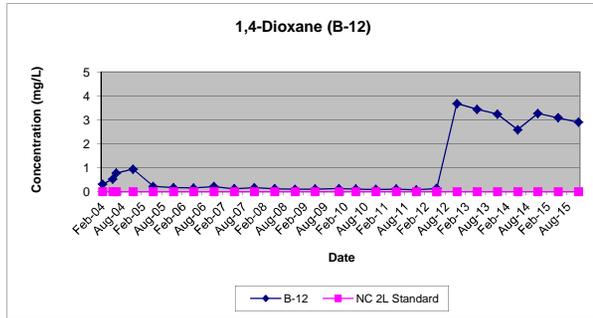
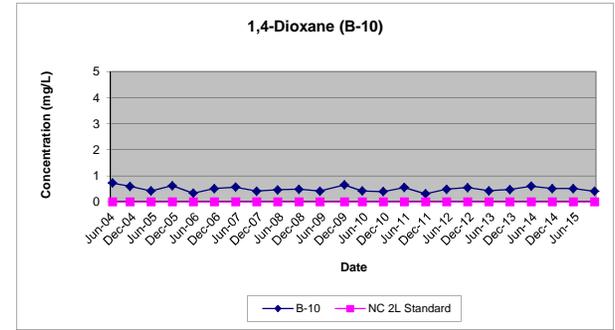
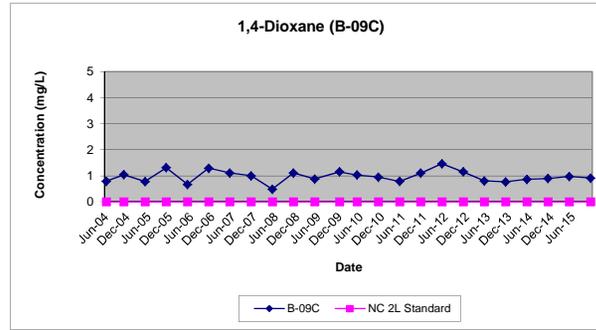
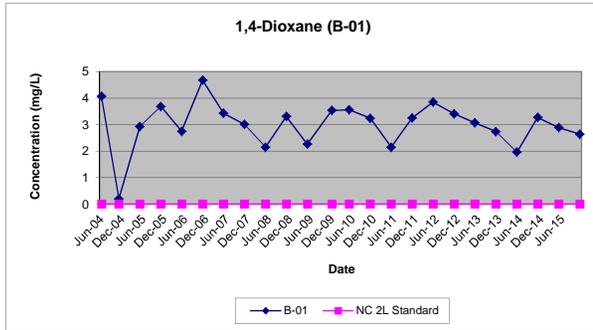
**Notes:**

mg/L – milligrams per liter  
NA – Not Analyzed  
PQL – Practical Quantitation Limit

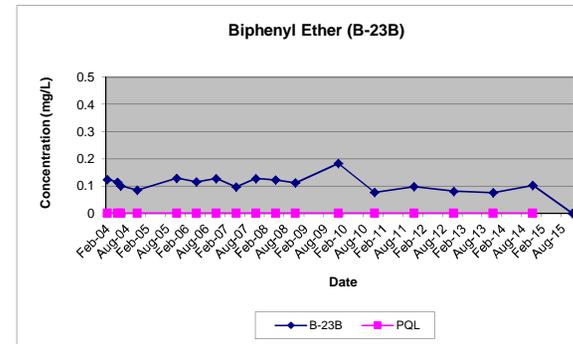
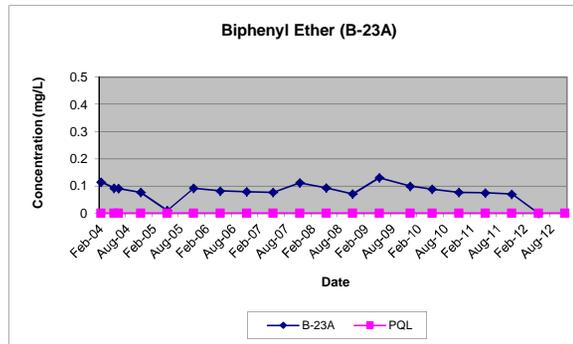
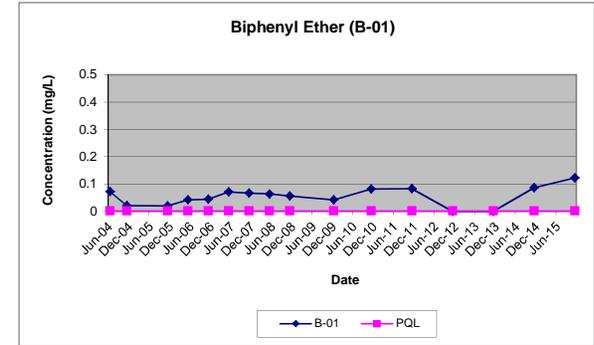
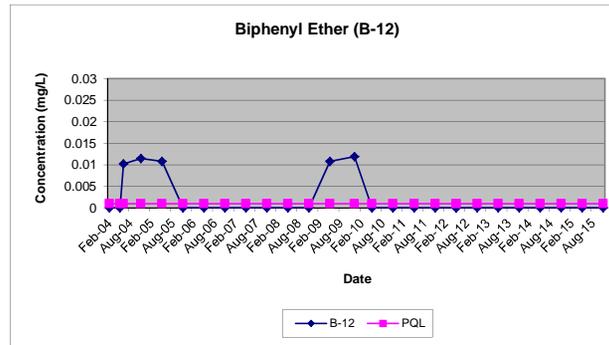
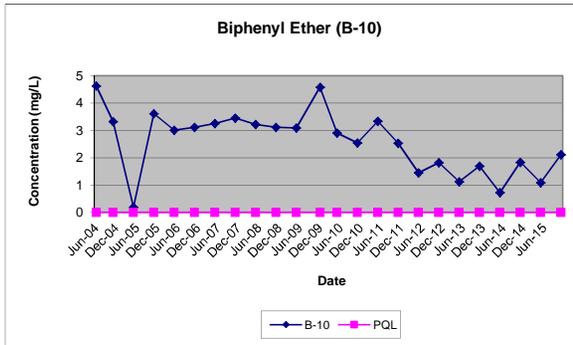
**Table 6**  
**Time vs. Concentration Plots – Ethylene Glycol**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**



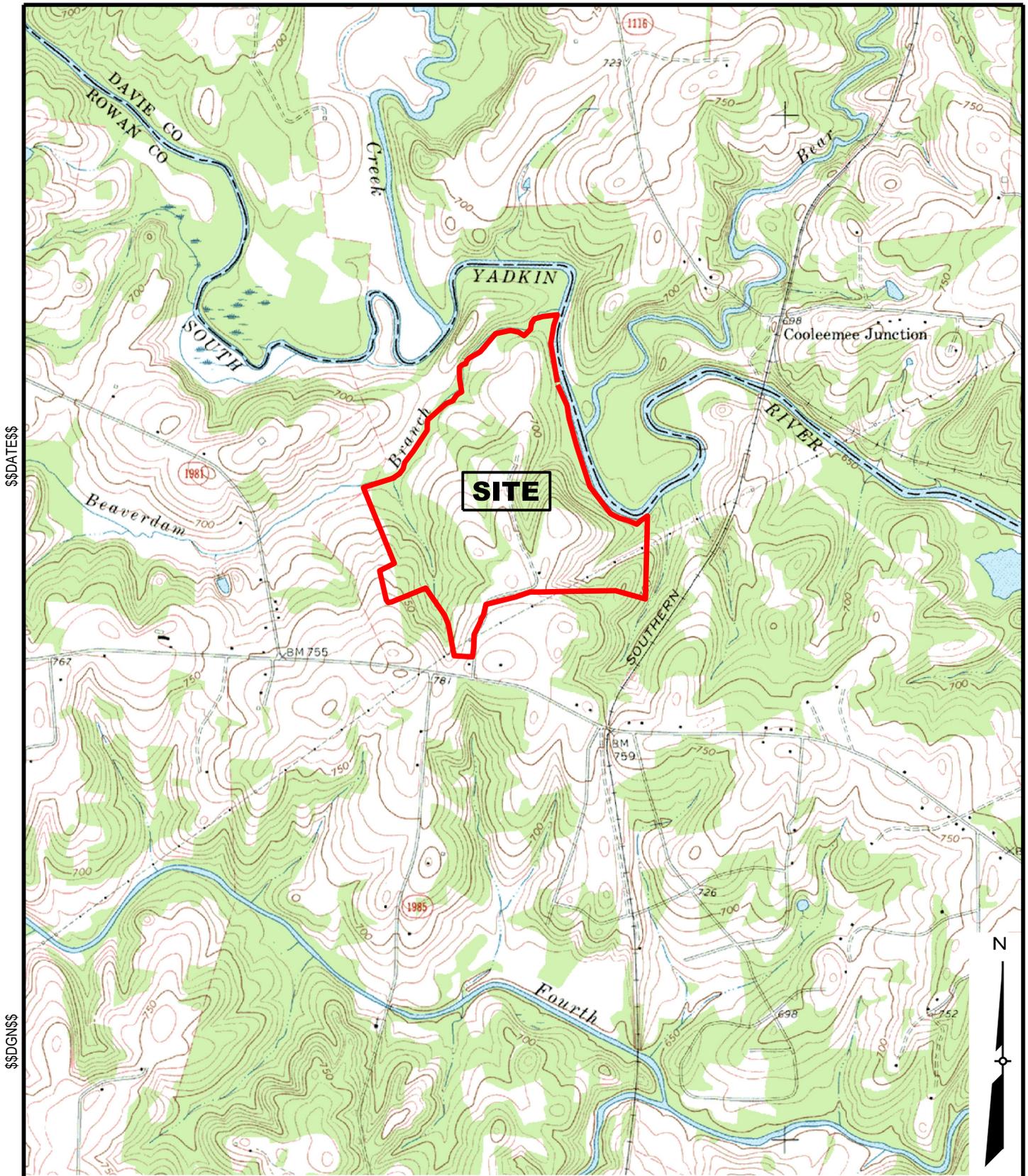
**Table 7**  
**Time vs. Concentration Plots – 1,4-Dioxane**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**



**Table 8**  
**Time vs. Concentration Plots – Biphenyl Ether**  
**CNA Holdings LLC – Needmore Road Landfill Facility**  
**AECOM Project No. 60313404**



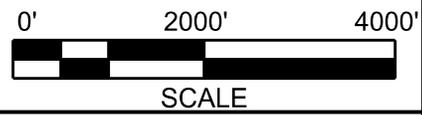
## Figures



\$\$\$DATE\$\$\$

\$\$\$DGN\$\$\$

SOURCE: USGS 7.5 MIN. QUADRANGLE  
 COOLEEMEE, NC - 1969; REV. 1983



**AECOM**

**FIGURE 1**  
 SITE LOCATION MAP

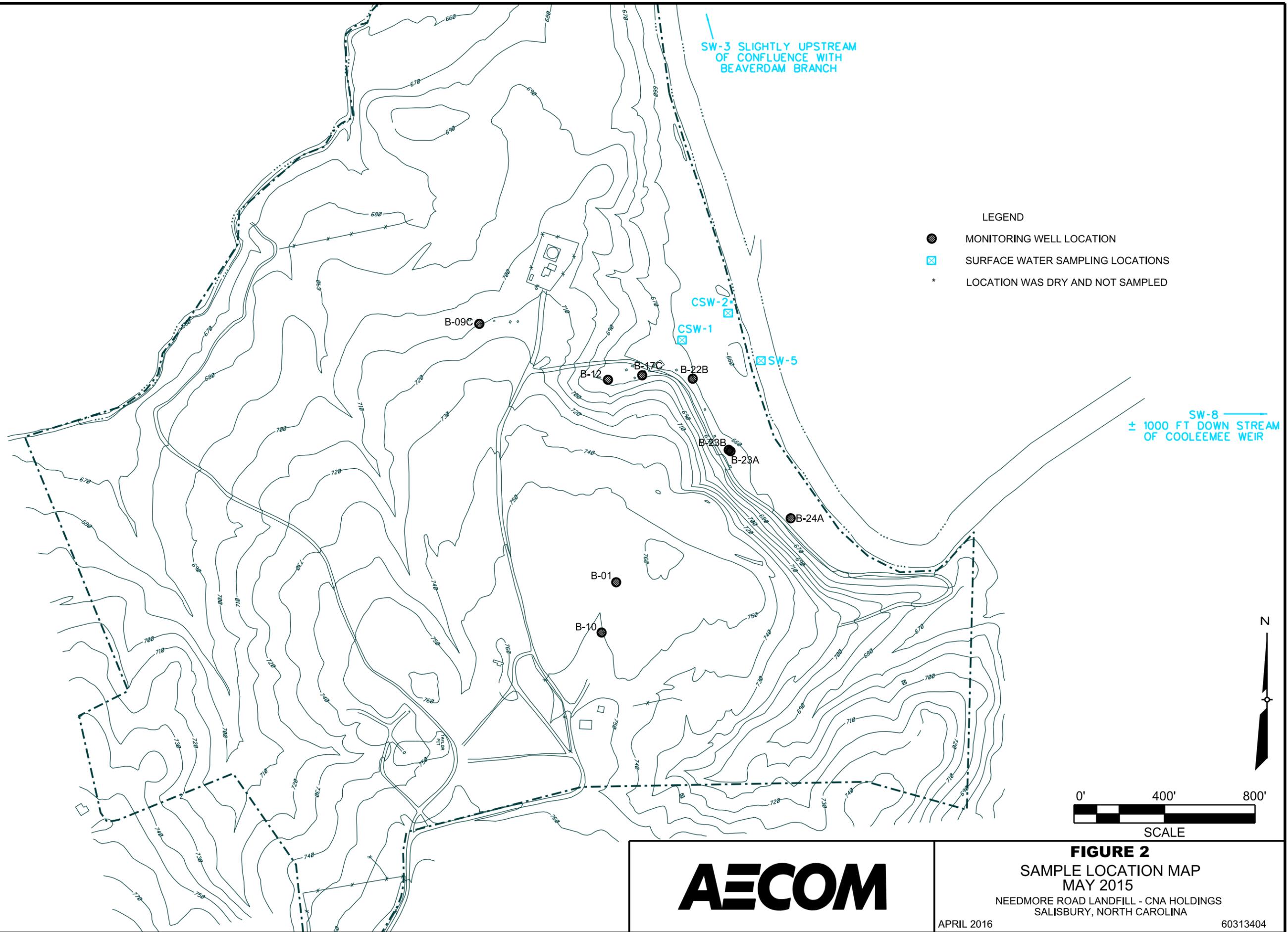
NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
 SALISBURY, NORTH CAROLINA

APRIL 2016

60313404

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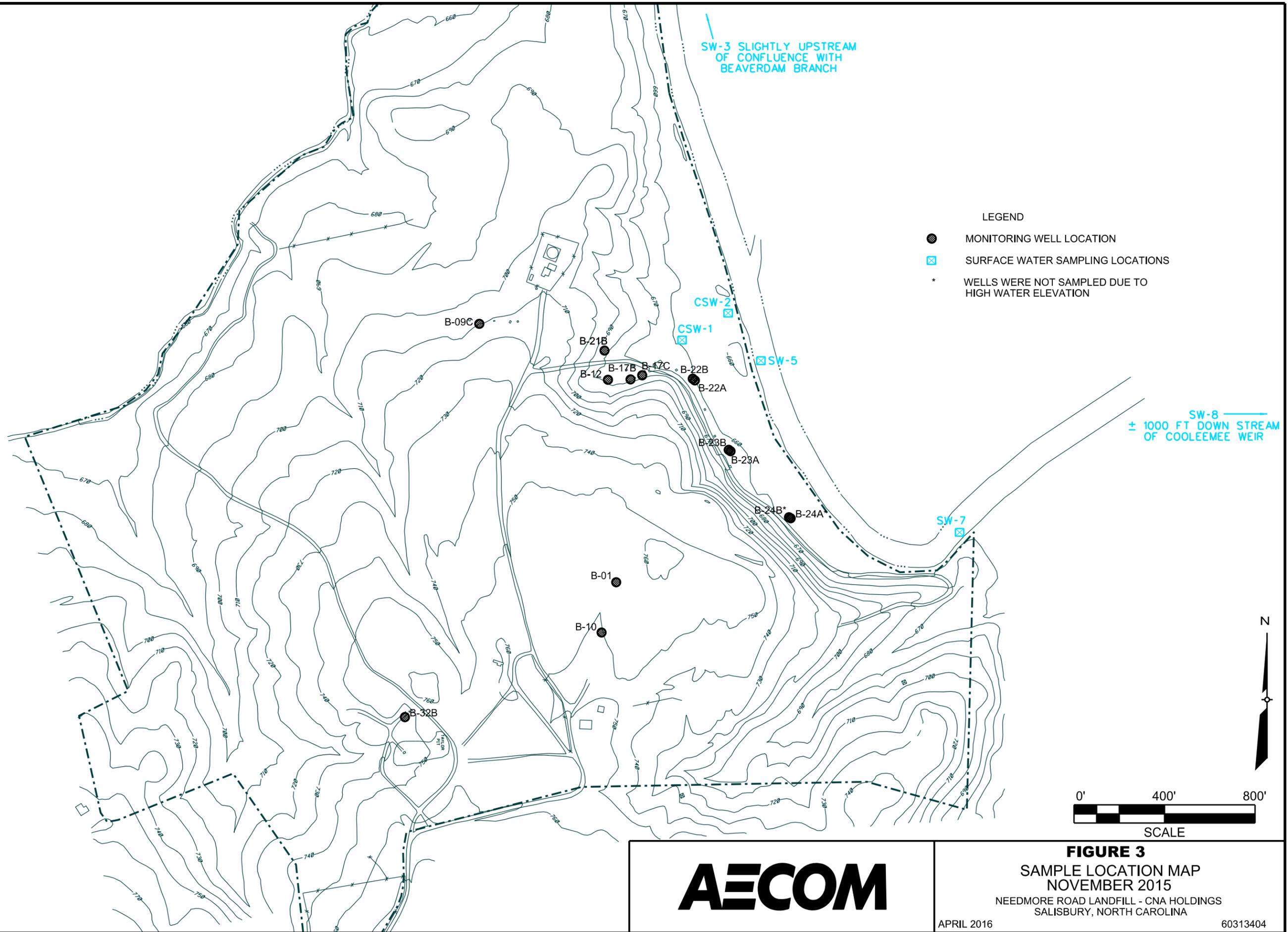
**FIGURE 2**  
**SAMPLE LOCATION MAP**  
 MAY 2015  
 NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
 SALISBURY, NORTH CAROLINA

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LEGEND

- MONITORING WELL LOCATION
- ☒ SURFACE WATER SAMPLING LOCATIONS
- \* WELLS WERE NOT SAMPLED DUE TO HIGH WATER ELEVATION



# AECOM

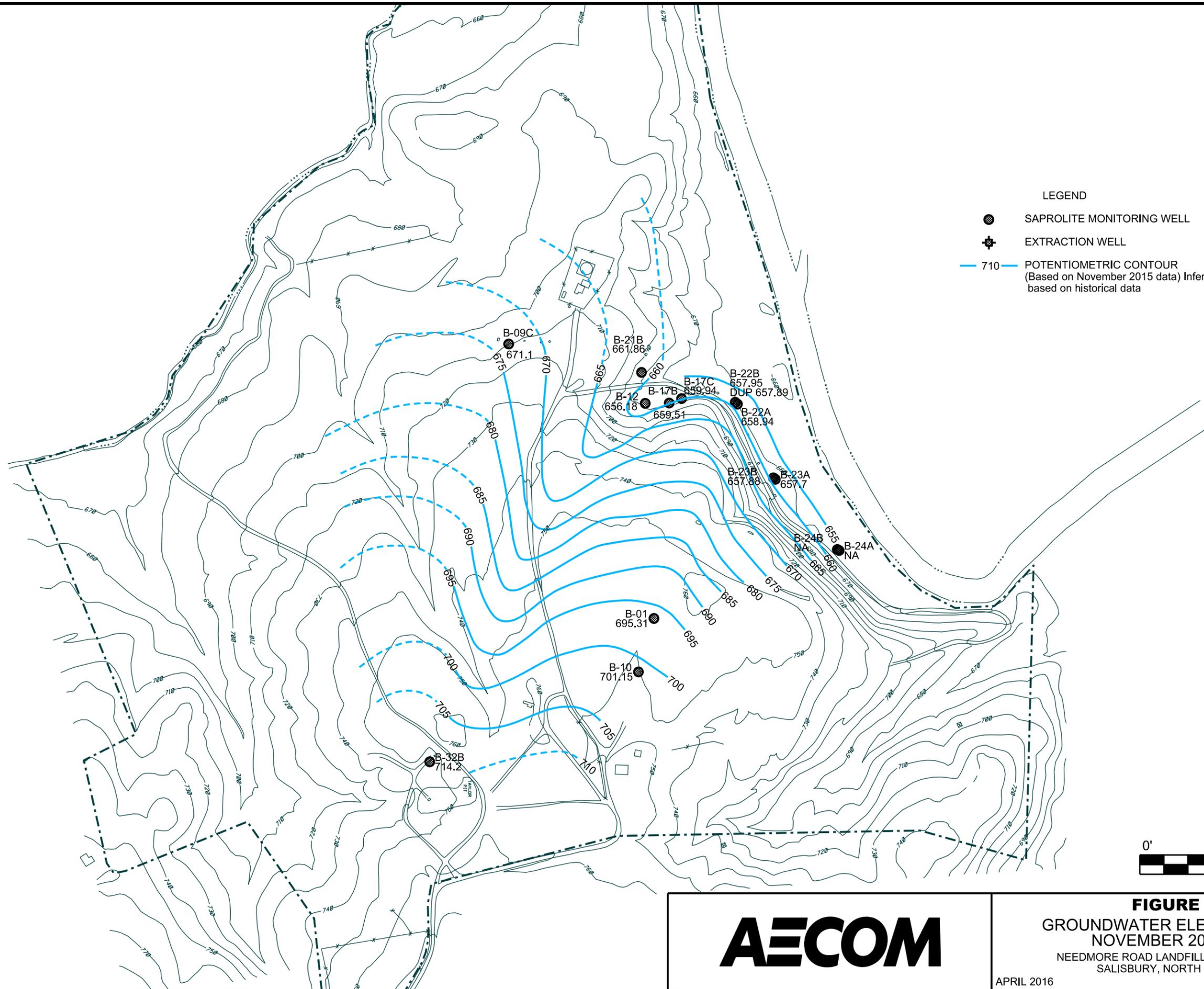
**FIGURE 3**  
**SAMPLE LOCATION MAP**  
 NOVEMBER 2015  
 NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
 SALISBURY, NORTH CAROLINA

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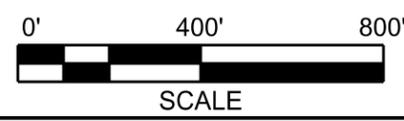
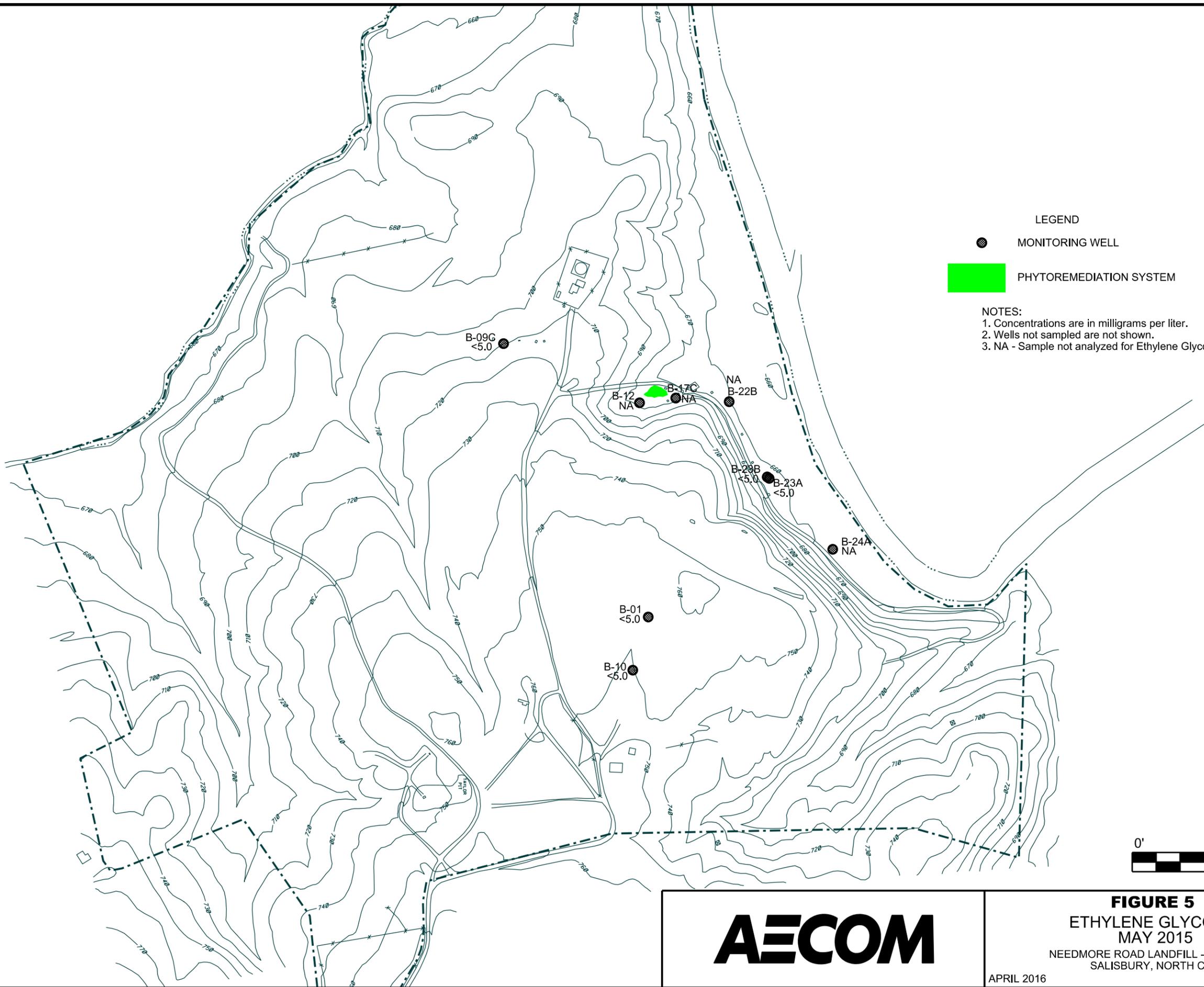
**FIGURE 4**  
**GROUNDWATER ELEVATION DATA**  
**NOVEMBER 2015**  
 NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
 SALISBURY, NORTH CAROLINA

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**AECOM**

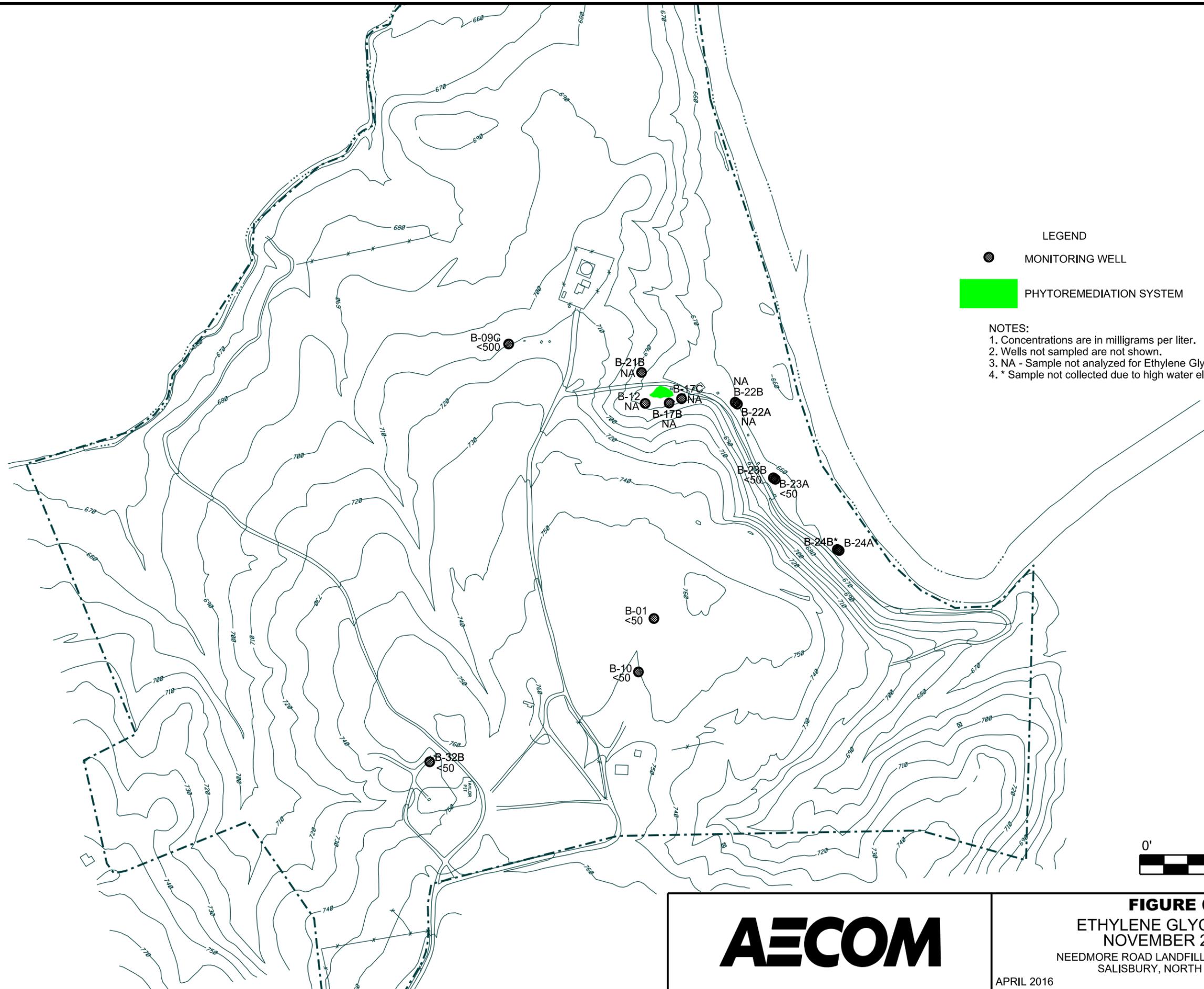
**FIGURE 5**  
ETHYLENE GLYCOL MAP  
MAY 2015  
NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
SALISBURY, NORTH CAROLINA

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**AECOM**

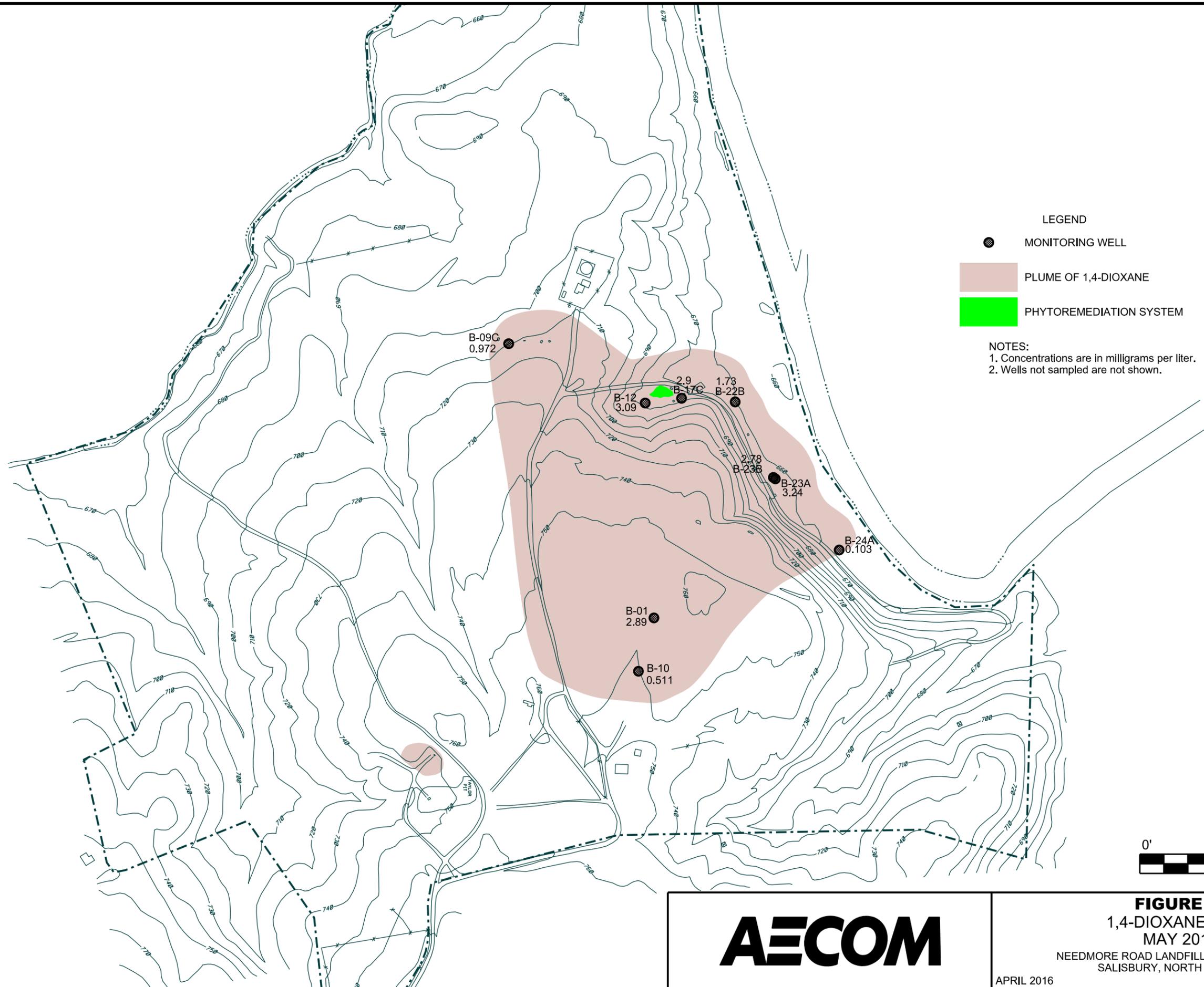
**FIGURE 6**  
ETHYLENE GLYCOL MAP  
NOVEMBER 2015  
NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
SALISBURY, NORTH CAROLINA

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**FIGURE 7**  
1,4-DIOXANE MAP  
MAY 2015

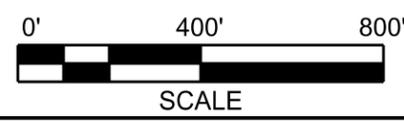
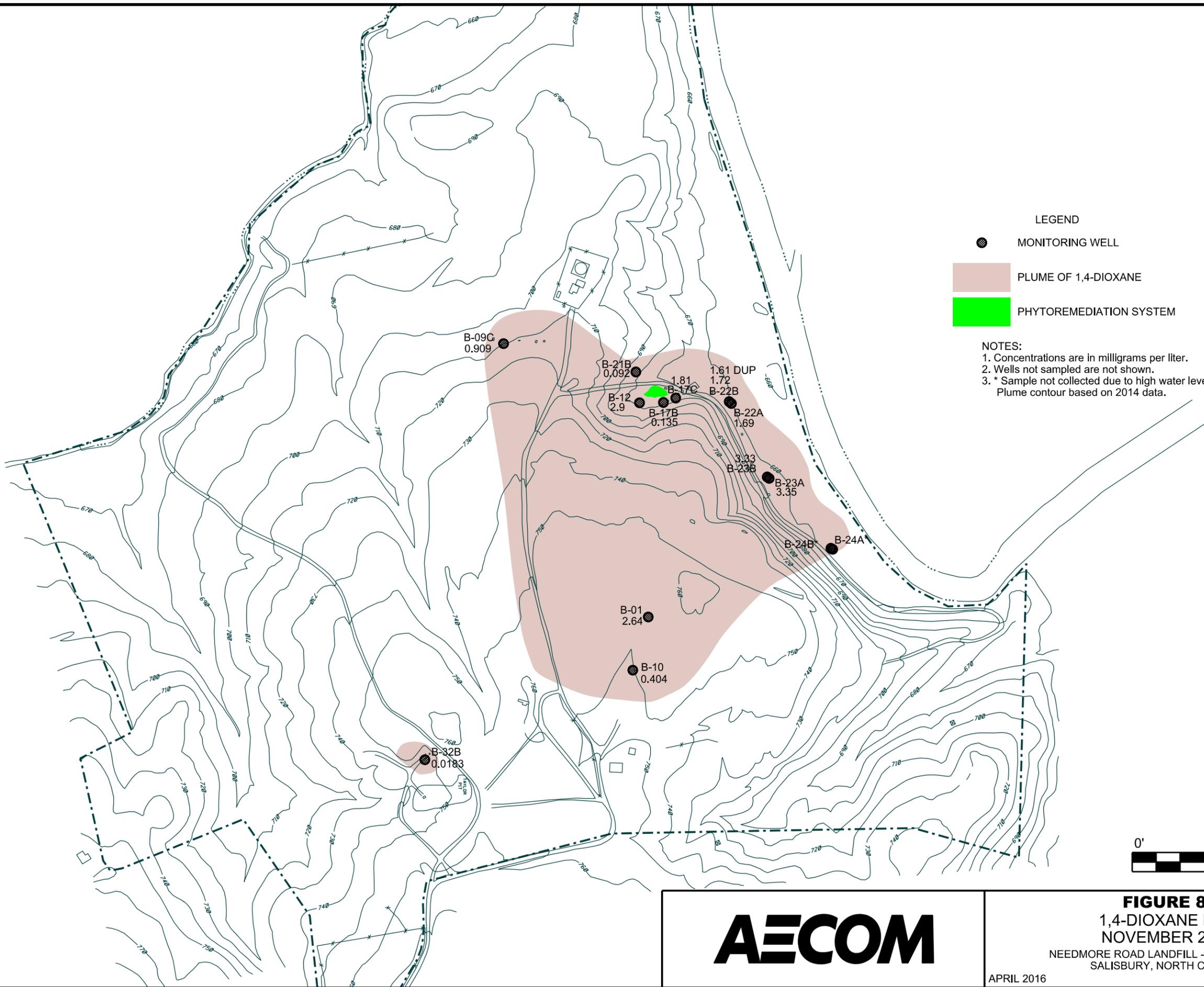
NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
SALISBURY, NORTH CAROLINA

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**AECOM**

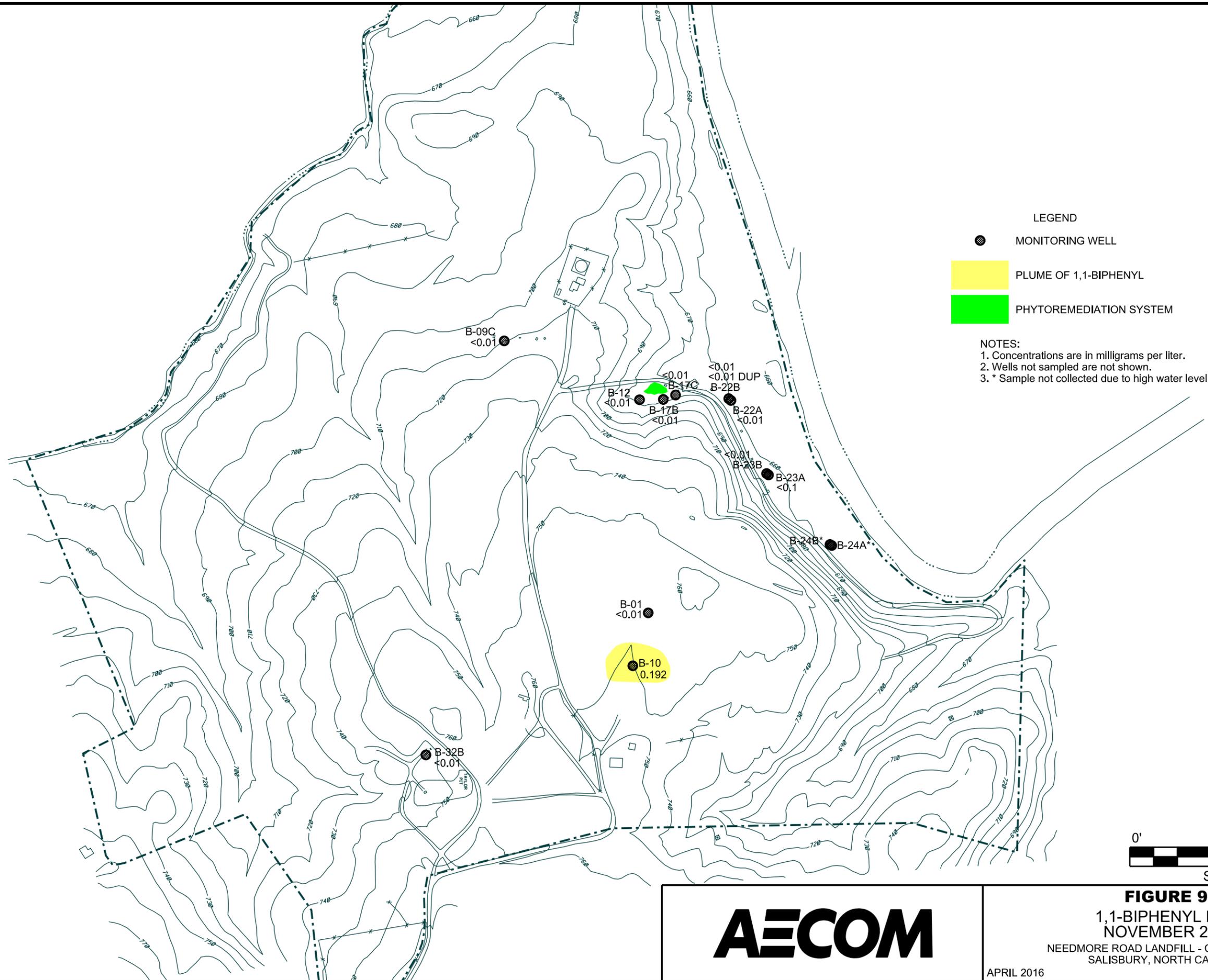
**FIGURE 8**  
**1,4-DIOXANE MAP**  
 NOVEMBER 2015  
 NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
 SALISBURY, NORTH CAROLINA

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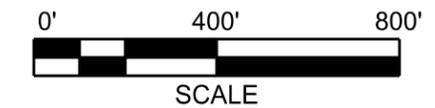
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**FIGURE 9**  
1,1-BIPHENYL MAP  
NOVEMBER 2015

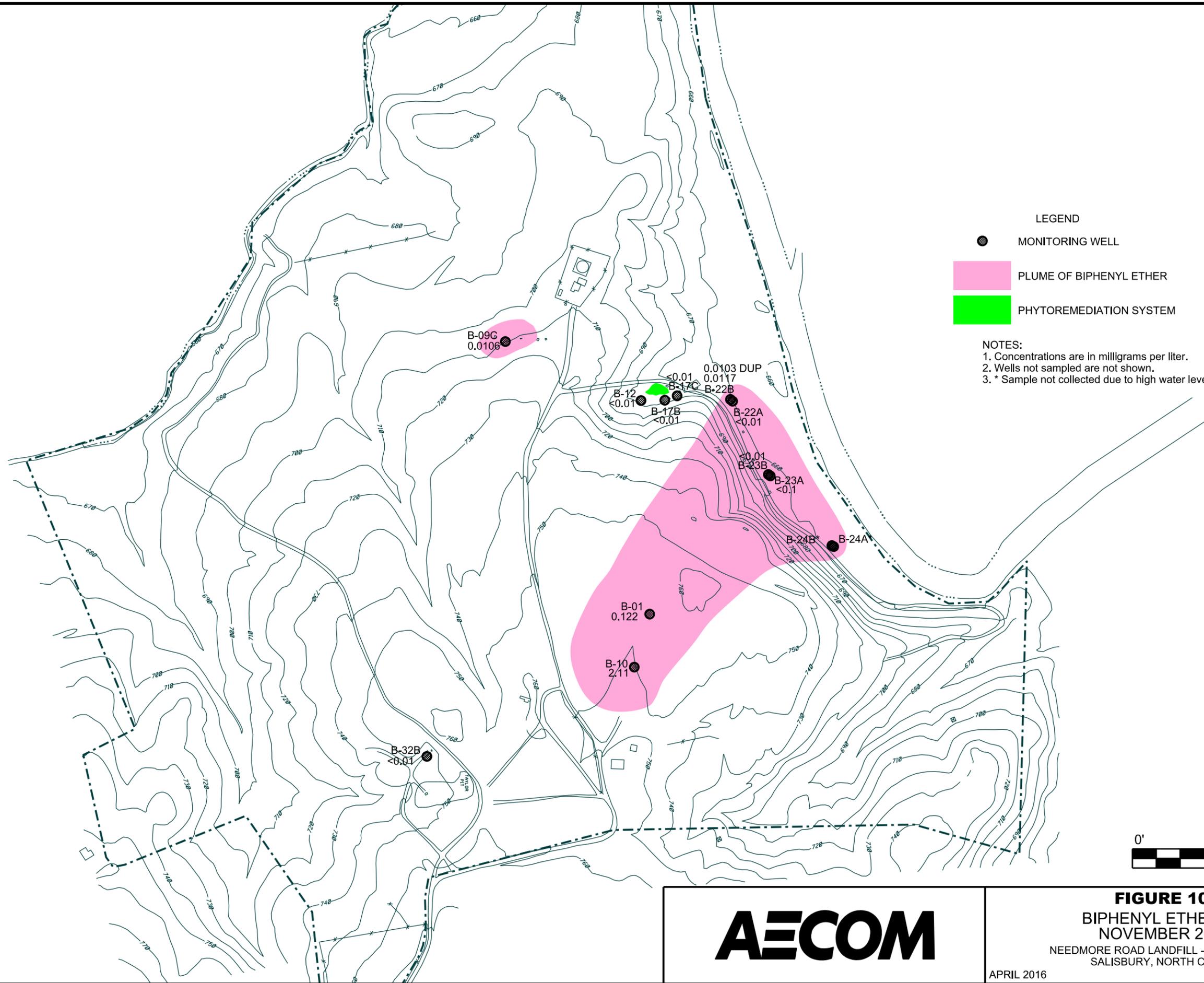
NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
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**FIGURE 10**  
**BIPHENYL ETHER MAP**  
 NOVEMBER 2015  
 NEEDMORE ROAD LANDFILL - CNA HOLDINGS  
 SALISBURY, NORTH CAROLINA

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## **Appendix A**

### **May 2015 and November 2015 Laboratory Analytical Reports**

May 20, 2015

Bryon Dahlgren  
AECOM  
10 Patewood Drive, Bldg 6  
Suite 500  
Greenville, SC 29615

RE: Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Dear Bryon Dahlgren:

Enclosed are the analytical results for sample(s) received by the laboratory on May 07, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

---

### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268  
Illinois Certification #: 200074  
Indiana Certification #: C-49-06  
Kansas Certification #: E-10177/ E-10247  
Kentucky UST Certification #: 0042  
Kentucky WW Certification #: 98019  
Louisiana/NELAP Certification #: 04076

Ohio VAP Certification #: CL-0065  
Oklahoma Certification #: 2014-148  
Pennsylvania Certification #: 68-05340  
Texas Certification #: T104704355-15-8  
West Virginia Certification #: 330  
Wisconsin Certification #: 999788130  
USDA Soil Permit #: P330-10-00128

---

### Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

---

### Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
West Virginia Certification #: 356  
Virginia/VELAP Certification #: 460222

---

### Greenwood Certification IDs

816 Durst Avenue East, Greenwood, SC 29649  
South Carolina Laboratory ID #: 24562  
North Carolina Division of Water Resources Certification  
number 25

Florida Certification number E87633  
Virginia VELAP ID: 460250  
Asbestos NVLAP accreditation: 101410-0

---

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92248790001	B-24A	EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
92248790002	B-22B	EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
92248790003	B-17C	EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
92248790004	B-23A	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
92248790005	B-23B	SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
92248790006	B-9C	EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
92248790007	B-01	SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92248790008	B-10	EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8270	BPJ	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
92248790009	B-12	EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
		EPA 9056A	CDC	1	PASI-G
		EPA 8270	BPJ	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
92248790010	SW-99	SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	8	PASI-C
92248790011	SW-5	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
92248790012	CSW-1	EPA 8270	BPJ	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: B-24A		Lab ID: 92248790001		Collected: 05/06/15 12:05	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	2.0	mg/L	1.0	1		05/13/15 22:22	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	103	ug/L	10.0	5		05/11/15 22:06	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	88	%	50-150	5		05/11/15 22:06	17060-07-0	
Toluene-d8 (S)	101	%	50-150	5		05/11/15 22:06	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	211	mg/L	5.0	1		05/11/15 20:19		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:25		
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 00:25		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.050	1		05/08/15 12:00		M1

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

<b>Sample: B-22B</b>		<b>Lab ID: 92248790002</b>		Collected: 05/06/15 15:25	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	ND	mg/L	1.0	1		05/13/15 22:52	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>1730</b>	ug/L	100	50		05/11/15 22:26	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	91	%	50-150	50		05/11/15 22:26	17060-07-0	
Toluene-d8 (S)	100	%	50-150	50		05/11/15 22:26	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>615</b>	mg/L	5.0	1		05/11/15 20:32		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:37		
Nitrogen, Nitrite	<b>0.032</b>	mg/L	0.020	1		05/08/15 00:37		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.050	1		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

<b>Sample: B-17C</b>		<b>Lab ID: 92248790003</b>		Collected: 05/06/15 17:35	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>1.0</b>	mg/L	1.0	1		05/13/15 23:23	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>2900</b>	ug/L	100	50		05/11/15 22:47	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	92	%	50-150	50		05/11/15 22:47	17060-07-0	
Toluene-d8 (S)	101	%	50-150	50		05/11/15 22:47	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>336</b>	mg/L	5.0	1		05/11/15 20:54		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:43		
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 00:43		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.21</b>	mg/L	0.050	1		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Sample: B-23A		Lab ID: 92248790004		Collected: 05/06/15 13:10	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:00	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>9.0</b>	mg/L	1.0	1		05/13/15 23:53	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>3240</b>	ug/L	100	50		05/11/15 23:07	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	96	%	50-150	50		05/11/15 23:07	17060-07-0	
Toluene-d8 (S)	100	%	50-150	50		05/11/15 23:07	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2490</b>	mg/L	5.0	1		05/11/15 21:10		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:30		
Nitrogen, Nitrite	<b>0.035</b>	mg/L	0.020	1		05/08/15 00:30		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.47</b>	mg/L	0.25	5		05/08/15 12:00		

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### ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: B-23B	Lab ID: 92248790005	Collected: 05/06/15 14:20	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:09	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	<b>5.3</b>	mg/L	1.0	1		05/14/15 01:25	14808-79-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>2780</b>	ug/L	100	50		05/11/15 23:28	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	95	%	50-150	50		05/11/15 23:28	17060-07-0	
Toluene-d8 (S)	100	%	50-150	50		05/11/15 23:28	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>2160</b>	mg/L	5.0	1		05/11/15 22:10		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:35		
Nitrogen, Nitrite	<b>0.16</b>	mg/L	0.020	1		05/08/15 00:35		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	ND	mg/L	0.25	5		05/08/15 12:00		

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### ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: B-9C	Lab ID: 92248790006	Collected: 05/06/15 18:45	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:19	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	ND	mg/L	1.0	1		05/14/15 01:55	14808-79-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>972</b>	ug/L	20.0	10		05/11/15 23:48	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	99	%	50-150	10		05/11/15 23:48	17060-07-0	
Toluene-d8 (S)	98	%	50-150	10		05/11/15 23:48	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>2500</b>	mg/L	5.0	1		05/11/15 23:01		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:44		
Nitrogen, Nitrite	<b>0.12</b>	mg/L	0.020	1		05/08/15 00:44		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	ND	mg/L	0.25	5		05/08/15 12:00		

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### ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: B-01	Lab ID: 92248790007	Collected: 05/07/15 00:00	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:28	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	3.1	mg/L	1.0	1		05/14/15 02:26	14808-79-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	2890	ug/L	100	50		05/12/15 00:08	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	99	%	50-150	50		05/12/15 00:08	17060-07-0	
Toluene-d8 (S)	98	%	50-150	50		05/12/15 00:08	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1470	mg/L	5.0	1		05/11/15 23:49		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:45		
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 00:45		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	1.6	mg/L	0.25	5		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Sample: B-10	Lab ID: 92248790008	Collected: 05/07/15 09:25	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:38	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	ND	mg/L	1.0	1		05/14/15 02:57	14808-79-8	
<b>8270 MSSV Semivolatile Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	<b>82.8</b>	ug/L	10.0	1	05/11/15 10:45	05/18/15 12:18	92-52-4	
Diphenyl ether (Phenyl ether)	<b>1090</b>	ug/L	200	20	05/11/15 10:45	05/18/15 14:23	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	85	%	21-110	1	05/11/15 10:45	05/18/15 12:18	4165-60-0	
2-Fluorobiphenyl (S)	64	%	27-110	1	05/11/15 10:45	05/18/15 12:18	321-60-8	
Terphenyl-d14 (S)	60	%	31-107	1	05/11/15 10:45	05/18/15 12:18	1718-51-0	
Phenol-d6 (S)	27	%	10-110	1	05/11/15 10:45	05/18/15 12:18	13127-88-3	
2-Fluorophenol (S)	36	%	12-110	1	05/11/15 10:45	05/18/15 12:18	367-12-4	
2,4,6-Tribromophenol (S)	83	%	27-110	1	05/11/15 10:45	05/18/15 12:18	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>511</b>	ug/L	20.0	10		05/12/15 00:29	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	94	%	50-150	10		05/12/15 00:29	17060-07-0	
Toluene-d8 (S)	99	%	50-150	10		05/12/15 00:29	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>664</b>	mg/L	5.0	1		05/12/15 16:43		M1
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 22:15		
Nitrogen, Nitrite	<b>0.044</b>	mg/L	0.020	1		05/08/15 22:15		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	ND	mg/L	0.25	5		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Sample: B-12	Lab ID: 92248790009	Collected: 05/06/15 16:40	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	1.3	mg/L	1.0	1		05/14/15 03:27	14808-79-8	
<b>8270 MSSV Semivolatile Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 12:50	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 12:50	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	49	%	21-110	1	05/11/15 10:45	05/18/15 12:50	4165-60-0	
2-Fluorobiphenyl (S)	30	%	27-110	1	05/11/15 10:45	05/18/15 12:50	321-60-8	
Terphenyl-d14 (S)	92	%	31-107	1	05/11/15 10:45	05/18/15 12:50	1718-51-0	
Phenol-d6 (S)	10	%	10-110	1	05/11/15 10:45	05/18/15 12:50	13127-88-3	
2-Fluorophenol (S)	15	%	12-110	1	05/11/15 10:45	05/18/15 12:50	367-12-4	
2,4,6-Tribromophenol (S)	48	%	27-110	1	05/11/15 10:45	05/18/15 12:50	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	3090	ug/L	100	50		05/13/15 01:43	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	94	%	50-150	50		05/13/15 01:43	17060-07-0	
Toluene-d8 (S)	97	%	50-150	50		05/13/15 01:43	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	310	mg/L	5.0	1		05/12/15 17:18		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.031	mg/L	0.020	1		05/08/15 22:12		H1
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 22:12		H1
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	0.13	mg/L	0.050	1		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: SW-99	Lab ID: 92248790010	Collected: 05/06/15 15:40	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:47	107-21-1	
<b>8270 MSSV Semivolatile Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:21	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:21	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	111	%	21-110	1	05/11/15 10:45	05/18/15 13:21	4165-60-0	S3
2-Fluorobiphenyl (S)	71	%	27-110	1	05/11/15 10:45	05/18/15 13:21	321-60-8	
Terphenyl-d14 (S)	109	%	31-107	1	05/11/15 10:45	05/18/15 13:21	1718-51-0	S3
Phenol-d6 (S)	23	%	10-110	1	05/11/15 10:45	05/18/15 13:21	13127-88-3	
2-Fluorophenol (S)	35	%	12-110	1	05/11/15 10:45	05/18/15 13:21	367-12-4	
2,4,6-Tribromophenol (S)	74	%	27-110	1	05/11/15 10:45	05/18/15 13:21	118-79-6	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/19/15 13:26	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		05/19/15 13:26	17060-07-0	
Toluene-d8 (S)	83	%	50-150	1		05/19/15 13:26	2037-26-5	

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: SW-5		Lab ID: 92248790011		Collected: 05/06/15 15:45	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:57	107-21-1	
<b>8270 MSSV Semivolatile Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:52	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:52	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	96	%	21-110	1	05/11/15 10:45	05/18/15 13:52	4165-60-0	
2-Fluorobiphenyl (S)	66	%	27-110	1	05/11/15 10:45	05/18/15 13:52	321-60-8	
Terphenyl-d14 (S)	100	%	31-107	1	05/11/15 10:45	05/18/15 13:52	1718-51-0	
Phenol-d6 (S)	22	%	10-110	1	05/11/15 10:45	05/18/15 13:52	13127-88-3	
2-Fluorophenol (S)	35	%	12-110	1	05/11/15 10:45	05/18/15 13:52	367-12-4	
2,4,6-Tribromophenol (S)	66	%	27-110	1	05/11/15 10:45	05/18/15 13:52	118-79-6	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/18/15 16:06	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	118	%	50-150	1		05/18/15 16:06	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		05/18/15 16:06	2037-26-5	

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: CSW-1		Lab ID: 92248790012		Collected: 05/06/15 17:55	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>82.1</b>	ug/L	2.0	1		05/18/15 16:27	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	122	%	50-150	1		05/18/15 16:27	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		05/18/15 16:27	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: GCSV/15345 Analysis Method: EPA 8015 Alcohol-Glycol  
 QC Batch Method: EPA 8015 Alcohol-Glycol Analysis Description: EPA 8015 Modified  
 Associated Lab Samples: 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790010, 92248790011

METHOD BLANK: 1297875 Matrix: Water

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	5.0	05/15/15 14:56	

LABORATORY CONTROL SAMPLE: 1297876

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	25	23.7	95	79-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1297878 1297879

Parameter	Units	60193253002		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Ethylene glycol	mg/L	ND	25	25	25	17.0	21.4	68	86	67-133	23	R1		

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

QC Batch: GWD/2113 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions, GWD  
Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

METHOD BLANK: 1456652 Matrix: Water  
Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	05/13/15 13:31	

LABORATORY CONTROL SAMPLE: 1456653

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.8	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456654 1456655

Parameter	Units	92248844006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	0.79J	50	50	52.5	52.3	103	103	90-110	0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456656 1456657

Parameter	Units	92248790009 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	1.3	50	50	51.6	52.7	100	103	90-110	2	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: MSV/31574 Analysis Method: EPA 8260B Mod.

QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM

Associated Lab Samples: 92248790001, 92248790002

METHOD BLANK: 1455613 Matrix: Water

Associated Lab Samples: 92248790001, 92248790002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/11/15 14:53	
1,2-Dichloroethane-d4 (S)	%	102	50-150	05/11/15 14:53	
Toluene-d8 (S)	%	106	50-150	05/11/15 14:53	

LABORATORY CONTROL SAMPLE: 1455614

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.9	104	71-125	
1,2-Dichloroethane-d4 (S)	%			100	50-150	
Toluene-d8 (S)	%			107	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455615 1455616

Parameter	Units	92249041008		1455615		1455616		% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec			
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	26.0	25.6	130	128	50-150	2
1,2-Dichloroethane-d4 (S)	%						102	101	50-150	
Toluene-d8 (S)	%						103	102	50-150	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: MSV/31575 Analysis Method: EPA 8260B Mod.

QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM

Associated Lab Samples: 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008

METHOD BLANK: 1455617 Matrix: Water

Associated Lab Samples: 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/11/15 14:32	
1,2-Dichloroethane-d4 (S)	%	105	50-150	05/11/15 14:32	
Toluene-d8 (S)	%	106	50-150	05/11/15 14:32	

LABORATORY CONTROL SAMPLE: 1455618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	21.0	105	71-125	
1,2-Dichloroethane-d4 (S)	%			103	50-150	
Toluene-d8 (S)	%			106	50-150	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

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QC Batch:	MSV/31602	Analysis Method:	EPA 8260B Mod.
QC Batch Method:	EPA 8260B Mod.	Analysis Description:	8260 MSV SIM
Associated Lab Samples:	92248790009		

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METHOD BLANK: 1456598 Matrix: Water

Associated Lab Samples: 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/12/15 15:29	
1,2-Dichloroethane-d4 (S)	%	88	50-150	05/12/15 15:29	
Toluene-d8 (S)	%	100	50-150	05/12/15 15:29	

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LABORATORY CONTROL SAMPLE: 1456599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	22.3	112	71-125	
1,2-Dichloroethane-d4 (S)	%			84	50-150	
Toluene-d8 (S)	%			100	50-150	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: MSV/31702 Analysis Method: EPA 8260B Mod.

QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM

Associated Lab Samples: 92248790011, 92248790012

METHOD BLANK: 1461633 Matrix: Water

Associated Lab Samples: 92248790011, 92248790012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/18/15 14:22	
1,2-Dichloroethane-d4 (S)	%	110	50-150	05/18/15 14:22	
Toluene-d8 (S)	%	98	50-150	05/18/15 14:22	

LABORATORY CONTROL SAMPLE: 1461634

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	21.3	107	71-125	
1,2-Dichloroethane-d4 (S)	%			104	50-150	
Toluene-d8 (S)	%			99	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1461635 1461636

Parameter	Units	92249154001		1461635		1461636		% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec			
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	21.1	21.6	105	108	50-150	2
1,2-Dichloroethane-d4 (S)	%						123	121	50-150	
Toluene-d8 (S)	%						99	99	50-150	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

QC Batch: MSV/31719 Analysis Method: EPA 8260B Mod.  
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM  
Associated Lab Samples: 92248790010

METHOD BLANK: 1462242 Matrix: Water  
Associated Lab Samples: 92248790010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/19/15 12:03	
1,2-Dichloroethane-d4 (S)	%	116	50-150	05/19/15 12:03	
Toluene-d8 (S)	%	85	50-150	05/19/15 12:03	

LABORATORY CONTROL SAMPLE: 1462243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.5	92	71-125	
1,2-Dichloroethane-d4 (S)	%			122	50-150	
Toluene-d8 (S)	%			86	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1462244 1462245

Parameter	Units	92250030001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	19.1	18.9	96	94	50-150	1				
1,2-Dichloroethane-d4 (S)	%						130	131	50-150					
Toluene-d8 (S)	%						82	82	50-150					

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: OEXT/34967

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 Water MSSV

Associated Lab Samples: 92248790008, 92248790009, 92248790010, 92248790011

METHOD BLANK: 1455439

Matrix: Water

Associated Lab Samples: 92248790008, 92248790009, 92248790010, 92248790011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	05/18/15 12:19	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	05/18/15 12:19	
2,4,6-Tribromophenol (S)	%	72	27-110	05/18/15 12:19	
2-Fluorobiphenyl (S)	%	67	27-110	05/18/15 12:19	
2-Fluorophenol (S)	%	37	12-110	05/18/15 12:19	
Nitrobenzene-d5 (S)	%	88	21-110	05/18/15 12:19	
Phenol-d6 (S)	%	25	10-110	05/18/15 12:19	
Terphenyl-d14 (S)	%	103	31-107	05/18/15 12:19	

LABORATORY CONTROL SAMPLE: 1455440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	50	36.6	73	38-120	
Diphenyl ether (Phenyl ether)	ug/L	50	36.5	73	51-120	
2,4,6-Tribromophenol (S)	%			90	27-110	
2-Fluorobiphenyl (S)	%			71	27-110	
2-Fluorophenol (S)	%			41	12-110	
Nitrobenzene-d5 (S)	%			77	21-110	
Phenol-d6 (S)	%			31	10-110	
Terphenyl-d14 (S)	%			103	31-107	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WET/37367

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

METHOD BLANK: 1455260

Matrix: Water

Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	05/11/15 16:33	

LABORATORY CONTROL SAMPLE: 1455261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.2	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455266 1455267

Parameter	Units	92248924001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result					
Alkalinity, Total as CaCO3	mg/L	24.1	50	73.0	50	71.3	98	95	90-110	2	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455268 1455269

Parameter	Units	92249096001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result					
Alkalinity, Total as CaCO3	mg/L	69.8	50	113	50	109	86	79	90-110	3	M1

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WET/37392 Analysis Method: SM 2320B  
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
 Associated Lab Samples: 92248790008, 92248790009

METHOD BLANK: 1456107 Matrix: Water

Associated Lab Samples: 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	05/12/15 16:24	

LABORATORY CONTROL SAMPLE: 1456108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.1	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456109 1456110

Parameter	Units	92248790008		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Alkalinity, Total as CaCO3	mg/L	664	50	50	1140	1140	960	944	90-110	1	M1			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456111 1456112

Parameter	Units	92248377003		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Alkalinity, Total as CaCO3	mg/L	55.4	50	50	99.6	105	88	99	90-110	5	M1,R1			

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WETA/22841 Analysis Method: EPA 353.2  
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

METHOD BLANK: 1453829 Matrix: Water  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	05/08/15 00:04	
Nitrogen, Nitrite	mg/L	ND	0.020	05/08/15 00:04	

LABORATORY CONTROL SAMPLE: 1453830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	101	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1453833 1453834

Parameter	Units	92248890002		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Nitrogen, Nitrate	mg/L	2.7	2.5	2.5	5.4	5.3	105	104	90-110	0				
Nitrogen, Nitrite	mg/L	<0.020	1	1	1.0	1.0	102	101	90-110	1				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1453843 1453844

Parameter	Units	92248853002		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Nitrogen, Nitrate	mg/L	3.6	2.5	2.5	4.6	6.3	40	108	90-110	31	M1,R1			
Nitrogen, Nitrite	mg/L	0.044	1	1	1.1	1.1	104	103	90-110	1				

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WETA/22865

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 92248790008, 92248790009

METHOD BLANK: 1454963

Matrix: Water

Associated Lab Samples: 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	05/08/15 22:04	
Nitrogen, Nitrite	mg/L	ND	0.020	05/08/15 22:04	

LABORATORY CONTROL SAMPLE: 1454964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.6	103	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1454965 1454966

Parameter	Units	92248790008 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result					
Nitrogen, Nitrate	mg/L	ND	2.5	2.5	2.4	2.4	97	97	90-110	0	
Nitrogen, Nitrite	mg/L	0.044	1	1	1.0	1.0	97	99	90-110	2	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1454967 1454968

Parameter	Units	92249027001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result					
Nitrogen, Nitrate	mg/L	1.2	2.5	2.5	3.7	3.8	103	104	90-110	0	
Nitrogen, Nitrite	mg/L	0.045	1	1	1.1	1.1	106	105	90-110	1	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WETA/22856 Analysis Method: SM 4500-P E  
 QC Batch Method: SM 4500-P E Analysis Description: SM4500P-E Phosphorus, Ortho  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

METHOD BLANK: 1454040 Matrix: Water  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	05/08/15 12:00	

LABORATORY CONTROL SAMPLE: 1454041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.25	0.25	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1454042 1454043

Parameter	92248790001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
	Units	Result									
Orthophosphate as P	mg/L	ND	.25	.25	0.33	0.33	122	122	90-110	0	M1

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## QUALIFIERS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-C Pace Analytical Services - Charlotte

PASI-G Pace Analytical Services - Greenwood

PASI-I Pace Analytical Services - Indianapolis

### ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92248790004	B-23A	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790005	B-23B	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790006	B-9C	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790007	B-01	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790008	B-10	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790010	SW-99	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790011	SW-5	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790001	B-24A	EPA 9056A	GWD/2113		
92248790002	B-22B	EPA 9056A	GWD/2113		
92248790003	B-17C	EPA 9056A	GWD/2113		
92248790004	B-23A	EPA 9056A	GWD/2113		
92248790005	B-23B	EPA 9056A	GWD/2113		
92248790006	B-9C	EPA 9056A	GWD/2113		
92248790007	B-01	EPA 9056A	GWD/2113		
92248790008	B-10	EPA 9056A	GWD/2113		
92248790009	B-12	EPA 9056A	GWD/2113		
92248790008	B-10	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790009	B-12	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790010	SW-99	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790011	SW-5	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790001	B-24A	EPA 8260B Mod.	MSV/31574		
92248790002	B-22B	EPA 8260B Mod.	MSV/31574		
92248790003	B-17C	EPA 8260B Mod.	MSV/31575		
92248790004	B-23A	EPA 8260B Mod.	MSV/31575		
92248790005	B-23B	EPA 8260B Mod.	MSV/31575		
92248790006	B-9C	EPA 8260B Mod.	MSV/31575		
92248790007	B-01	EPA 8260B Mod.	MSV/31575		
92248790008	B-10	EPA 8260B Mod.	MSV/31575		
92248790009	B-12	EPA 8260B Mod.	MSV/31602		
92248790010	SW-99	EPA 8260B Mod.	MSV/31719		
92248790011	SW-5	EPA 8260B Mod.	MSV/31702		
92248790012	CSW-1	EPA 8260B Mod.	MSV/31702		
92248790001	B-24A	SM 2320B	WET/37367		
92248790002	B-22B	SM 2320B	WET/37367		
92248790003	B-17C	SM 2320B	WET/37367		
92248790004	B-23A	SM 2320B	WET/37367		
92248790005	B-23B	SM 2320B	WET/37367		
92248790006	B-9C	SM 2320B	WET/37367		
92248790007	B-01	SM 2320B	WET/37367		
92248790008	B-10	SM 2320B	WET/37392		
92248790009	B-12	SM 2320B	WET/37392		
92248790001	B-24A	EPA 353.2	WETA/22841		
92248790002	B-22B	EPA 353.2	WETA/22841		
92248790003	B-17C	EPA 353.2	WETA/22841		

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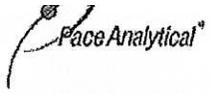
### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92248790004	B-23A	EPA 353.2	WETA/22841		
92248790005	B-23B	EPA 353.2	WETA/22841		
92248790006	B-9C	EPA 353.2	WETA/22841		
92248790007	B-01	EPA 353.2	WETA/22841		
92248790008	B-10	EPA 353.2	WETA/22865		
92248790009	B-12	EPA 353.2	WETA/22865		
92248790001	B-24A	SM 4500-P E	WETA/22856		
92248790002	B-22B	SM 4500-P E	WETA/22856		
92248790003	B-17C	SM 4500-P E	WETA/22856		
92248790004	B-23A	SM 4500-P E	WETA/22856		
92248790005	B-23B	SM 4500-P E	WETA/22856		
92248790006	B-9C	SM 4500-P E	WETA/22856		
92248790007	B-01	SM 4500-P E	WETA/22856		
92248790008	B-10	SM 4500-P E	WETA/22856		
92248790009	B-12	SM 4500-P E	WETA/22856		

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Client Name: Aecom / EPM

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble V  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 0.9 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: AP 5-7-15

		Comments:
Chain of Custody Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: \_\_\_\_\_ Field Data Required? Y / N  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/ Resolution: \_\_\_\_\_

SCURF Review: [Signature] Date: 5/7/15  
 SRF Review: [Signature] Date: 5/8/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here  
**WO# : 92248790**  
  
 92248790

**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**  
Required Client Information:

**Section B**  
Required Project Information:

**Section C**  
Invoice Information:

Page: 1 of 2

1932810

Company: CVA Holdings / Keem  
 Address: 1300 Piedmont St NE Ste 500  
Atlanta, GA 30309  
 Email To:  
 Phone: 404-946-9510 Fax:  
 Requested Due Date/TAT: Project Name: Nedmore Rd. LF  
 Project Number:

Report To: Jing Zhou, PhD  
 Copy To:  
 Purchase Order No.:  
 Attention: Scare  
 Company Name:  
 Address:  
 Page Quote  
 Reference:  
 Pace Project  
 Manager:  
 Pace Profile #:

REGULATORY AGENCY  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
 Site Location STATE: NC

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
					COMPOSITE START	COMPOSITE END/GRAB						
1	B-24A		WT G		5/6/15	1205	-	63		4,4-Dioxane ALK, SO4 NO3 Ortho Phosphate Ethylene Glycol 8270/Dantitham A		N
2	B-23A		WT G		5/6/15	1310	-	96				N
3	B-23B		WT G		5/6/15	1420	-	96				N
4	B-22B		WT G		5/6/15	1525	-	63				N
5	SW-99		WT G		5/6/15	1540	-	85				N
6	SW-5		WT G		5/6/15	1640	-	85				N
7	B-12		WT G		5/6/15	1735	-	63				N
8	B-17C		WT G		5/6/15	1755	-	3				N
9	CSW-1		WT G		5/6/15	1845	-	96				N
10	B-9C		WT G		5/7/15	0925	-	118				N
11	B-01		WT G									N
12	B-10		WT G									N

ADDITIONAL COMMENTS: Relinquished by Affiliation

RELINQUISHED BY / AFFILIATION: DAVID FERRELL DATE: 5/7/15 TIME: 10:13

ACCEPTED BY / AFFILIATION: COURTNEY PEARSON DATE: 5-29-15 TIME: 10:51:33

SAMPLER NAME AND SIGNATURE: Anthony Hill

PRINT Name of SAMPLER: Anthony Hill

SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YY): 5/7/15

Temp in °C: 0.7

Received on Ice (Y/N): Y

Custody Sealed Cooler (Y/N): Y

Samples Intact (Y/N): Y

November 21, 2015

Bryon Dahlgren  
AECOM  
10 Patewood Drive, Bldg 6  
Suite 500  
Greenville, SC 29615

RE: Project: CNA/NRLF  
Pace Project No.: 92275754

Dear Bryon Dahlgren:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: CNA/NRLF  
Pace Project No.: 92275754

---

### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268  
Illinois Certification #: 200074  
Indiana Certification #: C-49-06  
Kansas Certification #: E-10177  
Kentucky UST Certification #: 0042  
Kentucky WW Certification #: 98019  
Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065  
Oklahoma Certification #: 2014-148  
Texas Certification #: T104704355-15-9  
West Virginia Certification #: 330  
Wisconsin Certification #: 999788130  
USDA Soil Permit #: P330-10-00128

---

### Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

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### Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
West Virginia Certification #: 356  
Virginia/VELAP Certification #: 460222

---

### Greenwood Certification IDs

816 Durst Avenue East, Greenwood, SC 29649  
South Carolina Laboratory ID #: 24562  
North Carolina Division of Water Resources Certification  
number 25

Florida Certification number E87633  
Virginia VELAP ID: 460250  
Asbestos NVLAP accreditation: 101410-0

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF  
Pace Project No.: 92275754

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92275754001	B-23A	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275754002	B-23B	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275754003	B-22A	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9056A	CDC	1	PASI-G
92275754004	B-22B	EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF  
Pace Project No.: 92275754

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92275754005	B-99B	EPA 9060A	MDW	5	PASI-A
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
92275754006	SW-7	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	3	PASI-C
92275754007	SW-5	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	3	PASI-C
92275754008	CSW-2	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92275754009	CSW-1	EPA 8260B Mod.	DLK	3	PASI-C
92275754010	SW-3	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92275754011	SW-8	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	RES	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92275754012	B-09C	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23A	Lab ID: 92275754001	Collected: 11/10/15 10:25	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:03	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	7.7	mg/L	1.0	1		11/19/15 02:12	14808-79-8	M1
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	100	10	11/12/15 15:39	11/16/15 19:53	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	100	10	11/12/15 15:39	11/16/15 19:53	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	0	%	27-110	10	11/12/15 15:39	11/16/15 19:53	321-60-8	D3,S4
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	5120	ug/L	500	20		11/18/15 17:05	67-64-1	
Benzene	ND	ug/L	100	20		11/18/15 17:05	71-43-2	
Bromochloromethane	ND	ug/L	100	20		11/18/15 17:05	74-97-5	L3
Bromodichloromethane	ND	ug/L	100	20		11/18/15 17:05	75-27-4	
Bromoform	ND	ug/L	100	20		11/18/15 17:05	75-25-2	
Bromomethane	ND	ug/L	200	20		11/18/15 17:05	74-83-9	
2-Butanone (MEK)	483	ug/L	200	20		11/18/15 17:05	78-93-3	
Carbon disulfide	ND	ug/L	200	20		11/18/15 17:05	75-15-0	
Carbon tetrachloride	ND	ug/L	100	20		11/18/15 17:05	56-23-5	
Chlorobenzene	ND	ug/L	100	20		11/18/15 17:05	108-90-7	
Chloroethane	ND	ug/L	200	20		11/18/15 17:05	75-00-3	
Chloroform	ND	ug/L	100	20		11/18/15 17:05	67-66-3	
Chloromethane	ND	ug/L	100	20		11/18/15 17:05	74-87-3	
Cyclohexane	ND	ug/L	100	20		11/18/15 17:05	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20		11/18/15 17:05	96-12-8	
Dibromochloromethane	ND	ug/L	100	20		11/18/15 17:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	100	20		11/18/15 17:05	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	106-46-7	
Dichlorodifluoromethane	ND	ug/L	100	20		11/18/15 17:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	100	20		11/18/15 17:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	100	20		11/18/15 17:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	100	20		11/18/15 17:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	100	20		11/18/15 17:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:05	10061-02-6	
Ethylbenzene	ND	ug/L	100	20		11/18/15 17:05	100-41-4	
2-Hexanone	ND	ug/L	200	20		11/18/15 17:05	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	100	20		11/18/15 17:05	98-82-8	
Methyl acetate	ND	ug/L	200	20		11/18/15 17:05	79-20-9	
Methylcyclohexane	ND	ug/L	200	20		11/18/15 17:05	108-87-2	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23A	Lab ID: 92275754001	Collected: 11/10/15 10:25	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	100	20		11/18/15 17:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	20		11/18/15 17:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	100	20		11/18/15 17:05	1634-04-4	
Styrene	ND	ug/L	100	20		11/18/15 17:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	100	20		11/18/15 17:05	79-34-5	
Tetrachloroethene	ND	ug/L	100	20		11/18/15 17:05	127-18-4	
Toluene	ND	ug/L	100	20		11/18/15 17:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	100	20		11/18/15 17:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	20		11/18/15 17:05	79-00-5	
Trichloroethene	ND	ug/L	100	20		11/18/15 17:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	20		11/18/15 17:05	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	100	20		11/18/15 17:05	76-13-1	
Vinyl chloride	ND	ug/L	100	20		11/18/15 17:05	75-01-4	
Xylene (Total)	ND	ug/L	200	20		11/18/15 17:05	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	106	%	70-130	20		11/18/15 17:05	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	20		11/18/15 17:05	17060-07-0	
Toluene-d8 (S)	108	%	70-130	20		11/18/15 17:05	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>3350</b>	ug/L	100	50		11/12/15 18:28	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	50		11/12/15 18:28	17060-07-0	
Toluene-d8 (S)	97	%	50-150	50		11/12/15 18:28	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2540</b>	mg/L	5.0	1		11/19/15 10:03		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:04		
Nitrogen, Nitrite	<b>0.040</b>	mg/L	0.020	1		11/12/15 07:04		M1
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>1.3</b>	mg/L	0.20	4		11/11/15 22:20		M6
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>2750</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Total Organic Carbon	<b>2690</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Total Organic Carbon	<b>2780</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Total Organic Carbon	<b>2770</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Mean Total Organic Carbon	<b>2750</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23B	Lab ID: 92275754002	Collected: 11/10/15 11:15	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:13	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	7.5	mg/L	1.0	1		11/19/15 03:26	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 21:43	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 21:43	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	69	%	27-110	1	11/12/15 15:39	11/13/15 21:43	321-60-8	
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	5090	ug/L	500	20		11/18/15 17:21	67-64-1	
Benzene	ND	ug/L	100	20		11/18/15 17:21	71-43-2	
Bromochloromethane	ND	ug/L	100	20		11/18/15 17:21	74-97-5	L3
Bromodichloromethane	ND	ug/L	100	20		11/18/15 17:21	75-27-4	
Bromoform	ND	ug/L	100	20		11/18/15 17:21	75-25-2	
Bromomethane	ND	ug/L	200	20		11/18/15 17:21	74-83-9	
2-Butanone (MEK)	488	ug/L	200	20		11/18/15 17:21	78-93-3	
Carbon disulfide	ND	ug/L	200	20		11/18/15 17:21	75-15-0	
Carbon tetrachloride	ND	ug/L	100	20		11/18/15 17:21	56-23-5	
Chlorobenzene	ND	ug/L	100	20		11/18/15 17:21	108-90-7	
Chloroethane	ND	ug/L	200	20		11/18/15 17:21	75-00-3	
Chloroform	ND	ug/L	100	20		11/18/15 17:21	67-66-3	
Chloromethane	ND	ug/L	100	20		11/18/15 17:21	74-87-3	
Cyclohexane	ND	ug/L	100	20		11/18/15 17:21	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20		11/18/15 17:21	96-12-8	
Dibromochloromethane	ND	ug/L	100	20		11/18/15 17:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	100	20		11/18/15 17:21	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	106-46-7	
Dichlorodifluoromethane	ND	ug/L	100	20		11/18/15 17:21	75-71-8	
1,1-Dichloroethane	ND	ug/L	100	20		11/18/15 17:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	100	20		11/18/15 17:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	100	20		11/18/15 17:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	100	20		11/18/15 17:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:21	10061-02-6	
Ethylbenzene	ND	ug/L	100	20		11/18/15 17:21	100-41-4	
2-Hexanone	ND	ug/L	200	20		11/18/15 17:21	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	100	20		11/18/15 17:21	98-82-8	
Methyl acetate	ND	ug/L	200	20		11/18/15 17:21	79-20-9	
Methylcyclohexane	ND	ug/L	200	20		11/18/15 17:21	108-87-2	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23B	Lab ID: 92275754002	Collected: 11/10/15 11:15	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	100	20		11/18/15 17:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	20		11/18/15 17:21	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	100	20		11/18/15 17:21	1634-04-4	
Styrene	ND	ug/L	100	20		11/18/15 17:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	100	20		11/18/15 17:21	79-34-5	
Tetrachloroethene	ND	ug/L	100	20		11/18/15 17:21	127-18-4	
Toluene	ND	ug/L	100	20		11/18/15 17:21	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	100	20		11/18/15 17:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	20		11/18/15 17:21	79-00-5	
Trichloroethene	ND	ug/L	100	20		11/18/15 17:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	20		11/18/15 17:21	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	100	20		11/18/15 17:21	76-13-1	
Vinyl chloride	ND	ug/L	100	20		11/18/15 17:21	75-01-4	
Xylene (Total)	ND	ug/L	200	20		11/18/15 17:21	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	106	%	70-130	20		11/18/15 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	20		11/18/15 17:21	17060-07-0	
Toluene-d8 (S)	108	%	70-130	20		11/18/15 17:21	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>3330</b>	ug/L	100	50		11/12/15 18:49	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	107	%	50-150	50		11/12/15 18:49	17060-07-0	
Toluene-d8 (S)	99	%	50-150	50		11/12/15 18:49	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2250</b>	mg/L	5.0	1		11/19/15 11:05		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:10		
Nitrogen, Nitrite	<b>0.12</b>	mg/L	0.020	1		11/12/15 07:10		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.96</b>	mg/L	0.20	4		11/11/15 22:20		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>2600</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Total Organic Carbon	<b>2880</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Total Organic Carbon	<b>2890</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Total Organic Carbon	<b>2890</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Mean Total Organic Carbon	<b>2810</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22A	Lab ID: 92275754003	Collected: 11/10/15 14:20	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 04:39	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:09	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:09	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	73	%	27-110	1	11/12/15 15:39	11/13/15 22:09	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	1		11/18/15 17:38	67-64-1	
Benzene	ND	ug/L	5.0	1		11/18/15 17:38	71-43-2	
Bromochloromethane	ND	ug/L	5.0	1		11/18/15 17:38	74-97-5	L3
Bromodichloromethane	ND	ug/L	5.0	1		11/18/15 17:38	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/18/15 17:38	75-25-2	
Bromomethane	ND	ug/L	10.0	1		11/18/15 17:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/18/15 17:38	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/18/15 17:38	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/18/15 17:38	56-23-5	
Chlorobenzene	7.5	ug/L	5.0	1		11/18/15 17:38	108-90-7	
Chloroethane	ND	ug/L	10.0	1		11/18/15 17:38	75-00-3	M1
Chloroform	ND	ug/L	5.0	1		11/18/15 17:38	67-66-3	
Chloromethane	ND	ug/L	5.0	1		11/18/15 17:38	74-87-3	
Cyclohexane	ND	ug/L	5.0	1		11/18/15 17:38	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/18/15 17:38	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1		11/18/15 17:38	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/18/15 17:38	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1		11/18/15 17:38	75-71-8	
1,1-Dichloroethane	6.5	ug/L	5.0	1		11/18/15 17:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/18/15 17:38	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		11/18/15 17:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:38	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		11/18/15 17:38	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/18/15 17:38	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1		11/18/15 17:38	98-82-8	
Methyl acetate	ND	ug/L	10.0	1		11/18/15 17:38	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1		11/18/15 17:38	108-87-2	
Methylene Chloride	ND	ug/L	5.0	1		11/18/15 17:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/18/15 17:38	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/18/15 17:38	1634-04-4	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22A	Lab ID: 92275754003	Collected: 11/10/15 14:20	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Styrene	ND	ug/L	5.0	1		11/18/15 17:38	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/18/15 17:38	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		11/18/15 17:38	127-18-4	
Toluene	ND	ug/L	5.0	1		11/18/15 17:38	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:38	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1		11/18/15 17:38	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	1		11/18/15 17:38	76-13-1	
Vinyl chloride	ND	ug/L	5.0	1		11/18/15 17:38	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		11/18/15 17:38	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/18/15 17:38	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		11/18/15 17:38	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/18/15 17:38	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>1690</b>	ug/L	50.0	25		11/12/15 19:09	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	103	%	50-150	25		11/12/15 19:09	17060-07-0	
Toluene-d8 (S)	97	%	50-150	25		11/12/15 19:09	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>544</b>	mg/L	5.0	1		11/18/15 18:19		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:11		
Nitrogen, Nitrite	<b>0.050</b>	mg/L	0.020	1		11/12/15 07:11		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.25	5		11/11/15 22:20		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>5.0</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Total Organic Carbon	<b>5.5</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Total Organic Carbon	<b>5.2</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Total Organic Carbon	<b>5.3</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Mean Total Organic Carbon	<b>5.2</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22B	Lab ID: 92275754004	Collected: 11/10/15 15:05	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 05:03	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:34	92-52-4	
Diphenyl ether (Phenyl ether)	11.7	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:34	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	43	%	27-110	1	11/12/15 15:39	11/13/15 22:34	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	1		11/18/15 17:55	67-64-1	
Benzene	ND	ug/L	5.0	1		11/18/15 17:55	71-43-2	
Bromochloromethane	ND	ug/L	5.0	1		11/18/15 17:55	74-97-5	L3
Bromodichloromethane	ND	ug/L	5.0	1		11/18/15 17:55	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/18/15 17:55	75-25-2	
Bromomethane	ND	ug/L	10.0	1		11/18/15 17:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/18/15 17:55	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/18/15 17:55	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/18/15 17:55	56-23-5	
Chlorobenzene	8.9	ug/L	5.0	1		11/18/15 17:55	108-90-7	
Chloroethane	11.8	ug/L	10.0	1		11/18/15 17:55	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/18/15 17:55	67-66-3	
Chloromethane	ND	ug/L	5.0	1		11/18/15 17:55	74-87-3	
Cyclohexane	ND	ug/L	5.0	1		11/18/15 17:55	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/18/15 17:55	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1		11/18/15 17:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/18/15 17:55	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1		11/18/15 17:55	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		11/18/15 17:55	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:55	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		11/18/15 17:55	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/18/15 17:55	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1		11/18/15 17:55	98-82-8	
Methyl acetate	ND	ug/L	10.0	1		11/18/15 17:55	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1		11/18/15 17:55	108-87-2	
Methylene Chloride	ND	ug/L	5.0	1		11/18/15 17:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/18/15 17:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/18/15 17:55	1634-04-4	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22B	Lab ID: 92275754004	Collected: 11/10/15 15:05	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Styrene	ND	ug/L	5.0	1		11/18/15 17:55	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/18/15 17:55	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		11/18/15 17:55	127-18-4	
Toluene	ND	ug/L	5.0	1		11/18/15 17:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1		11/18/15 17:55	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	1		11/18/15 17:55	76-13-1	
Vinyl chloride	ND	ug/L	5.0	1		11/18/15 17:55	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		11/18/15 17:55	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105	%	70-130	1		11/18/15 17:55	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/18/15 17:55	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		11/18/15 17:55	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	1720	ug/L	100	50		11/12/15 19:29	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	103	%	50-150	50		11/12/15 19:29	17060-07-0	
Toluene-d8 (S)	98	%	50-150	50		11/12/15 19:29	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	724	mg/L	5.0	1		11/18/15 18:45		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:15		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/12/15 07:15		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	0.38	mg/L	0.050	1		11/11/15 22:20		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	6.6	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Total Organic Carbon	6.6	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Total Organic Carbon	6.7	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Total Organic Carbon	6.5	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Mean Total Organic Carbon	6.6	mg/L	5.0	5		11/16/15 17:55	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-99B	Lab ID: 92275754005	Collected: 11/10/15 15:10	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:00	92-52-4	
Diphenyl ether (Phenyl ether)	<b>10.3</b>	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:00	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	61	%	27-110	1	11/12/15 15:39	11/13/15 23:00	321-60-8	
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		11/18/15 18:29	67-64-1	
Benzene	ND	ug/L	5.0	1		11/18/15 18:29	71-43-2	
Bromochloromethane	ND	ug/L	5.0	1		11/18/15 18:29	74-97-5	L3
Bromodichloromethane	ND	ug/L	5.0	1		11/18/15 18:29	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/18/15 18:29	75-25-2	
Bromomethane	ND	ug/L	10.0	1		11/18/15 18:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/18/15 18:29	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/18/15 18:29	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/18/15 18:29	56-23-5	
Chlorobenzene	<b>8.7</b>	ug/L	5.0	1		11/18/15 18:29	108-90-7	
Chloroethane	<b>10.3</b>	ug/L	10.0	1		11/18/15 18:29	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/18/15 18:29	67-66-3	
Chloromethane	ND	ug/L	5.0	1		11/18/15 18:29	74-87-3	
Cyclohexane	ND	ug/L	5.0	1		11/18/15 18:29	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/18/15 18:29	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1		11/18/15 18:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/18/15 18:29	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1		11/18/15 18:29	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		11/18/15 18:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 18:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 18:29	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		11/18/15 18:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/18/15 18:29	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1		11/18/15 18:29	98-82-8	
Methyl acetate	ND	ug/L	10.0	1		11/18/15 18:29	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1		11/18/15 18:29	108-87-2	
Methylene Chloride	ND	ug/L	5.0	1		11/18/15 18:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/18/15 18:29	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/18/15 18:29	1634-04-4	
Styrene	ND	ug/L	5.0	1		11/18/15 18:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/18/15 18:29	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		11/18/15 18:29	127-18-4	
Toluene	ND	ug/L	5.0	1		11/18/15 18:29	108-88-3	

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### ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

<b>Sample: B-99B</b>		<b>Lab ID: 92275754005</b>		Collected: 11/10/15 15:10	Received: 11/11/15 05:58	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1		11/18/15 18:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	1		11/18/15 18:29	76-13-1	
Vinyl chloride	ND	ug/L	5.0	1		11/18/15 18:29	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		11/18/15 18:29	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/18/15 18:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/18/15 18:29	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		11/18/15 18:29	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>1610</b>	ug/L	50.0	25		11/12/15 19:49	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	102	%	50-150	25		11/12/15 19:49	17060-07-0	
Toluene-d8 (S)	98	%	50-150	25		11/12/15 19:49	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: SW-7</b>								
<b>Lab ID: 92275754006</b>								
Collected: 11/10/15 13:10    Received: 11/11/15 05:58    Matrix: Water								
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:32	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270    Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:26	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:26	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	72	%	27-110	1	11/12/15 15:39	11/13/15 23:26	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 20:09	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/12/15 20:09	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 20:09	2037-26-5	

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### ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Sample: SW-5	Lab ID: 92275754007	Collected: 11/10/15 15:45	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:41	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:52	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:52	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	48	%	27-110	1	11/12/15 15:39	11/13/15 23:52	321-60-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 21:10	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/12/15 21:10	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		11/12/15 21:10	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Sample: CSW-2	Lab ID: 92275754008	Collected: 11/10/15 15:55	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>12.4</b>	ug/L	2.0	1		11/12/15 21:30	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		11/12/15 21:30	17060-07-0	
Toluene-d8 (S)	96	%	50-150	1		11/12/15 21:30	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Sample: CSW-1	Lab ID: 92275754009	Collected: 11/10/15 16:05	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>14.0</b>	ug/L	2.0	1		11/12/15 21:51	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		11/12/15 21:51	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 21:51	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: SW-3</b>								
<b>Lab ID: 92275754010</b>								
Collected: 11/10/15 16:20								
Received: 11/11/15 05:58								
Matrix: Water								
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:53	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:18	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:18	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	76	%	27-110	1	11/12/15 15:39	11/14/15 00:18	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 22:11	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		11/12/15 22:11	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 22:11	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: SW-8</b>								
<b>Lab ID: 92275754011</b>								
Collected: 11/10/15 16:45    Received: 11/11/15 05:58    Matrix: Water								
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 14:02	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270    Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/17/15 09:30	11/18/15 13:50	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/17/15 09:30	11/18/15 13:50	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	64	%	27-110	1	11/17/15 09:30	11/18/15 13:50	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 22:31	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/12/15 22:31	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 22:31	2037-26-5	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-09C	Lab ID: 92275754012	Collected: 11/10/15 17:35	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	500	100		11/17/15 13:22	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 05:28	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:43	92-52-4	
Diphenyl ether (Phenyl ether)	<b>10.6</b>	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:43	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	82	%	27-110	1	11/12/15 15:39	11/14/15 00:43	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	<b>2660</b>	ug/L	500	20		11/17/15 19:18	67-64-1	
Benzene	ND	ug/L	100	20		11/17/15 19:18	71-43-2	
Bromochloromethane	ND	ug/L	100	20		11/17/15 19:18	74-97-5	
Bromodichloromethane	ND	ug/L	100	20		11/17/15 19:18	75-27-4	
Bromoform	ND	ug/L	100	20		11/17/15 19:18	75-25-2	
Bromomethane	ND	ug/L	200	20		11/17/15 19:18	74-83-9	
2-Butanone (MEK)	<b>256</b>	ug/L	200	20		11/17/15 19:18	78-93-3	
Carbon disulfide	ND	ug/L	200	20		11/17/15 19:18	75-15-0	
Carbon tetrachloride	ND	ug/L	100	20		11/17/15 19:18	56-23-5	
Chlorobenzene	ND	ug/L	100	20		11/17/15 19:18	108-90-7	
Chloroethane	ND	ug/L	200	20		11/17/15 19:18	75-00-3	
Chloroform	ND	ug/L	100	20		11/17/15 19:18	67-66-3	
Chloromethane	ND	ug/L	100	20		11/17/15 19:18	74-87-3	
Cyclohexane	ND	ug/L	100	20		11/17/15 19:18	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20		11/17/15 19:18	96-12-8	
Dibromochloromethane	ND	ug/L	100	20		11/17/15 19:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	100	20		11/17/15 19:18	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	100	20		11/17/15 19:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	100	20		11/17/15 19:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	100	20		11/17/15 19:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	100	20		11/17/15 19:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	20		11/17/15 19:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	100	20		11/17/15 19:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	100	20		11/17/15 19:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	100	20		11/17/15 19:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	100	20		11/17/15 19:18	10061-02-6	
Ethylbenzene	ND	ug/L	100	20		11/17/15 19:18	100-41-4	
2-Hexanone	ND	ug/L	200	20		11/17/15 19:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	100	20		11/17/15 19:18	98-82-8	
Methyl acetate	ND	ug/L	200	20		11/17/15 19:18	79-20-9	
Methylcyclohexane	ND	ug/L	200	20		11/17/15 19:18	108-87-2	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-09C	Lab ID: 92275754012	Collected: 11/10/15 17:35	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260							
Methylene Chloride	ND	ug/L	100	20		11/17/15 19:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	20		11/17/15 19:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	100	20		11/17/15 19:18	1634-04-4	
Styrene	ND	ug/L	100	20		11/17/15 19:18	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	100	20		11/17/15 19:18	79-34-5	
Tetrachloroethene	ND	ug/L	100	20		11/17/15 19:18	127-18-4	
Toluene	ND	ug/L	100	20		11/17/15 19:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	100	20		11/17/15 19:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	20		11/17/15 19:18	79-00-5	
Trichloroethene	ND	ug/L	100	20		11/17/15 19:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	20		11/17/15 19:18	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	100	20		11/17/15 19:18	76-13-1	
Vinyl chloride	ND	ug/L	100	20		11/17/15 19:18	75-01-4	
Xylene (Total)	ND	ug/L	200	20		11/17/15 19:18	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100	%	70-130	20		11/17/15 19:18	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	20		11/17/15 19:18	17060-07-0	
Toluene-d8 (S)	101	%	70-130	20		11/17/15 19:18	2037-26-5	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>909</b>	ug/L	20.0	10		11/12/15 22:51	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	108	%	50-150	10		11/12/15 22:51	17060-07-0	
Toluene-d8 (S)	96	%	50-150	10		11/12/15 22:51	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>2260</b>	mg/L	5.0	1		11/19/15 12:04		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:16		
Nitrogen, Nitrite	<b>0.073</b>	mg/L	0.020	1		11/12/15 07:16		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	<b>0.32</b>	mg/L	0.25	5		11/11/15 22:20		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

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QC Batch:	GCSV/17520	Analysis Method:	EPA 8015 Alcohol-Glycol
QC Batch Method:	EPA 8015 Alcohol-Glycol	Analysis Description:	EPA 8015 Modified
Associated Lab Samples:	92275754001, 92275754002, 92275754006, 92275754007, 92275754010, 92275754011, 92275754012		

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METHOD BLANK: 1426234 Matrix: Water

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	5.0	11/17/15 12:40	

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LABORATORY CONTROL SAMPLE: 1426235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	25	22.4	89	79-129	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: GWD/2671 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions, GWD  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1609962 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	11/19/15 01:24	

LABORATORY CONTROL SAMPLE: 1609963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1609964 1609965

Parameter	Units	92275754001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Sulfate	mg/L	7.7	50	50	47.3	48.8	79	82	90-110	3	M1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: MSV/34316      Analysis Method: EPA 8260  
QC Batch Method: EPA 8260      Analysis Description: 8260 MSV  
Associated Lab Samples: 92275754012

METHOD BLANK: 1608047      Matrix: Water  
Associated Lab Samples: 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/17/15 14:29	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloropropane	ug/L	ND	5.0	11/17/15 14:29	
1,3-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
2-Butanone (MEK)	ug/L	ND	10.0	11/17/15 14:29	
2-Hexanone	ug/L	ND	10.0	11/17/15 14:29	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/17/15 14:29	
Acetone	ug/L	ND	25.0	11/17/15 14:29	
Benzene	ug/L	ND	5.0	11/17/15 14:29	
Bromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromodichloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromoform	ug/L	ND	5.0	11/17/15 14:29	
Bromomethane	ug/L	ND	10.0	11/17/15 14:29	
Carbon disulfide	ug/L	ND	10.0	11/17/15 14:29	
Carbon tetrachloride	ug/L	ND	5.0	11/17/15 14:29	
Chlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
Chloroethane	ug/L	ND	10.0	11/17/15 14:29	
Chloroform	ug/L	ND	5.0	11/17/15 14:29	
Chloromethane	ug/L	ND	5.0	11/17/15 14:29	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
cis-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Cyclohexane	ug/L	ND	5.0	11/17/15 14:29	
Dibromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Dichlorodifluoromethane	ug/L	ND	5.0	11/17/15 14:29	
Ethylbenzene	ug/L	ND	5.0	11/17/15 14:29	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	11/17/15 14:29	
Methyl acetate	ug/L	ND	10.0	11/17/15 14:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/17/15 14:29	
Methylcyclohexane	ug/L	ND	10.0	11/17/15 14:29	
Methylene Chloride	ug/L	ND	5.0	11/17/15 14:29	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

METHOD BLANK: 1608047

Matrix: Water

Associated Lab Samples: 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	11/17/15 14:29	
Tetrachloroethene	ug/L	ND	5.0	11/17/15 14:29	
Toluene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Trichloroethene	ug/L	ND	5.0	11/17/15 14:29	
Trichlorofluoromethane	ug/L	ND	10.0	11/17/15 14:29	
Vinyl chloride	ug/L	ND	5.0	11/17/15 14:29	
Xylene (Total)	ug/L	ND	10.0	11/17/15 14:29	
1,2-Dichloroethane-d4 (S)	%	99	70-130	11/17/15 14:29	
4-Bromofluorobenzene (S)	%	100	70-130	11/17/15 14:29	
Toluene-d8 (S)	%	102	70-130	11/17/15 14:29	

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	44.9	90	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	94	79-124	
1,1,2-Trichloroethane	ug/L	50	44.4	89	85-125	
1,1,2-Trichlorotrifluoroethane	ug/L	50	47.9	96	71-142	
1,1-Dichloroethane	ug/L	50	43.1	86	73-126	
1,1-Dichloroethene	ug/L	50	48.5	97	66-135	
1,2,3-Trichlorobenzene	ug/L	50	49.7	99	73-135	
1,2,4-Trichlorobenzene	ug/L	50	48.1	96	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.0	106	83-124	
1,2-Dichlorobenzene	ug/L	50	50.4	101	80-133	
1,2-Dichloroethane	ug/L	50	47.4	95	67-128	
1,2-Dichloropropane	ug/L	50	46.2	92	75-132	
1,3-Dichlorobenzene	ug/L	50	50.4	101	77-130	
1,4-Dichlorobenzene	ug/L	50	49.4	99	78-130	
2-Butanone (MEK)	ug/L	100	98.2	98	61-144	
2-Hexanone	ug/L	100	98.2	98	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.9	91	72-135	
Acetone	ug/L	100	89.8	90	48-146	
Benzene	ug/L	50	48.1	96	80-125	
Bromochloromethane	ug/L	50	57.1	114	71-125	
Bromodichloromethane	ug/L	50	44.5	89	78-124	
Bromoform	ug/L	50	47.1	94	71-128	
Bromomethane	ug/L	50	53.9	108	40-160	
Carbon disulfide	ug/L	50	47.6	95	50-160	
Carbon tetrachloride	ug/L	50	46.8	94	69-131	
Chlorobenzene	ug/L	50	47.8	96	81-122	
Chloroethane	ug/L	50	50.5	101	39-148	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	50.1	100	73-127	
Chloromethane	ug/L	50	49.0	98	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.4	101	74-124	
cis-1,3-Dichloropropene	ug/L	50	48.0	96	72-132	
Cyclohexane	ug/L	50	47.5	95	62-145	
Dibromochloromethane	ug/L	50	51.5	103	78-125	
Dichlorodifluoromethane	ug/L	50	51.3	103	34-157	
Ethylbenzene	ug/L	50	48.0	96	79-121	
Isopropylbenzene (Cumene)	ug/L	50	53.0	106	81-132	
Methyl acetate	ug/L	50	59.1	118	58-128	
Methyl-tert-butyl ether	ug/L	50	50.6	101	74-131	
Methylcyclohexane	ug/L	50	47.5	95	65-144	
Methylene Chloride	ug/L	50	50.1	100	64-133	
Styrene	ug/L	50	49.9	100	84-126	
Tetrachloroethene	ug/L	50	49.8	100	78-122	
Toluene	ug/L	50	42.0	84	80-121	
trans-1,2-Dichloroethene	ug/L	50	46.7	93	71-127	
trans-1,3-Dichloropropene	ug/L	50	46.9	94	69-141	
Trichloroethene	ug/L	50	45.9	92	78-122	
Trichlorofluoromethane	ug/L	50	47.5	95	53-137	
Vinyl chloride	ug/L	50	50.1	100	58-137	
Xylene (Total)	ug/L	150	146	97	81-126	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			93	70-130	

MATRIX SPIKE SAMPLE: 1608049

Parameter	Units	92275933004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	18.1	90	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	16.7	84	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	17.7	89	70-130	
1,1-Dichloroethane	ug/L	ND	20	17.2	86	70-130	
1,1-Dichloroethene	ug/L	ND	20	18.6	93	65-160	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.2	96	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.8	94	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.9	99	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.2	106	60-139	
1,2-Dichlorobenzene	ug/L	ND	20	21.1	106	70-130	
1,2-Dichloroethane	ug/L	ND	20	16.4	82	70-130	
1,2-Dichloropropane	ug/L	ND	20	18.1	91	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.4	107	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	20.9	104	70-130	
2-Butanone (MEK)	ug/L	ND	40	35.0	88	70-130	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

MATRIX SPIKE SAMPLE: 1608049		92275933004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Hexanone	ug/L	ND	40	40.6	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	34.6	87	70-130	
Acetone	ug/L	19.1J	40	37.4	46	70-130	M1
Benzene	ug/L	3.8J	20	22.9	96	58-162	
Bromochloromethane	ug/L	ND	20	18.6	93	70-130	
Bromodichloromethane	ug/L	ND	20	17.9	89	70-130	
Bromoform	ug/L	ND	20	16.3	81	70-130	
Bromomethane	ug/L	ND	20	12.3	61	70-130	M1
Carbon disulfide	ug/L	ND	20	17.2	86	70-130	
Carbon tetrachloride	ug/L	ND	20	19.2	96	70-130	
Chlorobenzene	ug/L	ND	20	21.5	107	70-138	
Chloroethane	ug/L	ND	20	16.2	81	70-130	
Chloroform	ug/L	ND	20	18.3	92	70-130	
Chloromethane	ug/L	ND	20	18.2	91	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	17.9	89	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.3	86	70-130	
Cyclohexane	ug/L	2.4J	20	19.6	86	70-130	
Dibromochloromethane	ug/L	ND	20	19.6	98	70-130	
Dichlorodifluoromethane	ug/L	ND	20	17.5	88	70-130	
Ethylbenzene	ug/L	ND	20	20.9	100	22-189	
Isopropylbenzene (Cumene)	ug/L	6.8	20	27.8	105	70-130	
Methyl acetate	ug/L	ND	20	16.1	81	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.1	86	37-169	
Methylcyclohexane	ug/L	ND	20	18.4	83	70-130	
Methylene Chloride	ug/L	ND	20	15.6	78	70-130	
Styrene	ug/L	ND	20	20.7	104	70-130	
Tetrachloroethene	ug/L	ND	20	21.4	107	70-130	
Toluene	ug/L	ND	20	17.0	85	65-152	
trans-1,2-Dichloroethene	ug/L	ND	20	17.7	89	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	16.8	84	70-130	
Trichloroethene	ug/L	ND	20	17.6	88	70-142	
Trichlorofluoromethane	ug/L	ND	20	18.5	92	70-130	
Vinyl chloride	ug/L	ND	20	18.4	92	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				94	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichlorobenzene	ug/L	ND	ND		
1,2,4-Trichlorobenzene	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,3-Dichlorobenzene	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	22.5J	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	ND	ND		
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Cyclohexane	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dichlorodifluoromethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Isopropylbenzene (Cumene)	ug/L	ND	ND		
Methyl acetate	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Methylcyclohexane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	99	99		1
4-Bromofluorobenzene (S)	%	97	99		2

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

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SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	103	103	1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: MSV/34335 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005

METHOD BLANK: 1609255 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1-Dichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1-Dichloroethene	ug/L	ND	5.0	11/18/15 16:13	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/18/15 16:13	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dichloropropane	ug/L	ND	5.0	11/18/15 16:13	
1,3-Dichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
2-Butanone (MEK)	ug/L	ND	10.0	11/18/15 16:13	
2-Hexanone	ug/L	ND	10.0	11/18/15 16:13	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/18/15 16:13	
Acetone	ug/L	ND	25.0	11/18/15 16:13	
Benzene	ug/L	ND	5.0	11/18/15 16:13	
Bromochloromethane	ug/L	ND	5.0	11/18/15 16:13	
Bromodichloromethane	ug/L	ND	5.0	11/18/15 16:13	
Bromoform	ug/L	ND	5.0	11/18/15 16:13	
Bromomethane	ug/L	ND	10.0	11/18/15 16:13	
Carbon disulfide	ug/L	ND	10.0	11/18/15 16:13	
Carbon tetrachloride	ug/L	ND	5.0	11/18/15 16:13	
Chlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
Chloroethane	ug/L	ND	10.0	11/18/15 16:13	
Chloroform	ug/L	ND	5.0	11/18/15 16:13	
Chloromethane	ug/L	ND	5.0	11/18/15 16:13	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/18/15 16:13	
cis-1,3-Dichloropropene	ug/L	ND	5.0	11/18/15 16:13	
Cyclohexane	ug/L	ND	5.0	11/18/15 16:13	
Dibromochloromethane	ug/L	ND	5.0	11/18/15 16:13	
Dichlorodifluoromethane	ug/L	ND	5.0	11/18/15 16:13	
Ethylbenzene	ug/L	ND	5.0	11/18/15 16:13	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	11/18/15 16:13	
Methyl acetate	ug/L	ND	10.0	11/18/15 16:13	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/18/15 16:13	
Methylcyclohexane	ug/L	ND	10.0	11/18/15 16:13	
Methylene Chloride	ug/L	ND	5.0	11/18/15 16:13	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

METHOD BLANK: 1609255 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	11/18/15 16:13	
Tetrachloroethene	ug/L	ND	5.0	11/18/15 16:13	
Toluene	ug/L	ND	5.0	11/18/15 16:13	
trans-1,2-Dichloroethene	ug/L	ND	5.0	11/18/15 16:13	
trans-1,3-Dichloropropene	ug/L	ND	5.0	11/18/15 16:13	
Trichloroethene	ug/L	ND	5.0	11/18/15 16:13	
Trichlorofluoromethane	ug/L	ND	10.0	11/18/15 16:13	
Vinyl chloride	ug/L	ND	5.0	11/18/15 16:13	
Xylene (Total)	ug/L	ND	10.0	11/18/15 16:13	
1,2-Dichloroethane-d4 (S)	%	95	70-130	11/18/15 16:13	
4-Bromofluorobenzene (S)	%	105	70-130	11/18/15 16:13	
Toluene-d8 (S)	%	107	70-130	11/18/15 16:13	

LABORATORY CONTROL SAMPLE: 1609256

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	52.2	104	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	49.9	100	79-124	
1,1,2-Trichloroethane	ug/L	50	52.3	105	85-125	
1,1,2-Trichlorotrifluoroethane	ug/L	50	52.0	104	71-142	
1,1-Dichloroethane	ug/L	50	49.5	99	73-126	
1,1-Dichloroethene	ug/L	50	56.1	112	66-135	
1,2,3-Trichlorobenzene	ug/L	50	52.0	104	73-135	
1,2,4-Trichlorobenzene	ug/L	50	49.4	99	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	50.4	101	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	56.0	112	83-124	
1,2-Dichlorobenzene	ug/L	50	50.5	101	80-133	
1,2-Dichloroethane	ug/L	50	45.8	92	67-128	
1,2-Dichloropropane	ug/L	50	51.2	102	75-132	
1,3-Dichlorobenzene	ug/L	50	50.9	102	77-130	
1,4-Dichlorobenzene	ug/L	50	50.0	100	78-130	
2-Butanone (MEK)	ug/L	100	114	114	61-144	
2-Hexanone	ug/L	100	105	105	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	72-135	
Acetone	ug/L	100	103	103	48-146	
Benzene	ug/L	50	54.2	108	80-125	
Bromochloromethane	ug/L	50	63.0	126	71-125 L0	
Bromodichloromethane	ug/L	50	49.5	99	78-124	
Bromoform	ug/L	50	49.6	99	71-128	
Bromomethane	ug/L	50	79.2	158	40-160	
Carbon disulfide	ug/L	50	57.8	116	50-160	
Carbon tetrachloride	ug/L	50	50.7	101	69-131	
Chlorobenzene	ug/L	50	49.2	98	81-122	
Chloroethane	ug/L	50	50.8	102	39-148	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

LABORATORY CONTROL SAMPLE: 1609256

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	49.6	99	73-127	
Chloromethane	ug/L	50	56.2	112	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.3	101	74-124	
cis-1,3-Dichloropropene	ug/L	50	53.5	107	72-132	
Cyclohexane	ug/L	50	53.3	107	62-145	
Dibromochloromethane	ug/L	50	49.9	100	78-125	
Dichlorodifluoromethane	ug/L	50	55.5	111	34-157	
Ethylbenzene	ug/L	50	48.2	96	79-121	
Isopropylbenzene (Cumene)	ug/L	50	52.4	105	81-132	
Methyl acetate	ug/L	50	59.3	119	58-128	
Methyl-tert-butyl ether	ug/L	50	59.7	119	74-131	
Methylcyclohexane	ug/L	50	51.1	102	65-144	
Methylene Chloride	ug/L	50	53.8	108	64-133	
Styrene	ug/L	50	48.5	97	84-126	
Tetrachloroethene	ug/L	50	50.5	101	78-122	
Toluene	ug/L	50	48.8	98	80-121	
trans-1,2-Dichloroethene	ug/L	50	53.7	107	71-127	
trans-1,3-Dichloropropene	ug/L	50	54.6	109	69-141	
Trichloroethene	ug/L	50	50.9	102	78-122	
Trichlorofluoromethane	ug/L	50	50.7	101	53-137	
Vinyl chloride	ug/L	50	60.4	121	58-137	
Xylene (Total)	ug/L	150	143	96	81-126	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1609436

Parameter	Units	92275754003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	23.3	117	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.7	103	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	21.4	107	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	23.2	116	70-130	
1,1-Dichloroethane	ug/L	6.5	20	29.1	113	70-130	
1,1-Dichloroethene	ug/L	ND	20	26.2	127	65-160	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.0	100	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	20.0	100	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.2	96	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.9	110	60-139	
1,2-Dichlorobenzene	ug/L	ND	20	21.6	103	70-130	
1,2-Dichloroethane	ug/L	ND	20	20.8	101	70-130	
1,2-Dichloropropane	ug/L	ND	20	22.8	114	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.3	106	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	21.0	104	70-130	
2-Butanone (MEK)	ug/L	ND	40	46.3	116	70-130	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

MATRIX SPIKE SAMPLE: 1609436		92275754003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Hexanone	ug/L	ND	40	40.8	102	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	41.1	103	70-130	
Acetone	ug/L	ND	40	50.4	96	70-130	
Benzene	ug/L	ND	20	24.3	122	58-162	
Bromochloromethane	ug/L	ND	20	25.8	129	70-130	
Bromodichloromethane	ug/L	ND	20	21.8	109	70-130	
Bromoform	ug/L	ND	20	17.3	87	70-130	
Bromomethane	ug/L	ND	20	22.2	111	70-130	
Carbon disulfide	ug/L	ND	20	25.3	127	70-130	
Carbon tetrachloride	ug/L	ND	20	23.7	119	70-130	
Chlorobenzene	ug/L	7.5	20	29.5	110	70-138	
Chloroethane	ug/L	ND	20	28.9	136	70-130	M1
Chloroform	ug/L	ND	20	22.3	112	70-130	
Chloromethane	ug/L	ND	20	17.6	88	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	23.1	116	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	21.5	107	70-130	
Cyclohexane	ug/L	ND	20	23.6	118	70-130	
Dibromochloromethane	ug/L	ND	20	18.8	94	70-130	
Dichlorodifluoromethane	ug/L	ND	20	18.2	91	70-130	
Ethylbenzene	ug/L	ND	20	21.2	106	22-189	
Isopropylbenzene (Cumene)	ug/L	ND	20	23.2	116	70-130	
Methyl acetate	ug/L	ND	20	22.5	112	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	23.5	117	37-169	
Methylcyclohexane	ug/L	ND	20	21.9	109	70-130	
Methylene Chloride	ug/L	ND	20	24.3	121	70-130	
Styrene	ug/L	ND	20	21.7	108	70-130	
Tetrachloroethene	ug/L	ND	20	21.6	108	70-130	
Toluene	ug/L	ND	20	22.2	111	65-152	
trans-1,2-Dichloroethene	ug/L	ND	20	24.2	121	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	21.3	106	70-130	
Trichloroethene	ug/L	ND	20	23.1	116	70-142	
Trichlorofluoromethane	ug/L	ND	20	22.7	114	70-130	
Vinyl chloride	ug/L	ND	20	27.7	128	70-130	
1,2-Dichloroethane-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1609437

Parameter	Units	92275754004 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

SAMPLE DUPLICATE: 1609437

Parameter	Units	92275754004 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichlorobenzene	ug/L	ND	ND		
1,2,4-Trichlorobenzene	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,3-Dichlorobenzene	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	ND	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	8.9	8.3	6	
Chloroethane	ug/L	11.8	10.2	14	
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Cyclohexane	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dichlorodifluoromethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Isopropylbenzene (Cumene)	ug/L	ND	ND		
Methyl acetate	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Methylcyclohexane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	100	98	2	
4-Bromofluorobenzene (S)	%	105	101	3	

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1609437

Parameter	Units	92275754004 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	108	107	1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: MSV/34257 Analysis Method: EPA 8260B Mod.  
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754008, 92275754009, 92275754010, 92275754011, 92275754012

METHOD BLANK: 1604959 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754008, 92275754009, 92275754010, 92275754011, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/12/15 18:08	
1,2-Dichloroethane-d4 (S)	%	100	50-150	11/12/15 18:08	
Toluene-d8 (S)	%	99	50-150	11/12/15 18:08	

LABORATORY CONTROL SAMPLE: 1604960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.6	103	71-125	
1,2-Dichloroethane-d4 (S)	%			103	50-150	
Toluene-d8 (S)	%			97	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1604961 1604962

Parameter	Units	92275754006		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	21.0	21.6	97	100	50-150	3		
1,2-Dichloroethane-d4 (S)	%						107	106	50-150			
Toluene-d8 (S)	%						98	98	50-150			

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
QC Project No.: 92275754

QC Batch: OEXT/39029 Analysis Method: EPA 8270  
QC Batch Method: EPA 3510 Analysis Description: 8270 Water MSSV HVI  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754010, 92275754012

METHOD BLANK: 1605123 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754010, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	11/13/15 14:56	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	11/13/15 14:56	
2,4,6-Tribromophenol (S)	%	39	27-110	11/13/15 14:56	
2-Fluorobiphenyl (S)	%	69	27-110	11/13/15 14:56	
2-Fluorophenol (S)	%	34	12-110	11/13/15 14:56	
Nitrobenzene-d5 (S)	%	73	21-110	11/13/15 14:56	
Phenol-d6 (S)	%	29	10-110	11/13/15 14:56	
Terphenyl-d14 (S)	%	82	31-107	11/13/15 14:56	

LABORATORY CONTROL SAMPLE: 1605124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	50	33.4	67	38-120	
Diphenyl ether (Phenyl ether)	ug/L	50	33.7	67	51-120	
2,4,6-Tribromophenol (S)	%			95	27-110	
2-Fluorobiphenyl (S)	%			69	27-110	
2-Fluorophenol (S)	%			37	12-110	
Nitrobenzene-d5 (S)	%			77	21-110	
Phenol-d6 (S)	%			25	10-110	
Terphenyl-d14 (S)	%			99	31-107	

MATRIX SPIKE SAMPLE: 1605125

Parameter	Units	92275067003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	50	41.6	83	50-150	
Diphenyl ether (Phenyl ether)	ug/L	ND	50	41.4	83	50-150	
2,4,6-Tribromophenol (S)	%				121	27-110	S0
2-Fluorobiphenyl (S)	%				91	27-110	
2-Fluorophenol (S)	%				52	12-110	
Nitrobenzene-d5 (S)	%				93	21-110	
Phenol-d6 (S)	%				38	10-110	
Terphenyl-d14 (S)	%				81	31-107	

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1605126

Parameter	Units	92275067004 Result	Dup Result	RPD	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	ND		
Diphenyl ether (Phenyl ether)	ug/L	ND	ND		
2,4,6-Tribromophenol (S)	%	52	54	5	
2-Fluorobiphenyl (S)	%	79	70	12	
2-Fluorophenol (S)	%	38	41	10	
Nitrobenzene-d5 (S)	%	75	73	3	
Phenol-d6 (S)	%	29	34	15	
Terphenyl-d14 (S)	%	87	94	8	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: OEXT/39091      Analysis Method: EPA 8270  
QC Batch Method: EPA 3510      Analysis Description: 8270 Water MSSV HVI  
Associated Lab Samples: 92275754011

METHOD BLANK: 1608030      Matrix: Water  
Associated Lab Samples: 92275754011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	11/17/15 13:51	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	11/17/15 13:51	
2,4,6-Tribromophenol (S)	%	64	27-110	11/17/15 13:51	
2-Fluorobiphenyl (S)	%	82	27-110	11/17/15 13:51	
2-Fluorophenol (S)	%	44	12-110	11/17/15 13:51	
Nitrobenzene-d5 (S)	%	76	21-110	11/17/15 13:51	
Phenol-d6 (S)	%	35	10-110	11/17/15 13:51	
Terphenyl-d14 (S)	%	80	31-107	11/17/15 13:51	

LABORATORY CONTROL SAMPLE & LCSD: 1608031

Parameter	Units	1608032								
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Biphenyl (Diphenyl)	ug/L	50	38.3	39.2	77	78	38-120	2	30	
Diphenyl ether (Phenyl ether)	ug/L	50	34.4	37.1	69	74	51-120	7	30	
2,4,6-Tribromophenol (S)	%				88	82	27-110			
2-Fluorobiphenyl (S)	%				84	79	27-110			
2-Fluorophenol (S)	%				47	46	12-110			
Nitrobenzene-d5 (S)	%				82	80	21-110			
Phenol-d6 (S)	%				31	34	10-110			
Terphenyl-d14 (S)	%				92	85	31-107			

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: WET/41436 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1608082 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	11/18/15 16:37	

LABORATORY CONTROL SAMPLE: 1608083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608084 1608085

Parameter	Units	92275067004		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO3	mg/L	6.0	50	50	56.2	56.0	100	100	90-110	0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608086 1608087

Parameter	Units	92275794004		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO3	mg/L	102	50	50	147	146	90	88	90-110	1	M1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: WETA/25365 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1604426 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	11/12/15 07:01	
Nitrogen, Nitrite	mg/L	ND	0.020	11/12/15 07:01	

LABORATORY CONTROL SAMPLE: 1604427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1604428 1604429

Parameter	Units	92275754001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Nitrogen, Nitrate	mg/L	ND	2.5	2.5	2.3	2.3	91	90	90-110	0		
Nitrogen, Nitrite	mg/L	0.040	1	1	0.81	0.81	77	77	90-110	0 M1		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

QC Batch: WETA/25364

Analysis Method: SM 4500-P E

QC Batch Method: SM 4500-P E

Analysis Description: SM4500P-E Phosphorus, Ortho

Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1604413

Matrix: Water

Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	11/11/15 22:20	

LABORATORY CONTROL SAMPLE: 1604414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.25	0.27	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1604415 1604416

Parameter	Units	92275754001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Orthophosphate as P	mg/L	1.3	2	2	2	2.4	2.4	53	53	90-110	0	M6		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: WETA/25407 Analysis Method: EPA 9060A  
QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004

METHOD BLANK: 1607246 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	

LABORATORY CONTROL SAMPLE: 1607247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.9	96	75-125	
Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607248 1607249

Parameter	92275754001		MS	MSD	MS		MSD		% Rec	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Mean Total Organic Carbon	mg/L	2750	25	25	2730	2750	-76	0	75-125	1	M6
Total Organic Carbon	mg/L	2690	25	25	2750	2840	236	596	75-125	3	M6
Total Organic Carbon	mg/L	2770	25	25	2720	2800	-196	96	75-125	3	M6
Total Organic Carbon	mg/L	2750	25	25	2720	2820	-116	280	75-125	4	M6
Total Organic Carbon	mg/L	2780	25	25	2720	2540	-220	-964	75-125	7	M6

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## QUALIFIERS

Project: CNA/NRLF  
Pace Project No.: 92275754

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-A Pace Analytical Services - Asheville  
PASI-C Pace Analytical Services - Charlotte  
PASI-G Pace Analytical Services - Greenwood  
PASI-I Pace Analytical Services - Indianapolis  
PASI-W Pace Analytical Services - Greenwood

### ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.  
L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.  
L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.  
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.  
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.  
S0 Surrogate recovery outside laboratory control limits.  
S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF  
Pace Project No.: 92275754

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275754001	B-23A	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754002	B-23B	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754006	SW-7	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754007	SW-5	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754010	SW-3	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754011	SW-8	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754012	B-09C	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754001	B-23A	EPA 9056A	GWD/2671		
92275754002	B-23B	EPA 9056A	GWD/2671		
92275754003	B-22A	EPA 9056A	GWD/2671		
92275754004	B-22B	EPA 9056A	GWD/2671		
92275754012	B-09C	EPA 9056A	GWD/2671		
92275754001	B-23A	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754002	B-23B	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754003	B-22A	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754004	B-22B	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754005	B-99B	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754006	SW-7	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754007	SW-5	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754010	SW-3	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754011	SW-8	EPA 3510	OEXT/39091	EPA 8270	MSSV/11531
92275754012	B-09C	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754001	B-23A	EPA 8260	MSV/34335		
92275754002	B-23B	EPA 8260	MSV/34335		
92275754003	B-22A	EPA 8260	MSV/34335		
92275754004	B-22B	EPA 8260	MSV/34335		
92275754005	B-99B	EPA 8260	MSV/34335		
92275754012	B-09C	EPA 8260	MSV/34316		
92275754001	B-23A	EPA 8260B Mod.	MSV/34257		
92275754002	B-23B	EPA 8260B Mod.	MSV/34257		
92275754003	B-22A	EPA 8260B Mod.	MSV/34257		
92275754004	B-22B	EPA 8260B Mod.	MSV/34257		
92275754005	B-99B	EPA 8260B Mod.	MSV/34257		
92275754006	SW-7	EPA 8260B Mod.	MSV/34257		
92275754007	SW-5	EPA 8260B Mod.	MSV/34257		
92275754008	CSW-2	EPA 8260B Mod.	MSV/34257		
92275754009	CSW-1	EPA 8260B Mod.	MSV/34257		
92275754010	SW-3	EPA 8260B Mod.	MSV/34257		
92275754011	SW-8	EPA 8260B Mod.	MSV/34257		
92275754012	B-09C	EPA 8260B Mod.	MSV/34257		
92275754001	B-23A	SM 2320B	WET/41436		
92275754002	B-23B	SM 2320B	WET/41436		
92275754003	B-22A	SM 2320B	WET/41436		
92275754004	B-22B	SM 2320B	WET/41436		
92275754012	B-09C	SM 2320B	WET/41436		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF

Pace Project No.: 92275754

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275754001	B-23A	EPA 353.2	WETA/25365		
92275754002	B-23B	EPA 353.2	WETA/25365		
92275754003	B-22A	EPA 353.2	WETA/25365		
92275754004	B-22B	EPA 353.2	WETA/25365		
92275754012	B-09C	EPA 353.2	WETA/25365		
92275754001	B-23A	SM 4500-P E	WETA/25364		
92275754002	B-23B	SM 4500-P E	WETA/25364		
92275754003	B-22A	SM 4500-P E	WETA/25364		
92275754004	B-22B	SM 4500-P E	WETA/25364		
92275754012	B-09C	SM 4500-P E	WETA/25364		
92275754001	B-23A	EPA 9060A	WETA/25407		
92275754002	B-23B	EPA 9060A	WETA/25407		
92275754003	B-22A	EPA 9060A	WETA/25407		
92275754004	B-22B	EPA 9060A	WETA/25407		

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Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: May 10, 2010  
Page 1 of 2\*

Document Number:  
**F-CHR-CS-003-rev.16**

Issuing Authority:  
Pace Huntersville Quality Office

Client Name: Aecom

\* Page 2 of 2 is for Internal Use Only

Courier:  Fed Ex  UP  USP  Clier  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun **T1402** Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor **T1402** No Correction

Corrected Cooler Temp.: 1.7 °C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: AP MKS

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review:	<u>JY</u>	Date:	<u>11/11/15</u>
SRF Review:	<u>JY</u>	Date:	<u>11/12/15</u>

WO#: 92275754



92275754

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)





Pace Analytical Energy Services, LLC  
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November 18, 2015

Kevin Godwin  
Pace Analytical Services, Inc.  
9800 Kinsey Avenue  
Suite 100  
Huntersville, NC 28078

RE: **CNA/NRLF / 92275754**

Pace Workorder: 17373

Dear Kevin Godwin:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, November 13, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 11/18/2015

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 20

Report ID: 17373 - 733415

Page 1 of 18



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### LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water and Solid & Hazardous Waste
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water; Solid and Chemical Materials
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water; Solid and Hazardous Waste
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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**SAMPLE SUMMARY**

Workorder: 17373 CNA/NRLF / 92275754

Lab ID	Sample ID	Matrix	Date Collected	Date Received
173730001	B-23A	Bubble Strip	11/10/2015 10:25	11/13/2015 14:50
173730002	B-23A	Water	11/10/2015 10:25	11/13/2015 14:50
173730003	B-23B	Bubble Strip	11/10/2015 11:15	11/13/2015 14:50
173730004	B-23B	Water	11/10/2015 11:15	11/13/2015 14:50
173730005	B-22A	Bubble Strip	11/10/2015 14:20	11/13/2015 14:50
173730006	B-22A	Water	11/10/2015 14:20	11/13/2015 14:50
173730007	B-22B	Bubble Strip	11/10/2015 15:05	11/13/2015 14:50
173730008	B-22B	Water	11/10/2015 15:05	11/13/2015 14:50



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## PROJECT SUMMARY

Workorder: 17373 CNA/NRLF / 92275754

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### Batch Comments

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**Batch:** EDON/2719 - Volatile Fatty Acids

The matrix spike and/or spike duplicate, recovery or relative percent difference; accuracy influenced by the concentration of the reference sample 173730002. Analyte Acetic and Butyric acids. Batch acceptance based on laboratory control sample recovery.

Report ID: 17373 - 733415

Page 4 of 18



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Page 53 of 69



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### ANALYTICAL RESULTS

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730001 Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: B-23A Date Collected: 11/10/2015 10:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	9900	ug/l	0.050	0.0080	1	11/18/2015 04:12	TD	n
Ethane	0.0010U	ug/l	0.010	0.0010	1	11/18/2015 04:12	TD	n
Ethene	0.17	ug/l	0.010	0.0030	1	11/18/2015 04:12	TD	n
Carbon Dioxide	730	mg/l	2.0	0.44	1	11/18/2015 04:12	TD	n
Hydrogen	2.2	nM	0.60	0.088	1	11/18/2015 04:12	TD	n



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### ANALYTICAL RESULTS

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730002 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-23A Date Collected: 11/10/2015 10:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	3200	mg/l	50	8.9	10	11/16/2015 19:56	BW	d,n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730003 Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: B-23B Date Collected: 11/10/2015 11:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**RISK - MICR**

Analysis Desc: AM20GAX

Analytical Method: AM20GAX

Methane	12000	ug/l	0.050	0.0080	1	11/18/2015 04:24	TD	n
Ethane	0.0010U	ug/l	0.010	0.0010	1	11/18/2015 04:24	TD	n
Ethene	0.16	ug/l	0.010	0.0030	1	11/18/2015 04:24	TD	n
Carbon Dioxide	590	mg/l	2.0	0.44	1	11/18/2015 04:24	TD	n
Hydrogen	2.8	nM	0.60	0.088	1	11/18/2015 04:24	TD	n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

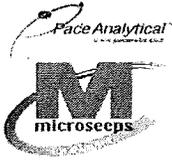
Lab ID: 173730004 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-23B Date Collected: 11/10/2015 11:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	3100	mg/l	50	8.9	10	11/16/2015 20:19	BW	d,n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

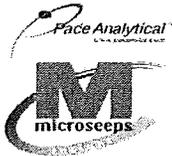
Lab ID: 173730005 Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: B-22A Date Collected: 11/10/2015 14:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	34	ug/l	0.050	0.0080	1	11/18/2015 04:37	TD	n
Ethane	1.3	ug/l	0.010	0.0010	1	11/18/2015 04:37	TD	n
Ethene	0.31	ug/l	0.010	0.0030	1	11/18/2015 04:37	TD	n
Carbon Dioxide	250	mg/l	2.0	0.44	1	11/18/2015 04:37	TD	n
Hydrogen	1.6	nM	0.60	0.088	1	11/18/2015 04:37	TD	n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

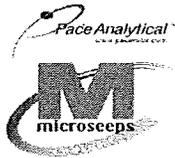
Lab ID: 173730006 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-22A Date Collected: 11/10/2015 14:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	3.0J	mg/l	5.0	0.89	1	11/17/2015 16:33	BW	n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: **173730007** Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: **B-22B** Date Collected: 11/10/2015 15:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	12000	ug/l	0.050	0.0080	1	11/18/2015 04:49	TD	n
Ethane	0.77	ug/l	0.010	0.0010	1	11/18/2015 04:49	TD	n
Ethene	0.0030U	ug/l	0.010	0.0030	1	11/18/2015 04:49	TD	n
Carbon Dioxide	260	mg/l	2.0	0.44	1	11/18/2015 04:49	TD	n
Hydrogen	2.0	nM	0.60	0.088	1	11/18/2015 04:49	TD	n



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### ANALYTICAL RESULTS

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730008 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-22B Date Collected: 11/10/2015 15:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	0.89U	mg/l	5.0	0.89	1	11/16/2015 19:33	BW	n



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 17373 CNA/NRLF / 92275754

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### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20Gax, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND** Not detected at or above reporting limit.
- DF** Dilution Factor.
- S** Surrogate.
- RPD** Relative Percent Difference.
- % Rec** Percent Recovery.
- U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
  
- n** The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
- d** The analyte concentration was determined from a dilution.



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**QUALITY CONTROL DATA**

Workorder: 17373 CNA/NRLF / 92275754

QC Batch: EDON/2719 Analysis Method: AM21G  
 QC Batch Method: AM21G  
 Associated Lab Samples: 173730002, 173730004, 173730006, 173730008

METHOD BLANK: 38683

Parameter	Units	Blank Result	Reporting Limit Qualifiers
EDonors Acetic Acid	mg/l	0.89U	0.89 n

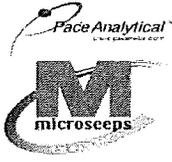
LABORATORY CONTROL SAMPLE: 38684

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors Acetic Acid	mg/l	100	100	105	70-130	n



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**QUALITY CONTROL DATA**

Workorder: 17373 CNA/NRLF / 92275754

QC Batch: DISG/5003 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 173730001, 173730003, 173730005, 173730007

METHOD BLANK: 38695

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.0080U	0.0080	n
Ethane	ug/l	0.0010U	0.0010	n
Ethene	ug/l	0.0030U	0.0030	n

METHOD BLANK: 38696

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Carbon Dioxide	mg/l	0.44U	0.44	n

METHOD BLANK: 38697

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.088U	0.088	n

LABORATORY CONTROL SAMPLE & LCSD: 38698 38701

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	8.2	8.0	8.0	97	97	80-120	0	20	n
Ethane	ug/l	6.5	6.3	6.2	96	96	80-120	0	20	n
Ethene	ug/l	16	16	15	95	94	80-120	1.1	20	n

LABORATORY CONTROL SAMPLE & LCSD: 38699 38702

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Carbon Dioxide	mg/l	97	91	90	93	93	80-120	0	20	n

Report ID: 17373 - 733415

Page 15 of 18



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 Pittsburgh, PA 15238  
 Phone: (412) 826-5245  
 Fax: (412) 826-3433

**QUALITY CONTROL DATA**

Workorder: 17373 CNA/NRLF / 92275754

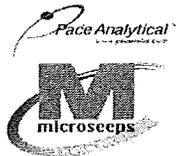
LABORATORY CONTROL SAMPLE & LCSD: 38700 38703

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	25	24	102	101	80-120	0.99	20	n



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## QUALITY CONTROL DATA QUALIFIERS

Workorder: 17373 CNA/NRLF / 92275754

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### QUALITY CONTROL PARAMETER QUALIFIERS

n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

Report ID: 17373 - 733415

Page 17 of 18



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 17373 CNA/NRLF / 92275754

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
173730002	B-23A			AM21G	EDON/2719
173730004	B-23B			AM21G	EDON/2719
173730006	B-22A			AM21G	EDON/2719
173730008	B-22B			AM21G	EDON/2719
173730001	B-23A			AM20GAX	DISG/5003
173730003	B-23B			AM20GAX	DISG/5003
173730005	B-22A			AM20GAX	DISG/5003
173730007	B-22B			AM20GAX	DISG/5003



#### CERTIFICATE OF ANALYSIS

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# Chain of Custody

Workorder: 92275754

Workorder Name: CNA/NRLF

Results Requested 11/19/2015

17373

Microseeps

P.O. RRG 14569

Kevin Godwin  
 Pace Analytical Charlotte  
 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092  
 Email: kevin.godwin@paceclabs.com

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Other	Preserved/containers	Requested Analysis	LAB USE ONLY
1	B-23A	11/10/2015 10:25	92275754001	Water		5	Methoxy, Ethoxy, ETAC	
2	B-23B	11/10/2015 11:15	92275754002	Water		5	Dissolved H <sub>2</sub>	
3	B-22A	11/10/2015 14:20	92275754003	Water		5	Carbon Dioxide	
4	B-22B	11/10/2015 15:05	92275754004	Water		5	Acetic Acid - AM216	
5								
Transfers								
1	Released By	Date/Time	Received By	Date/Time	Received on Ice	Y or N	Samples Intact	Y or N
1	<i>[Signature]</i>	11/16/2015	<i>[Signature]</i>	11.13.15			1450	
2								
3								
Cooler Temperature on Receipt <i>2.0</i> °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N								

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



# Cooler Receipt Form

Client Name: Peace-H Project: 92275754 Lab Work Order: 17373

**A. Shipping/Container Information (circle appropriate response)**

Courier: FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present: Yes No

Tracking Number: 646172979590

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 2.0°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment
Chain of Custody properly filled out	✓			Reference non-Conformance
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC		✓		
Containers intact	✓			
Were samples in separate bags		✓		
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: \_\_\_\_\_

Cooler contents examined/received by: LJ Date: 11.13.15

Project Manager Review: EW Date: 11-17-15

November 25, 2015

Bryon Dahlgren  
AECOM  
10 Patewood Drive, Bldg 6  
Suite 500  
Greenville, SC 29615

RE: Project: CNA/NRLF  
Pace Project No.: 92275972

Dear Bryon Dahlgren:

Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: CNA/NRLF  
Pace Project No.: 92275972

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268  
Illinois Certification #: 200074  
Indiana Certification #: C-49-06  
Kansas Certification #: E-10177  
Kentucky UST Certification #: 0042  
Kentucky WW Certification #: 98019  
Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065  
Oklahoma Certification #: 2014-148  
Texas Certification #: T104704355-15-9  
West Virginia Certification #: 330  
Wisconsin Certification #: 999788130  
USDA Soil Permit #: P330-10-00128

---

### Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

---

### Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
West Virginia Certification #: 356  
Virginia/VELAP Certification #: 460222

---

### Greenwood Certification IDs

816 Durst Avenue East, Greenwood, SC 29649  
South Carolina Laboratory ID #: 24562  
North Carolina Division of Water Resources Certification  
number 25

Florida Certification number E87633  
Virginia VELAP ID: 460250  
Asbestos NVLAP accreditation: 101410-0

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF  
Pace Project No.: 92275972

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92275972001	B-17C	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275972002	B-17B	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275972003	B-01	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
92275972004	B-10	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
92275972005	B-32B	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF

Pace Project No.: 92275972

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
<b>92275972006</b>	<b>B-12</b>	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
<b>92275972007</b>	<b>B-21B</b>	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-17C	Lab ID: 92275972001	Collected: 11/11/15 08:25	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	1.4	mg/L	1.0	1		11/19/15 18:50	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 13:46	92-52-4	M1
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 13:46	101-84-8	M1
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	33	%	21-110	1	11/18/15 13:30	11/19/15 13:46	4165-60-0	
2-Fluorobiphenyl (S)	31	%	27-110	1	11/18/15 13:30	11/19/15 13:46	321-60-8	
Terphenyl-d14 (S)	46	%	31-107	1	11/18/15 13:30	11/19/15 13:46	1718-51-0	
Phenol-d6 (S)	13	%	10-110	1	11/18/15 13:30	11/19/15 13:46	13127-88-3	
2-Fluorophenol (S)	17	%	12-110	1	11/18/15 13:30	11/19/15 13:46	367-12-4	
2,4,6-Tribromophenol (S)	27	%	27-110	1	11/18/15 13:30	11/19/15 13:46	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	1810	ug/L	100	50		11/13/15 15:53	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	101	%	50-150	50		11/13/15 15:53	17060-07-0	
Toluene-d8 (S)	91	%	50-150	50		11/13/15 15:53	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	329	mg/L	5.0	1		11/22/15 13:31		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 23:49		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/12/15 23:49		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	0.34	mg/L	0.050	1		11/12/15 23:05		M1
<b>Total Organic Carbon, Asheville</b>	Analytical Method: EPA 9060A							
Total Organic Carbon	61.2	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Total Organic Carbon	58.4	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Total Organic Carbon	59.1	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Total Organic Carbon	59.8	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Mean Total Organic Carbon	59.6	mg/L	2.0	2		11/16/15 18:07	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-17B	Lab ID: 92275972002	Collected: 11/11/15 09:30	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	2.3	mg/L	1.0	1		11/19/15 20:03	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:00	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:00	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	67	%	21-110	1	11/18/15 13:30	11/19/15 15:00	4165-60-0	
2-Fluorobiphenyl (S)	67	%	27-110	1	11/18/15 13:30	11/19/15 15:00	321-60-8	
Terphenyl-d14 (S)	57	%	31-107	1	11/18/15 13:30	11/19/15 15:00	1718-51-0	
Phenol-d6 (S)	13	%	10-110	1	11/18/15 13:30	11/19/15 15:00	13127-88-3	
2-Fluorophenol (S)	7	%	12-110	1	11/18/15 13:30	11/19/15 15:00	367-12-4	S2
2,4,6-Tribromophenol (S)	12	%	27-110	1	11/18/15 13:30	11/19/15 15:00	118-79-6	S2
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	135	ug/L	10.0	5		11/13/15 16:14	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	100	%	50-150	5		11/13/15 16:14	17060-07-0	
Toluene-d8 (S)	91	%	50-150	5		11/13/15 16:14	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	240	mg/L	5.0	1		11/22/15 13:48		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 23:59		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/12/15 23:59		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	0.16	mg/L	0.050	1		11/12/15 23:05		
<b>Total Organic Carbon, Asheville</b>	Analytical Method: EPA 9060A							
Total Organic Carbon	53.3	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Total Organic Carbon	52.5	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Total Organic Carbon	53.1	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Total Organic Carbon	53.0	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Mean Total Organic Carbon	53.0	mg/L	2.0	2		11/16/15 18:20	7440-44-0	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

<b>Sample: B-01</b>		<b>Lab ID: 92275972003</b>		Collected: 11/11/15 14:05	Received: 11/12/15 06:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 16:18	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>28.5</b>	mg/L	1.0	1		11/19/15 21:17	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:50	92-52-4	
Diphenyl ether (Phenyl ether)	<b>122</b>	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:50	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	162	%	27-110	1	11/18/15 13:30	11/19/15 15:50	321-60-8	S5
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	ND	ug/L	1250	50		11/17/15 19:35	67-64-1	
Benzene	ND	ug/L	250	50		11/17/15 19:35	71-43-2	
Bromochloromethane	ND	ug/L	250	50		11/17/15 19:35	74-97-5	
Bromodichloromethane	ND	ug/L	250	50		11/17/15 19:35	75-27-4	
Bromoform	ND	ug/L	250	50		11/17/15 19:35	75-25-2	
Bromomethane	ND	ug/L	500	50		11/17/15 19:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	500	50		11/17/15 19:35	78-93-3	
Carbon disulfide	ND	ug/L	500	50		11/17/15 19:35	75-15-0	
Carbon tetrachloride	ND	ug/L	250	50		11/17/15 19:35	56-23-5	
Chlorobenzene	ND	ug/L	250	50		11/17/15 19:35	108-90-7	
Chloroethane	ND	ug/L	500	50		11/17/15 19:35	75-00-3	
Chloroform	ND	ug/L	250	50		11/17/15 19:35	67-66-3	
Chloromethane	ND	ug/L	250	50		11/17/15 19:35	74-87-3	
Cyclohexane	ND	ug/L	250	50		11/17/15 19:35	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	100	50		11/17/15 19:35	96-12-8	
Dibromochloromethane	ND	ug/L	250	50		11/17/15 19:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	250	50		11/17/15 19:35	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	106-46-7	
Dichlorodifluoromethane	ND	ug/L	250	50		11/17/15 19:35	75-71-8	
1,1-Dichloroethane	ND	ug/L	250	50		11/17/15 19:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	250	50		11/17/15 19:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	50		11/17/15 19:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	250	50		11/17/15 19:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	250	50		11/17/15 19:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	250	50		11/17/15 19:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	250	50		11/17/15 19:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	250	50		11/17/15 19:35	10061-02-6	
Ethylbenzene	ND	ug/L	250	50		11/17/15 19:35	100-41-4	
2-Hexanone	ND	ug/L	500	50		11/17/15 19:35	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	250	50		11/17/15 19:35	98-82-8	
Methyl acetate	ND	ug/L	500	50		11/17/15 19:35	79-20-9	
Methylcyclohexane	ND	ug/L	500	50		11/17/15 19:35	108-87-2	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-01		Lab ID: 92275972003		Collected: 11/11/15 14:05	Received: 11/12/15 06:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	250	50		11/17/15 19:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500	50		11/17/15 19:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	250	50		11/17/15 19:35	1634-04-4	
Styrene	ND	ug/L	250	50		11/17/15 19:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	250	50		11/17/15 19:35	79-34-5	
Tetrachloroethene	ND	ug/L	250	50		11/17/15 19:35	127-18-4	
Toluene	ND	ug/L	250	50		11/17/15 19:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	250	50		11/17/15 19:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	50		11/17/15 19:35	79-00-5	
Trichloroethene	ND	ug/L	250	50		11/17/15 19:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	500	50		11/17/15 19:35	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	250	50		11/17/15 19:35	76-13-1	
Vinyl chloride	ND	ug/L	250	50		11/17/15 19:35	75-01-4	
Xylene (Total)	ND	ug/L	500	50		11/17/15 19:35	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99	%	70-130	50		11/17/15 19:35	460-00-4	D3
1,2-Dichloroethane-d4 (S)	104	%	70-130	50		11/17/15 19:35	17060-07-0	
Toluene-d8 (S)	102	%	70-130	50		11/17/15 19:35	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>2640</b>	ug/L	100	50		11/13/15 16:34	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	109	%	50-150	50		11/13/15 16:34	17060-07-0	
Toluene-d8 (S)	90	%	50-150	50		11/13/15 16:34	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>1430</b>	mg/L	5.0	1		11/23/15 02:12		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:17		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:17		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.94</b>	mg/L	0.25	5		11/12/15 23:05		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>3620</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Total Organic Carbon	<b>3660</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Total Organic Carbon	<b>3640</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Total Organic Carbon	<b>3290</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Mean Total Organic Carbon	<b>3550</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-10	Lab ID: 92275972004	Collected: 11/11/15 15:50	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 16:28	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 21:41	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	192	ug/L	10.0	1	11/18/15 13:30	11/19/15 16:15	92-52-4	
Diphenyl ether (Phenyl ether)	2110	ug/L	100	10	11/18/15 13:30	11/20/15 11:11	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	79	%	27-110	1	11/18/15 13:30	11/19/15 16:15	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	625	25		11/17/15 19:52	67-64-1	
Benzene	ND	ug/L	125	25		11/17/15 19:52	71-43-2	
Bromochloromethane	ND	ug/L	125	25		11/17/15 19:52	74-97-5	
Bromodichloromethane	ND	ug/L	125	25		11/17/15 19:52	75-27-4	
Bromoform	ND	ug/L	125	25		11/17/15 19:52	75-25-2	
Bromomethane	ND	ug/L	250	25		11/17/15 19:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	250	25		11/17/15 19:52	78-93-3	
Carbon disulfide	ND	ug/L	250	25		11/17/15 19:52	75-15-0	
Carbon tetrachloride	ND	ug/L	125	25		11/17/15 19:52	56-23-5	
Chlorobenzene	ND	ug/L	125	25		11/17/15 19:52	108-90-7	
Chloroethane	ND	ug/L	250	25		11/17/15 19:52	75-00-3	
Chloroform	ND	ug/L	125	25		11/17/15 19:52	67-66-3	
Chloromethane	ND	ug/L	125	25		11/17/15 19:52	74-87-3	
Cyclohexane	ND	ug/L	125	25		11/17/15 19:52	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	50.0	25		11/17/15 19:52	96-12-8	
Dibromochloromethane	ND	ug/L	125	25		11/17/15 19:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	125	25		11/17/15 19:52	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	106-46-7	
Dichlorodifluoromethane	ND	ug/L	125	25		11/17/15 19:52	75-71-8	
1,1-Dichloroethane	ND	ug/L	125	25		11/17/15 19:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	125	25		11/17/15 19:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	125	25		11/17/15 19:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	125	25		11/17/15 19:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	125	25		11/17/15 19:52	156-60-5	
1,2-Dichloropropane	ND	ug/L	125	25		11/17/15 19:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	125	25		11/17/15 19:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	125	25		11/17/15 19:52	10061-02-6	
Ethylbenzene	ND	ug/L	125	25		11/17/15 19:52	100-41-4	
2-Hexanone	ND	ug/L	250	25		11/17/15 19:52	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	125	25		11/17/15 19:52	98-82-8	
Methyl acetate	ND	ug/L	250	25		11/17/15 19:52	79-20-9	
Methylcyclohexane	ND	ug/L	250	25		11/17/15 19:52	108-87-2	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-10	Lab ID: 92275972004	Collected: 11/11/15 15:50	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	125	25		11/17/15 19:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	25		11/17/15 19:52	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	125	25		11/17/15 19:52	1634-04-4	
Styrene	ND	ug/L	125	25		11/17/15 19:52	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	125	25		11/17/15 19:52	79-34-5	
Tetrachloroethene	ND	ug/L	125	25		11/17/15 19:52	127-18-4	
Toluene	ND	ug/L	125	25		11/17/15 19:52	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	125	25		11/17/15 19:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	125	25		11/17/15 19:52	79-00-5	
Trichloroethene	ND	ug/L	125	25		11/17/15 19:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	250	25		11/17/15 19:52	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	125	25		11/17/15 19:52	76-13-1	
Vinyl chloride	ND	ug/L	125	25		11/17/15 19:52	75-01-4	
Xylene (Total)	ND	ug/L	250	25		11/17/15 19:52	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99	%	70-130	25		11/17/15 19:52	460-00-4	D3
1,2-Dichloroethane-d4 (S)	101	%	70-130	25		11/17/15 19:52	17060-07-0	
Toluene-d8 (S)	101	%	70-130	25		11/17/15 19:52	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>404</b>	ug/L	20.0	10		11/13/15 16:54	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	104	%	50-150	10		11/13/15 16:54	17060-07-0	
Toluene-d8 (S)	92	%	50-150	10		11/13/15 16:54	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>694</b>	mg/L	5.0	1		11/22/15 15:35		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:39		
Nitrogen, Nitrite	<b>0.067</b>	mg/L	0.020	1		11/13/15 00:39		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.68</b>	mg/L	0.20	4		11/12/15 23:05		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>31.6</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Total Organic Carbon	<b>29.7</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Total Organic Carbon	<b>30.9</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Total Organic Carbon	<b>30.7</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Mean Total Organic Carbon	<b>30.7</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-32B	Lab ID: 92275972005	Collected: 11/11/15 12:30	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 16:37	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	ND	mg/L	1.0	1		11/19/15 22:05	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 16:40	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 16:40	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	74	%	27-110	1	11/18/15 13:30	11/19/15 16:40	321-60-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>18.3</b>	ug/L	2.0	1		11/13/15 17:14	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		11/13/15 17:14	17060-07-0	
Toluene-d8 (S)	89	%	50-150	1		11/13/15 17:14	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>194</b>	mg/L	5.0	1		11/22/15 16:25		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	<b>0.14</b>	mg/L	0.020	1		11/13/15 00:14		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:14		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	<b>0.13</b>	mg/L	0.050	1		11/12/15 23:05		
<b>Total Organic Carbon,Asheville</b>	Analytical Method: EPA 9060A							
Total Organic Carbon	<b>40.8</b>	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Total Organic Carbon	<b>39.1</b>	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Total Organic Carbon	<b>39.8</b>	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Total Organic Carbon	<b>40.2</b>	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Mean Total Organic Carbon	<b>40.0</b>	mg/L	2.0	2		11/16/15 18:58	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275972

Sample: B-12	Lab ID: 92275972006	Collected: 11/11/15 10:20	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	1.2	mg/L	1.0	1		11/19/15 22:30	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 17:05	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 17:05	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	83	%	27-110	1	11/18/15 13:30	11/19/15 17:05	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	2900	ug/L	100	50		11/13/15 17:34	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	101	%	50-150	50		11/13/15 17:34	17060-07-0	
Toluene-d8 (S)	90	%	50-150	50		11/13/15 17:34	2037-26-5	
<b>2320B Alkalinity</b>								
Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	313	mg/L	5.0	1		11/22/15 16:40		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>								
Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:00		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:00		
<b>SM4500P-E, Phosphate, Ortho</b>								
Analytical Method: SM 4500-P E								
Orthophosphate as P	0.20	mg/L	0.050	1		11/12/15 23:05		

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275972

<b>Sample: B-21B</b>		<b>Lab ID: 92275972007</b>		Collected: 11/11/15 11:20	Received: 11/12/15 06:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>15.1</b>	mg/L	1.0	1		11/19/15 22:54	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>92.0</b>	ug/L	2.0	1		11/13/15 17:54	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	102	%	50-150	1		11/13/15 17:54	17060-07-0	
Toluene-d8 (S)	89	%	50-150	1		11/13/15 17:54	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>282</b>	mg/L	5.0	1		11/22/15 16:56		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:03		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:03		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.25</b>	mg/L	0.050	1		11/12/15 23:05		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275972

QC Batch: GCSV/17520 Analysis Method: EPA 8015 Alcohol-Glycol

QC Batch Method: EPA 8015 Alcohol-Glycol Analysis Description: EPA 8015 Modified

Associated Lab Samples: 92275972003, 92275972004, 92275972005

METHOD BLANK: 1426234

Matrix: Water

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	5.0	11/17/15 12:40	

LABORATORY CONTROL SAMPLE: 1426235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	25	22.4	89	79-129	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: GWD/2674 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions, GWD  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1610278 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	11/19/15 10:41	

LABORATORY CONTROL SAMPLE: 1610279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.0	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610280 1610281

Parameter	Units	92275972001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfate	mg/L	1.4	50	50	49.1	49.3	95	96	90-110	0				

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: MSV/34316 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV  
Associated Lab Samples: 92275972003, 92275972004

METHOD BLANK: 1608047 Matrix: Water  
Associated Lab Samples: 92275972003, 92275972004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/17/15 14:29	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloropropane	ug/L	ND	5.0	11/17/15 14:29	
1,3-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
2-Butanone (MEK)	ug/L	ND	10.0	11/17/15 14:29	
2-Hexanone	ug/L	ND	10.0	11/17/15 14:29	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/17/15 14:29	
Acetone	ug/L	ND	25.0	11/17/15 14:29	
Benzene	ug/L	ND	5.0	11/17/15 14:29	
Bromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromodichloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromoform	ug/L	ND	5.0	11/17/15 14:29	
Bromomethane	ug/L	ND	10.0	11/17/15 14:29	
Carbon disulfide	ug/L	ND	10.0	11/17/15 14:29	
Carbon tetrachloride	ug/L	ND	5.0	11/17/15 14:29	
Chlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
Chloroethane	ug/L	ND	10.0	11/17/15 14:29	
Chloroform	ug/L	ND	5.0	11/17/15 14:29	
Chloromethane	ug/L	ND	5.0	11/17/15 14:29	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
cis-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Cyclohexane	ug/L	ND	5.0	11/17/15 14:29	
Dibromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Dichlorodifluoromethane	ug/L	ND	5.0	11/17/15 14:29	
Ethylbenzene	ug/L	ND	5.0	11/17/15 14:29	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	11/17/15 14:29	
Methyl acetate	ug/L	ND	10.0	11/17/15 14:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/17/15 14:29	
Methylcyclohexane	ug/L	ND	10.0	11/17/15 14:29	
Methylene Chloride	ug/L	ND	5.0	11/17/15 14:29	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

METHOD BLANK: 1608047 Matrix: Water

Associated Lab Samples: 92275972003, 92275972004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	11/17/15 14:29	
Tetrachloroethene	ug/L	ND	5.0	11/17/15 14:29	
Toluene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Trichloroethene	ug/L	ND	5.0	11/17/15 14:29	
Trichlorofluoromethane	ug/L	ND	10.0	11/17/15 14:29	
Vinyl chloride	ug/L	ND	5.0	11/17/15 14:29	
Xylene (Total)	ug/L	ND	10.0	11/17/15 14:29	
1,2-Dichloroethane-d4 (S)	%	99	70-130	11/17/15 14:29	
4-Bromofluorobenzene (S)	%	100	70-130	11/17/15 14:29	
Toluene-d8 (S)	%	102	70-130	11/17/15 14:29	

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	44.9	90	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	94	79-124	
1,1,2-Trichloroethane	ug/L	50	44.4	89	85-125	
1,1,2-Trichlorotrifluoroethane	ug/L	50	47.9	96	71-142	
1,1-Dichloroethane	ug/L	50	43.1	86	73-126	
1,1-Dichloroethene	ug/L	50	48.5	97	66-135	
1,2,3-Trichlorobenzene	ug/L	50	49.7	99	73-135	
1,2,4-Trichlorobenzene	ug/L	50	48.1	96	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.0	106	83-124	
1,2-Dichlorobenzene	ug/L	50	50.4	101	80-133	
1,2-Dichloroethane	ug/L	50	47.4	95	67-128	
1,2-Dichloropropane	ug/L	50	46.2	92	75-132	
1,3-Dichlorobenzene	ug/L	50	50.4	101	77-130	
1,4-Dichlorobenzene	ug/L	50	49.4	99	78-130	
2-Butanone (MEK)	ug/L	100	98.2	98	61-144	
2-Hexanone	ug/L	100	98.2	98	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.9	91	72-135	
Acetone	ug/L	100	89.8	90	48-146	
Benzene	ug/L	50	48.1	96	80-125	
Bromochloromethane	ug/L	50	57.1	114	71-125	
Bromodichloromethane	ug/L	50	44.5	89	78-124	
Bromoform	ug/L	50	47.1	94	71-128	
Bromomethane	ug/L	50	53.9	108	40-160	
Carbon disulfide	ug/L	50	47.6	95	50-160	
Carbon tetrachloride	ug/L	50	46.8	94	69-131	
Chlorobenzene	ug/L	50	47.8	96	81-122	
Chloroethane	ug/L	50	50.5	101	39-148	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	50.1	100	73-127	
Chloromethane	ug/L	50	49.0	98	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.4	101	74-124	
cis-1,3-Dichloropropene	ug/L	50	48.0	96	72-132	
Cyclohexane	ug/L	50	47.5	95	62-145	
Dibromochloromethane	ug/L	50	51.5	103	78-125	
Dichlorodifluoromethane	ug/L	50	51.3	103	34-157	
Ethylbenzene	ug/L	50	48.0	96	79-121	
Isopropylbenzene (Cumene)	ug/L	50	53.0	106	81-132	
Methyl acetate	ug/L	50	59.1	118	58-128	
Methyl-tert-butyl ether	ug/L	50	50.6	101	74-131	
Methylcyclohexane	ug/L	50	47.5	95	65-144	
Methylene Chloride	ug/L	50	50.1	100	64-133	
Styrene	ug/L	50	49.9	100	84-126	
Tetrachloroethene	ug/L	50	49.8	100	78-122	
Toluene	ug/L	50	42.0	84	80-121	
trans-1,2-Dichloroethene	ug/L	50	46.7	93	71-127	
trans-1,3-Dichloropropene	ug/L	50	46.9	94	69-141	
Trichloroethene	ug/L	50	45.9	92	78-122	
Trichlorofluoromethane	ug/L	50	47.5	95	53-137	
Vinyl chloride	ug/L	50	50.1	100	58-137	
Xylene (Total)	ug/L	150	146	97	81-126	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			93	70-130	

MATRIX SPIKE SAMPLE: 1608049

Parameter	Units	92275933004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	18.1	90	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	16.7	84	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	17.7	89	70-130	
1,1-Dichloroethane	ug/L	ND	20	17.2	86	70-130	
1,1-Dichloroethene	ug/L	ND	20	18.6	93	65-160	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.2	96	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.8	94	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.9	99	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.2	106	60-139	
1,2-Dichlorobenzene	ug/L	ND	20	21.1	106	70-130	
1,2-Dichloroethane	ug/L	ND	20	16.4	82	70-130	
1,2-Dichloropropane	ug/L	ND	20	18.1	91	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.4	107	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	20.9	104	70-130	
2-Butanone (MEK)	ug/L	ND	40	35.0	88	70-130	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

MATRIX SPIKE SAMPLE: 1608049		92275933004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Hexanone	ug/L	ND	40	40.6	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	34.6	87	70-130	
Acetone	ug/L	19.1J	40	37.4	46	70-130	M1
Benzene	ug/L	3.8J	20	22.9	96	58-162	
Bromochloromethane	ug/L	ND	20	18.6	93	70-130	
Bromodichloromethane	ug/L	ND	20	17.9	89	70-130	
Bromoform	ug/L	ND	20	16.3	81	70-130	
Bromomethane	ug/L	ND	20	12.3	61	70-130	M1
Carbon disulfide	ug/L	ND	20	17.2	86	70-130	
Carbon tetrachloride	ug/L	ND	20	19.2	96	70-130	
Chlorobenzene	ug/L	ND	20	21.5	107	70-138	
Chloroethane	ug/L	ND	20	16.2	81	70-130	
Chloroform	ug/L	ND	20	18.3	92	70-130	
Chloromethane	ug/L	ND	20	18.2	91	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	17.9	89	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.3	86	70-130	
Cyclohexane	ug/L	2.4J	20	19.6	86	70-130	
Dibromochloromethane	ug/L	ND	20	19.6	98	70-130	
Dichlorodifluoromethane	ug/L	ND	20	17.5	88	70-130	
Ethylbenzene	ug/L	ND	20	20.9	100	22-189	
Isopropylbenzene (Cumene)	ug/L	6.8	20	27.8	105	70-130	
Methyl acetate	ug/L	ND	20	16.1	81	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.1	86	37-169	
Methylcyclohexane	ug/L	ND	20	18.4	83	70-130	
Methylene Chloride	ug/L	ND	20	15.6	78	70-130	
Styrene	ug/L	ND	20	20.7	104	70-130	
Tetrachloroethene	ug/L	ND	20	21.4	107	70-130	
Toluene	ug/L	ND	20	17.0	85	65-152	
trans-1,2-Dichloroethene	ug/L	ND	20	17.7	89	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	16.8	84	70-130	
Trichloroethene	ug/L	ND	20	17.6	88	70-142	
Trichlorofluoromethane	ug/L	ND	20	18.5	92	70-130	
Vinyl chloride	ug/L	ND	20	18.4	92	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				94	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichlorobenzene	ug/L	ND	ND		
1,2,4-Trichlorobenzene	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,3-Dichlorobenzene	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	22.5J	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	ND	ND		
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Cyclohexane	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dichlorodifluoromethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Isopropylbenzene (Cumene)	ug/L	ND	ND		
Methyl acetate	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Methylcyclohexane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	99	99		1
4-Bromofluorobenzene (S)	%	97	99		2

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275972

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SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	103	103	1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: MSV/34275 Analysis Method: EPA 8260B Mod.  
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1606378 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/13/15 15:33	
1,2-Dichloroethane-d4 (S)	%	100	50-150	11/13/15 15:33	
Toluene-d8 (S)	%	91	50-150	11/13/15 15:33	

LABORATORY CONTROL SAMPLE: 1606379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	22.3	111	71-125	
1,2-Dichloroethane-d4 (S)	%			100	50-150	
Toluene-d8 (S)	%			92	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1606380 1606381

Parameter	Units	92276008003		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	20.1	21.3	101	106	50-150	6				
1,2-Dichloroethane-d4 (S)	%						102	102	50-150					
Toluene-d8 (S)	%						89	88	50-150					

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: OEXT/39138 Analysis Method: EPA 8270  
QC Batch Method: EPA 3510 Analysis Description: 8270 Water MSSV HVI  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006

METHOD BLANK: 1609395 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	11/19/15 11:17	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	11/19/15 11:17	
2,4,6-Tribromophenol (S)	%	57	27-110	11/19/15 11:17	
2-Fluorobiphenyl (S)	%	78	27-110	11/19/15 11:17	
2-Fluorophenol (S)	%	42	12-110	11/19/15 11:17	
Nitrobenzene-d5 (S)	%	77	21-110	11/19/15 11:17	
Phenol-d6 (S)	%	35	10-110	11/19/15 11:17	
Terphenyl-d14 (S)	%	69	31-107	11/19/15 11:17	

LABORATORY CONTROL SAMPLE: 1609396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	50	30.1	60	38-120	
Diphenyl ether (Phenyl ether)	ug/L	50	27.0	54	51-120	
2,4,6-Tribromophenol (S)	%			69	27-110	
2-Fluorobiphenyl (S)	%			63	27-110	
2-Fluorophenol (S)	%			41	12-110	
Nitrobenzene-d5 (S)	%			66	21-110	
Phenol-d6 (S)	%			31	10-110	
Terphenyl-d14 (S)	%			64	31-107	

MATRIX SPIKE SAMPLE: 1609397

Parameter	Units	92275972001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	50	15.2	30	50-150	M1
Diphenyl ether (Phenyl ether)	ug/L	ND	50	13.3	27	50-150	M1
2,4,6-Tribromophenol (S)	%				62	27-110	
2-Fluorobiphenyl (S)	%				31	27-110	
2-Fluorophenol (S)	%				19	12-110	
Nitrobenzene-d5 (S)	%				33	21-110	
Phenol-d6 (S)	%				12	10-110	
Terphenyl-d14 (S)	%				55	31-107	

SAMPLE DUPLICATE: 1609398

Parameter	Units	92275972002 Result	Dup Result	RPD	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	ND		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275972

SAMPLE DUPLICATE: 1609398

Parameter	Units	92275972002 Result	Dup Result	RPD	Qualifiers
Diphenyl ether (Phenyl ether)	ug/L	ND	6J		
2,4,6-Tribromophenol (S)	%	12	13	6	S0
2-Fluorobiphenyl (S)	%	67	58	15	
2-Fluorophenol (S)	%	7	11	48	S0
Nitrobenzene-d5 (S)	%	67	60	10	
Phenol-d6 (S)	%	13	20	42	
Terphenyl-d14 (S)	%	57	53	9	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WET/41532 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1612032 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	5.0	11/22/15 12:14	

LABORATORY CONTROL SAMPLE: 1612033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	50	48.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612034 1612035

Parameter	Units	92276163001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	206	50	50	251	245	89	79	90-110	2	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612036 1612037

Parameter	Units	92276011002		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	50	50	49.2	47.8	98	96	90-110	3		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25376 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1605650 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	11/12/15 23:38	
Nitrogen, Nitrite	mg/L	ND	0.020	11/12/15 23:38	

LABORATORY CONTROL SAMPLE: 1605651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605652 1605653

Parameter	Units	92275827002		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	0.95	2.5	2.5	3.4	3.3	97	96	90-110	90-110	1				
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	106	106	90-110	90-110	0				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605654 1605655

Parameter	Units	92275962003		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	8.5	2.5	2.5	10.8	11.1	93	107	90-110	90-110	3				
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	101	102	90-110	90-110	0				

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25377 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 92275972004

METHOD BLANK: 1605656 Matrix: Water  
Associated Lab Samples: 92275972004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	11/13/15 00:24	
Nitrogen, Nitrite	mg/L	ND	0.020	11/13/15 00:24	

LABORATORY CONTROL SAMPLE: 1605657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	101	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605658 1605659

Parameter	Units	92276004003		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	0.030	2.5	2.5	2.4	2.4	96	96	90-110	90-110	0				
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	0.99	100	99	90-110	90-110	1				

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25381 Analysis Method: SM 4500-P E  
QC Batch Method: SM 4500-P E Analysis Description: SM4500P-E Phosphorus, Ortho  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1605684 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	11/12/15 23:05	

LABORATORY CONTROL SAMPLE: 1605685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.25	0.26	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605686 1605687

Parameter	Units	92275972001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Orthophosphate as P	mg/L	0.34	.5	.5	.5	0.49	0.49	29	29	90-110	0	M1		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25407 Analysis Method: EPA 9060A  
QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005

METHOD BLANK: 1607246 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	

LABORATORY CONTROL SAMPLE: 1607247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.9	96	75-125	
Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607248 1607249

Parameter	92275754001		MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.							
Mean Total Organic Carbon	mg/L	2750	25	25	2730	2750	-76	0	75-125	1	M6
Total Organic Carbon	mg/L	2690	25	25	2750	2840	236	596	75-125	3	M6
Total Organic Carbon	mg/L	2770	25	25	2720	2800	-196	96	75-125	3	M6
Total Organic Carbon	mg/L	2750	25	25	2720	2820	-116	280	75-125	4	M6
Total Organic Carbon	mg/L	2780	25	25	2720	2540	-220	-964	75-125	7	M6

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: CNA/NRLF  
Pace Project No.: 92275972

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-A Pace Analytical Services - Asheville  
PASI-C Pace Analytical Services - Charlotte  
PASI-G Pace Analytical Services - Greenwood  
PASI-I Pace Analytical Services - Indianapolis  
PASI-W Pace Analytical Services - Greenwood

### ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.  
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.  
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.  
S0 Surrogate recovery outside laboratory control limits.  
S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).  
S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF  
Pace Project No.: 92275972

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275972003	B-01	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275972004	B-10	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275972005	B-32B	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275972001	B-17C	EPA 9056A	GWD/2674		
92275972002	B-17B	EPA 9056A	GWD/2674		
92275972003	B-01	EPA 9056A	GWD/2674		
92275972004	B-10	EPA 9056A	GWD/2674		
92275972005	B-32B	EPA 9056A	GWD/2674		
92275972006	B-12	EPA 9056A	GWD/2674		
92275972007	B-21B	EPA 9056A	GWD/2674		
92275972001	B-17C	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972002	B-17B	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972003	B-01	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972004	B-10	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972005	B-32B	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972006	B-12	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972003	B-01	EPA 8260	MSV/34316		
92275972004	B-10	EPA 8260	MSV/34316		
92275972001	B-17C	EPA 8260B Mod.	MSV/34275		
92275972002	B-17B	EPA 8260B Mod.	MSV/34275		
92275972003	B-01	EPA 8260B Mod.	MSV/34275		
92275972004	B-10	EPA 8260B Mod.	MSV/34275		
92275972005	B-32B	EPA 8260B Mod.	MSV/34275		
92275972006	B-12	EPA 8260B Mod.	MSV/34275		
92275972007	B-21B	EPA 8260B Mod.	MSV/34275		
92275972001	B-17C	SM 2320B	WET/41532		
92275972002	B-17B	SM 2320B	WET/41532		
92275972003	B-01	SM 2320B	WET/41532		
92275972004	B-10	SM 2320B	WET/41532		
92275972005	B-32B	SM 2320B	WET/41532		
92275972006	B-12	SM 2320B	WET/41532		
92275972007	B-21B	SM 2320B	WET/41532		
92275972001	B-17C	EPA 353.2	WETA/25376		
92275972002	B-17B	EPA 353.2	WETA/25376		
92275972003	B-01	EPA 353.2	WETA/25376		
92275972004	B-10	EPA 353.2	WETA/25377		
92275972005	B-32B	EPA 353.2	WETA/25376		
92275972006	B-12	EPA 353.2	WETA/25376		
92275972007	B-21B	EPA 353.2	WETA/25376		
92275972001	B-17C	SM 4500-P E	WETA/25381		
92275972002	B-17B	SM 4500-P E	WETA/25381		
92275972003	B-01	SM 4500-P E	WETA/25381		
92275972004	B-10	SM 4500-P E	WETA/25381		
92275972005	B-32B	SM 4500-P E	WETA/25381		

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF

Pace Project No.: 92275972

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275972006	B-12	SM 4500-P E	WETA/25381		
92275972007	B-21B	SM 4500-P E	WETA/25381		
92275972001	B-17C	EPA 9060A	WETA/25407		
92275972002	B-17B	EPA 9060A	WETA/25407		
92275972003	B-01	EPA 9060A	WETA/25407		
92275972004	B-10	EPA 9060A	WETA/25407		
92275972005	B-32B	EPA 9060A	WETA/25407		

### REPORT OF LABORATORY ANALYSIS

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Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: May 10, 2010

Page 1 of 2\*

Document Number:  
**F-CHR-CS-003-rev.16**

Issuing Authority:  
Pace Huntersville Quality Office

Client Name: Acrom

\* Page 2 of 2 is for Internal Use Only

Courier:  Fed Ex  UP  USP  Clier  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T1402 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T1402 No Correction

Corrected Cooler Temp.: 3.8 °C

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: mm 11/12

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <i>Did not receive Alk, say, other phos. nitrate for sample B32B</i>
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <i>Received Alk, say orthophos, nitrate with no id/time/date on bottles</i>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	_____	

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review:

*[Signature]*

Date: 11/12/15

SRF Review:

*[Signature]*

Date: 11/13/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92275972



92275972





Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

November 23, 2015

Kevin Godwin  
Pace Analytical Services, Inc.  
9800 Kincey Avenue  
Suite 100  
Huntersville, NC 28078

RE: **CNA/NRLF / 92275972**

*Pace Workorder: 17406*

Dear Kevin Godwin:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, November 17, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 11/23/2015  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 21

Report ID: 17406 - 734866

Page 1 of 19



**CERTIFICATE OF ANALYSIS**

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### LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water and Solid & Hazardous Waste
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water; Solid and Chemical Materials
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water; Solid and Hazardous Waste
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 17406 CNA/NRLF / 92275972

Lab ID	Sample ID	Matrix	Date Collected	Date Received
174060001	B-17C	Bubble Strip	11/11/2015 08:25	11/17/2015 12:00
174060002	B-17C	Water	11/11/2015 08:25	11/17/2015 12:00
174060003	B-17B	Bubble Strip	11/11/2015 09:30	11/17/2015 12:00
174060004	B-17B	Water	11/11/2015 09:30	11/17/2015 12:00
174060005	B-01	Bubble Strip	11/11/2015 14:05	11/17/2015 12:00
174060006	B-01	Water	11/11/2015 14:05	11/17/2015 12:00
174060007	B-10	Bubble Strip	11/11/2015 15:50	11/17/2015 12:00
174060008	B-10	Water	11/11/2015 15:50	11/17/2015 12:00
174060009	B-32B	Bubble Strip	11/11/2015 12:30	11/17/2015 12:00
174060010	B-32B	Water	11/11/2015 12:30	11/17/2015 12:00



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060001** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-17C** Date Collected: 11/11/2015 08:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	59	ug/l	0.050	0.0080	1	11/21/2015 06:23	TD	n
Ethane	0.24	ug/l	0.010	0.0010	1	11/21/2015 06:23	TD	n
Ethene	0.0050J	ug/l	0.010	0.0030	1	11/21/2015 06:23	TD	n
Carbon Dioxide	140	mg/l	2.0	0.44	1	11/21/2015 06:23	TD	n
Hydrogen	1.6	nM	0.60	0.088	1	11/21/2015 06:23	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060002** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-17C** Date Collected: 11/11/2015 08:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>1.3J</b>	mg/l	5.0	0.89	1	11/18/2015 10:19	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 10:19	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 10:19	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 10:19	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 10:19	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060003** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-17B** Date Collected: 11/11/2015 09:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis-Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	21	ug/l	0.050	0.0080	1	11/21/2015 06:35	TD	n
Ethane	0.14	ug/l	0.010	0.0010	1	11/21/2015 06:35	TD	n
Ethene	0.0073J	ug/l	0.010	0.0030	1	11/21/2015 06:35	TD	n
Carbon Dioxide	140	mg/l	2.0	0.44	1	11/21/2015 06:35	TD	n
Hydrogen	1.4	nM	0.60	0.088	1	11/21/2015 06:35	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060004** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-17B** Date Collected: 11/11/2015 09:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>0.89U</b>	mg/l	5.0	0.89	1	11/18/2015 10:42	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 10:42	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 10:42	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 10:42	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 10:42	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060005** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-01** Date Collected: 11/11/2015 14:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	<b>2300</b>	ug/l	0.050	0.0080	1	11/21/2015 06:48	TD	n
Ethane	<b>0.0037J</b>	ug/l	0.010	0.0010	1	11/21/2015 06:48	TD	n
Ethene	<b>0.14</b>	ug/l	0.010	0.0030	1	11/21/2015 06:48	TD	n
Carbon Dioxide	<b>140</b>	mg/l	2.0	0.44	1	11/21/2015 06:48	TD	n
Hydrogen	<b>8.7</b>	nM	0.60	0.088	1	11/21/2015 06:48	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060006**  
 Sample ID: **B-01**

Date Received: 11/17/2015 12:00 Matrix: Water  
 Date Collected: 11/11/2015 14:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>5500</b>	mg/l	100	18	20	11/18/2015 13:00	BW	d,n
Propionic Acid	<b>27</b>	mg/l	5.0	0.73	1	11/18/2015 11:05	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 11:05	BW	n
Butyric Acid	<b>1000</b>	mg/l	100	28	20	11/18/2015 13:00	BW	d,n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 11:05	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

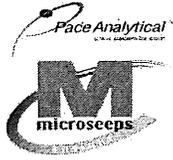
Lab ID: **174060007** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-10** Date Collected: 11/11/2015 15:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	<b>8900</b>	ug/l	0.10	0.016	2	11/21/2015 07:04	TD	d,n
Ethane	<b>0.0062J</b>	ug/l	0.020	0.0020	2	11/21/2015 07:04	TD	d,n
Ethene	<b>0.21</b>	ug/l	0.020	0.0060	2	11/21/2015 07:04	TD	d,n
Carbon Dioxide	<b>420</b>	mg/l	4.0	0.89	2	11/21/2015 07:04	TD	d,n
Hydrogen	<b>1.8</b>	nM	1.2	0.18	2	11/21/2015 07:04	TD	d,n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060008** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-10** Date Collected: 11/11/2015 15:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>11</b>	mg/l	5.0	0.89	1	11/18/2015 15:17	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 15:17	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 15:17	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 15:17	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 15:17	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060009** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-32B** Date Collected: 11/11/2015 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	220	ug/l	0.050	0.0080	1	11/21/2015 07:17	TD	n
Ethane	0.0052J	ug/l	0.010	0.0010	1	11/21/2015 07:17	TD	n
Ethene	0.0058J	ug/l	0.010	0.0030	1	11/21/2015 07:17	TD	n
Carbon Dioxide	41	mg/l	2.0	0.44	1	11/21/2015 07:17	TD	n
Hydrogen	1.8	nM	0.60	0.088	1	11/21/2015 07:17	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNAVRLF / 92275972

Lab ID: **174060010** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-32B** Date Collected: 11/11/2015 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>0.89U</b>	mg/l	5.0	0.89	1	11/18/2015 12:14	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 12:14	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 12:14	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 12:14	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 12:14	BW	n



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 17406 CNA/NRLF / 92275972

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### DEFINITIONS/QUALIFIERS

- Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.
- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
- n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
- d The analyte concentration was determined from a dilution.



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**QUALITY CONTROL DATA**

Workorder: 17406 CNA/NRLF / 92275972

QC Batch: EDON/2721 Analysis Method: AM21G  
 QC Batch Method: AM21G  
 Associated Lab Samples: 174060002, 174060004, 174060006, 174060008, 174060010

METHOD BLANK: 38707

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Acetic Acid	mg/l	0.89U	0.89	n
Propionic Acid	mg/l	0.73U	0.73	n
Pyruvic Acid	mg/l	0.41U	0.41	n
Butyric Acid	mg/l	1.4U	1.4	n
Lactic Acid	mg/l	2.4U	2.4	n

LABORATORY CONTROL SAMPLE: 38708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Acetic Acid	mg/l	100	100	105	70-130	n
Propionic Acid	mg/l	100	100	106	70-130	n
Pyruvic Acid	mg/l	100	100	104	70-130	n
Butyric Acid	mg/l	100	100	106	70-130	n
Lactic Acid	mg/l	100	91	91	70-130	n

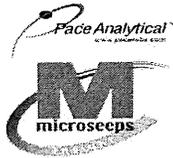
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38710 38711 Original: 174060002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Qualifiers
EDonors										
Acetic Acid	mg/l	1.3	100	110	110	108	108	70-130	0 20	n
Propionic Acid	mg/l	0.2	100	110	100	107	104	70-130	2.8 20	n
Pyruvic Acid	mg/l	0.17	100	110	110	109	108	70-130	0.92 20	n
Butyric Acid	mg/l	0.4	100	110	100	107	105	70-130	1.9 20	n
Lactic Acid	mg/l	0	100	97	90	97	90	70-130	7.5 20	n



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**QUALITY CONTROL DATA**

Workorder: 17406 CNA/NRLF / 92275972

QC Batch: DISG/5012 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 174060001, 174060003, 174060005, 174060007, 174060009

METHOD BLANK: 38812

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Methane	ug/l	0.0080U	0.0080 n
Ethane	ug/l	0.0010U	0.0010 n
Ethene	ug/l	0.0030U	0.0030 n

METHOD BLANK: 38813

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Carbon Dioxide	mg/l	0.44U	0.44 n

METHOD BLANK: 38814

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Hydrogen	nM	0.088U	0.088 n

LABORATORY CONTROL SAMPLE & LCSD: 38815 38818

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	8.2	8.0	7.8	98	95	80-120	3.1	20	n
Ethane	ug/l	6.5	6.2	6.1	96	95	80-120	1	20	n
Ethene	ug/l	16	16	15	94	93	80-120	1.1	20	n

LABORATORY CONTROL SAMPLE & LCSD: 38816 38819

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Carbon Dioxide	mg/l	97	90	88	93	91	80-120	2.2	20	n

Report ID: 17406 - 734866



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### QUALITY CONTROL DATA

Workorder: 17406 CNA/NRLF / 92275972

LABORATORY CONTROL SAMPLE & LCSD: 38817 38820

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	23	22	94	92	80-120	2.2	20	n



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### QUALITY CONTROL DATA QUALIFIERS

Workorder: 17406 CNA/NRLF / 92275972

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### QUALITY CONTROL PARAMETER QUALIFIERS

n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 17406 CNA/NRLF / 92275972

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
174060002	B-17C			AM21G	EDON/2721
174060004	B-17B			AM21G	EDON/2721
174060006	B-01			AM21G	EDON/2721
174060008	B-10			AM21G	EDON/2721
174060010	B-32B			AM21G	EDON/2721
174060001	B-17C			AM20GAX	DISG/5012
174060003	B-17B			AM20GAX	DISG/5012
174060005	B-01			AM20GAX	DISG/5012
174060007	B-10			AM20GAX	DISG/5012
174060009	B-32B			AM20GAX	DISG/5012



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# Chain of Custody

17406



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Workorder: 92275972      Workorder Name: CNANRLE      Results Requested 11/23/2015

Report / Invoice To: Subcontract To: Requested Analysis

Kevin Godwin  
 Pace Analytical Charlotte  
 9800 Kincey Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092  
 Email: kevin.godwin@pacelabs.com

P.O. #LL614565

M. C. ROSEPPS

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Methane, Ethane, Propane	Dissolved Hydrogen	VFA (Acetic Acid only)	Carbon Dioxide	LAB USE ONLY
					Unpreserved	Preserved					
1	B-17C	11/11/2015 08:25	92275972001	Water	S		X	X	X		
2	B-17B	11/11/2015 09:30	92275972002	Water	S		X	X	X		
3	B-01	11/11/2015 14:05	92275972003	Water	S		X	X	X		
4	B-10	11/11/2015 15:50	92275972004	Water	S		X	X	X		
5	B-32B	11/11/2015 12:30	92275972005	Water	S		X	X	X		
Comments											
Transfers		Released By	Date/Time	Received By	Date/Time	Received on Ice		Samples Intact			
1		V. Godwin	11/16/15 12:00	NORM	11/17/15	Y		Y			
2											
3											
Cooler Temperature on Receipt 1 °C											

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

## Cooler Receipt Form

Client Name: Pace Project: 92275972 Lab Work Order: 17406

**A. Shipping/Container Information (circle appropriate response)**

Courier:  FedEx  UPS  USPS  Client Other: \_\_\_\_\_ Air bill Present:  Yes  No

Tracking Number: 646172980252

Custody Seal on Cooler/Box Present: Yes  No  Seals Intact: Yes  No

Cooler/Box Packing Material: Bubble Wrap  Absorbent Foam  Other: \_\_\_\_\_

Type of Ice:  Wet  Blue  None Ice Intact:  Yes  Melted

Cooler Temperature: 10C Radiation Screened: Yes  No  Chain of Custody Present:  Yes  No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	<input checked="" type="checkbox"/>			
Chain of Custody relinquished	<input checked="" type="checkbox"/>			
Sampler Name & Signature on COC			<input checked="" type="checkbox"/>	
Containers intact	<input checked="" type="checkbox"/>			
Were samples in separate bags	<input checked="" type="checkbox"/>			
Sample container labels match COC	<input checked="" type="checkbox"/>			
Sample name/date and time collected	<input checked="" type="checkbox"/>			
Sufficient volume provided	<input checked="" type="checkbox"/>			
PAES containers used	<input checked="" type="checkbox"/>			
Are containers properly preserved for the requested testing? (as labeled)	<input checked="" type="checkbox"/>			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			<input checked="" type="checkbox"/>	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			<input checked="" type="checkbox"/>	

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 11.17.15

Project Manager Review: RW Date: 11-18-15

## **Appendix B**

### **Completed Inspection Forms for Landfill Cap and Phytoremediation System**

<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>5/29/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	5/1/2015	5/8/2015	5/15/2015	5/22,29/2015
Reading	0	0	0	.2/9

Tree Farm Inspection																					
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																				
	Area of Declining Health (if any): <u>None observed</u>																				
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Tree Identification:</th> <th style="width:15%;">R2T3</th> <th style="width:15%;">R6T4</th> <th style="width:15%;">R9T1</th> <th style="width:15%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>30.5</td> <td>45.25</td> <td>22.75</td> <td>6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>full canopy</td> <td>full canopy</td> <td>full canopy</td> <td>full canopy</td> </tr> </tbody> </table>	Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.5	45.25	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	full canopy	full canopy	full canopy	full canopy
Tree Identification:	R2T3	R6T4	R9T1	R13T8																	
Trunk Size (inches circ.)	30.5	45.25	22.75	6.25																	
Approx Tree Height	30'+	30'+	20'+	15'																	
Foliage Condition	full canopy	full canopy	full canopy	full canopy																	
Other Observations:	<u>Willows from last planting are thriving</u>																				
<small>(attach additional pages if needed)</small>																					

Tree Farm Maintenance	
<i>Notes: (Please provide the chemical brand name when applicable)</i>	
Grass Seeding:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Grass Mowing:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Fertilize the Tree:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Site Irrigation:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Apply Herbicide:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Prune:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Fence Condition:	Intact <input checked="" type="checkbox"/> Damaged <input type="checkbox"/> Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Photos Taken:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Growth Audit by Others:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>6/26/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	6/5/2015	6/12/2015	6/19/2015	6/26/2015
Reading	1.2	0.8	0	0.9

Tree Farm Inspection																					
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																				
	Area of Declining Health (if any): <u>None observed</u>																				
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Tree Identification:</th> <th style="width:12.5%;">R2T3</th> <th style="width:12.5%;">R6T4</th> <th style="width:12.5%;">R9T1</th> <th style="width:12.5%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>30.75</td> <td>45.5</td> <td>22.75</td> <td>6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>full canopy</td> <td>full canopy</td> <td>full canopy</td> <td>full canopy</td> </tr> </tbody> </table>	Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.75	45.5	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	full canopy	full canopy	full canopy	full canopy
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Approx Tree Height	30'+	30'+	20'+	15'																	
Foliage Condition	full canopy	full canopy	full canopy	full canopy																	
Other Observations:	<u></u>																				
<small>(attach additional pages if needed)</small>																					

Tree Farm Maintenance		Notes: (Please provide the chemical brand name when applicable)	
Grass Seeding:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Grass Mowing:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Fertilize the Tree:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Site Irrigation:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Apply Herbicide:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Tree Prune:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Fence Condition:	Intact <input checked="" type="checkbox"/> Damaged <input type="checkbox"/> Repaired <input type="checkbox"/>		
Evidence of Grazing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Photos Taken:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Tree Growth Audit by Others:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		



<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>7/31/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry	<input checked="" type="checkbox"/>	Wet <input type="checkbox"/> Weather: <u>clear</u>
Water Flow From Culvert:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>

Rain Gauge Readings (unit in inches)				
Date	7/3/2015	7/10/2015	7/17/2015	7/24,31/2015
Reading	0	0.8	0.5	0.8,0

Tree Farm Inspection																								
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																							
	Area of Declining Health (if any): <u>None observed</u>																							
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Approx Tree Height	30'+	30'+	20'+	15'																				
Foliage Condition	full canopy	full canopy	full canopy	full canopy																				
Other Observations:	<p>(attach additional pages if needed)</p> <hr/> <hr/>																							

Tree Farm Maintenance				
Notes: (Please provide the chemical brand name when applicable)				
Grass Seeding:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Grass Mowing:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Fertilize the Tree:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Site Irrigation:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Apply Herbicide:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Tree Prune:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Fence Condition:	Intact	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/> Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Photos Taken:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Tree Growth Audit by Others:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u></u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u></u>

<b>Landfill Cap Inspection</b>	
Landfill Cap Observation:	<u>good condition</u>
Landfill Cap Maintenance Activities:	<u>seasonal mowing</u>

<b>Other Activities</b>

Form Reviewed By: \_\_\_\_\_  
 Date: \_\_\_\_\_

<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>8/28/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	8/7/2015	8/14/2015	8/21/2015	8/28/2015
Reading	0.1	0	1	1.4

Tree Farm Inspection																								
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																							
	Area of Declining Health (if any): <u>None observed</u>																							
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Approx Tree Height	30'+	30'+	20'+	15'																				
Foliage Condition	full canopy	full canopy	full canopy	full canopy																				
Other Observations:	<p>(attach additional pages if needed)</p> <hr/>																							

Tree Farm Maintenance				
<i>Notes: (Please provide the chemical brand name when applicable)</i>				
Grass Seeding:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Grass Mowing:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Fertilize the Tree:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Site Irrigation:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Apply Herbicide:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tree Prune:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Fence Condition:	Intact <input checked="" type="checkbox"/>	Damaged <input type="checkbox"/>	Repaired <input type="checkbox"/>	
Evidence of Grazing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Photos Taken:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tree Growth Audit by Others:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		



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<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>9/25/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	9/4/2015	9/11/2015	9/18/2015	9/25/2015
Reading	0	0.2	0	1.5

Tree Farm Inspection																								
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																							
	Area of Declining Health (if any): <u>None observed</u>																							
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Tree Identification:</th> <th style="width:12.5%;">R2T3</th> <th style="width:12.5%;">R6T4</th> <th style="width:12.5%;">R9T1</th> <th style="width:12.5%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>30.75</td> <td>46.25</td> <td>22.75</td> <td>6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>full canopy</td> <td>full canopy</td> <td>full canopy</td> <td>full canopy</td> </tr> </tbody> </table>				Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.75	46.25	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	full canopy	full canopy	full canopy	full canopy
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Approx Tree Height	30'+	30'+	20'+	15'																				
Foliage Condition	full canopy	full canopy	full canopy	full canopy																				
Other Observations:	<u>Leaves turning to Fall color</u>																							
<small>(attach additional pages if needed)</small>																								

Tree Farm Maintenance				
<i>Notes: (Please provide the chemical brand name when applicable)</i>				
Grass Seeding:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Grass Mowing:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Fertilize the Tree:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Site Irrigation:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Apply Herbicide:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tree Prune:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Fence Condition:	Intact <input checked="" type="checkbox"/>	Damaged <input type="checkbox"/>	Repaired <input type="checkbox"/>	
Evidence of Grazing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Photos Taken:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tree Growth Audit by Others:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		



<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>10/30/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	10/2/2015	10/9/2015	10/16/2015	10/23,30/2015
Reading	2.5	0.4	0	0,1.3

Tree Farm Inspection																					
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																				
	Area of Declining Health (if any): <u>None observed</u>																				
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Approx Tree Height	30'+	30'+	20'+	15'																	
Foliage Condition	full canopy	full canopy	full canopy	full canopy																	
Other Observations:	<u>Leaves have fallen</u>																				
<small>(attach additional pages if needed)</small>																					

Tree Farm Maintenance		Notes: (Please provide the chemical brand name when applicable)	
Grass Seeding:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Grass Mowing:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Fertilize the Tree:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Site Irrigation:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Apply Herbicide:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Tree Prune:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Fence Condition:	Intact <input checked="" type="checkbox"/>	Damaged <input type="checkbox"/>	Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Photos Taken:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Tree Growth Audit by Others:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	



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<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>11/27/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry	<input checked="" type="checkbox"/>	Wet <input type="checkbox"/> Weather: <u>clear</u>
Water Flow From Culvert:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>

Rain Gauge Readings (unit in inches)				
Date	11/6/2015	11/13/2015	11/20/2015	11/27/2015
Reading	2.4	1.9	1.3	0

Tree Farm Inspection																								
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																							
	Area of Declining Health (if any): <u>None observed</u>																							
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Tree Identification:</th> <th style="width:15%;">R2T3</th> <th style="width:15%;">R6T4</th> <th style="width:15%;">R9T1</th> <th style="width:25%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td style="text-align: center;">30.75</td> <td style="text-align: center;">46.75</td> <td style="text-align: center;">22.75</td> <td style="text-align: center;">6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td style="text-align: center;">30'+</td> <td style="text-align: center;">30'+</td> <td style="text-align: center;">20'+</td> <td style="text-align: center;">15'</td> </tr> <tr> <td>Foliage Condition</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> </tr> </tbody> </table>				Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.75	46.75	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	N/A	N/A	N/A	N/A
Tree Identification:	R2T3	R6T4	R9T1	R13T8																				
Trunk Size (inches circ.)	30.75	46.75	22.75	6.25																				
Approx Tree Height	30'+	30'+	20'+	15'																				
Foliage Condition	N/A	N/A	N/A	N/A																				
Other Observations:	<u>Leaves have fallen</u>																							
<small>(attach additional pages if needed)</small>																								

Tree Farm Maintenance				
<i>Notes: (Please provide the chemical brand name when applicable)</i>				
Grass Seeding:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Grass Mowing:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Fertilize the Tree:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Site Irrigation:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Apply Herbicide:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Tree Prune:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Fence Condition:	Intact	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/> Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Photos Taken:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Tree Growth Audit by Others:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>



<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>12/26/2015</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	12/4/2015	12/11/2015	12/18/2015	12/26/2015
Reading	1.9	0	1	2.1

Tree Farm Inspection																					
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																				
	Area of Declining Health (if any): <u>None observed</u>																				
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Tree Identification:</th> <th style="width:12.5%;">R2T3</th> <th style="width:12.5%;">R6T4</th> <th style="width:12.5%;">R9T1</th> <th style="width:12.5%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>30.75</td> <td>47</td> <td>22.75</td> <td>6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>	Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.75	47	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	N/A	N/A	N/A	N/A
Tree Identification:	R2T3	R6T4	R9T1	R13T8																	
Trunk Size (inches circ.)	30.75	47	22.75	6.25																	
Approx Tree Height	30'+	30'+	20'+	15'																	
Foliage Condition	N/A	N/A	N/A	N/A																	
Other Observations:	<u>None</u>																				
<small>(attach additional pages if needed)</small>																					

Tree Farm Maintenance	
<i>Notes: (Please provide the chemical brand name when applicable)</i>	
Grass Seeding:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Grass Mowing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Fertilize the Tree:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Site Irrigation:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Apply Herbicide:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Prune:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Fence Condition:	Intact <input checked="" type="checkbox"/> Damaged <input type="checkbox"/> Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Photos Taken:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Growth Audit by Others:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



<b>PROJECT:</b>	Celanese Needmore Road Landfill Site Seep Remediation	<b>JOB NUMBER:</b>	AECOM - 60135443
<b>LOCATION:</b>	Salisbury, NC	<b>DATE:</b>	1/29/2016
<b>CLIENT:</b>	CNA	<b>INSPECTED BY:</b>	L.Brooks

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: clear
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	1/2/2016	1/8/2016	1/15/2016	1/22,29/2016
Reading	1.8	0.3	1.2	.4/0

Tree Farm Inspection																								
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																							
	Area of Declining Health (if any): None observed																							
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Tree Identification:</th> <th style="width:15%;">R2T3</th> <th style="width:15%;">R6T4</th> <th style="width:15%;">R9T1</th> <th style="width:25%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>30.75</td> <td>47</td> <td>22.75</td> <td>6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>				Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.75	47	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	N/A	N/A	N/A	N/A
Tree Identification:	R2T3	R6T4	R9T1	R13T8																				
Trunk Size (inches circ.)	30.75	47	22.75	6.25																				
Approx Tree Height	30'+	30'+	20'+	15'																				
Foliage Condition	N/A	N/A	N/A	N/A																				
Other Observations:	None																							
<small>(attach additional pages if needed)</small>																								

Tree Farm Maintenance				
<i>Notes: (Please provide the chemical brand name when applicable)</i>				
Grass Seeding:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Grass Mowing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Fertilize the Tree:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Site Irrigation:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Apply Herbicide:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tree Prune:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Fence Condition:	Intact <input checked="" type="checkbox"/>	Damaged <input type="checkbox"/>	Repaired <input type="checkbox"/>	
Evidence of Grazing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Photos Taken:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tree Growth Audit by Others:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		



<b>PROJECT:</b>	Celanese Needmore Road Landfill Site Seep Remediation	<b>JOB NUMBER:</b>	AECOM - 60135443
<b>LOCATION:</b>	Salisbury, NC	<b>DATE:</b>	2/26/2016
<b>CLIENT:</b>	CNA	<b>INSPECTED BY:</b>	L.Brooks

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: rain
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	2/5/2016	2/12/2016	2/19/2016	2/26/2016
Reading	0.7	0	0.5	1.1

Tree Farm Inspection																					
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																				
	Area of Declining Health (if any): None observed																				
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Tree Identification:</th> <th style="width:12.5%;">R2T3</th> <th style="width:12.5%;">R6T4</th> <th style="width:12.5%;">R9T1</th> <th style="width:12.5%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>30.75</td> <td>47</td> <td>22.75</td> <td>6.25</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>	Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	30.75	47	22.75	6.25	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	N/A	N/A	N/A	N/A
Tree Identification:	R2T3	R6T4	R9T1	R13T8																	
Trunk Size (inches circ.)	30.75	47	22.75	6.25																	
Approx Tree Height	30'+	30'+	20'+	15'																	
Foliage Condition	N/A	N/A	N/A	N/A																	
Other Observations:	None																				
<small>(attach additional pages if needed)</small>																					

Tree Farm Maintenance	
<i>Notes: (Please provide the chemical brand name when applicable)</i>	
Grass Seeding:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Grass Mowing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Fertilize the Tree:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Site Irrigation:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Apply Herbicide:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Prune:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Fence Condition:	Intact <input checked="" type="checkbox"/> Damaged <input type="checkbox"/> Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Photos Taken:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Growth Audit by Others:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



<b>PROJECT:</b>	Celanese Needmore Road Landfill Site Seep Remediation	<b>JOB NUMBER:</b>	AECOM - 60135443
<b>LOCATION:</b>	Salisbury, NC	<b>DATE:</b>	3/25/2016
<b>CLIENT:</b>	CNA	<b>INSPECTED BY:</b>	L.Brooks

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: rain
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	3/4/2016	3/11/2016	3/18/2016	3/25/2016
Reading	0.1	0	0.1	0.2

Tree Farm Inspection																								
Tree Observation:	Change in Tree Health Observed: <input type="checkbox"/> Improving/Positive <input checked="" type="checkbox"/> Declining <input type="checkbox"/> No Change																							
	Area of Declining Health (if any): storm/wind broke 6 trees																							
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Tree Identification:</th> <th style="width:12.5%;">R2T3</th> <th style="width:12.5%;">R6T4</th> <th style="width:12.5%;">R9T1</th> <th style="width:12.5%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>31</td> <td>47.5</td> <td>N/A</td> <td>6.5</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>20'+</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>				Tree Identification:	R2T3	R6T4	R9T1	R13T8	Trunk Size (inches circ.)	31	47.5	N/A	6.5	Approx Tree Height	30'+	30'+	20'+	15'	Foliage Condition	N/A	N/A	N/A	N/A
Tree Identification:	R2T3	R6T4	R9T1	R13T8																				
Trunk Size (inches circ.)	31	47.5	N/A	6.5																				
Approx Tree Height	30'+	30'+	20'+	15'																				
Foliage Condition	N/A	N/A	N/A	N/A																				
Other Observations:	Broken trees: 1 in row 5, 1 in row 8, 2 in row 9 including monitor, 2 row 13.																							
<small>(attach additional pages if needed)</small>	R9T1 monitor gone - removed all broken trees																							

Tree Farm Maintenance				
<i>Notes: (Please provide the chemical brand name when applicable)</i>				
Grass Seeding:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Grass Mowing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Fertilize the Tree:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Site Irrigation:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Apply Herbicide:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Tree Prune:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Fence Condition:	Intact <input type="checkbox"/>	Damaged <input checked="" type="checkbox"/>	Repaired <input checked="" type="checkbox"/>	
Evidence of Grazing:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Photos Taken:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Tree Growth Audit by Others:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		



<b>PROJECT:</b>	<u>Celanese Needmore Road Landfill Site Seep Remediation</u>	<b>JOB NUMBER:</b>	<u>AECOM - 60135443</u>
<b>LOCATION:</b>	<u>Salisbury, NC</u>	<b>DATE:</b>	<u>4/29/2016</u>
<b>CLIENT:</b>	<u>CNA</u>	<b>INSPECTED BY:</b>	<u>L.Brooks</u>

General Site Conditions			
Site Conditions:	Dry <input type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Weather: <u>rain</u>
Water Flow From Culvert:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Rain Gauge Readings (unit in inches)				
Date	4/1/2016	4/8/2016	4/15/2016	4/22,29/2016
Reading	0.7	0.5	0.1	.2/.7

Tree Farm Inspection																					
Tree Observation:	Change in Tree Health Observed: <input checked="" type="checkbox"/> Improving/Positive <input type="checkbox"/> Declining <input type="checkbox"/> No Change																				
	Area of Declining Health (if any): <u>None observed</u>																				
Tree Status:	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Tree Identification:</th> <th style="width:15%;">R2T3</th> <th style="width:15%;">R6T4</th> <th style="width:15%;">R9T6</th> <th style="width:15%;">R13T8</th> </tr> </thead> <tbody> <tr> <td>Trunk Size (inches circ.)</td> <td>31</td> <td>47.5</td> <td>8</td> <td>6.5</td> </tr> <tr> <td>Approx Tree Height</td> <td>30'+</td> <td>30'+</td> <td>15'</td> <td>15'</td> </tr> <tr> <td>Foliage Condition</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>	Tree Identification:	R2T3	R6T4	R9T6	R13T8	Trunk Size (inches circ.)	31	47.5	8	6.5	Approx Tree Height	30'+	30'+	15'	15'	Foliage Condition	N/A	N/A	N/A	N/A
Tree Identification:	R2T3	R6T4	R9T6	R13T8																	
Trunk Size (inches circ.)	31	47.5	8	6.5																	
Approx Tree Height	30'+	30'+	15'	15'																	
Foliage Condition	N/A	N/A	N/A	N/A																	
Other Observations:	<u>Row 9 monitor changed to tree 6 - a willow</u>																				
<small>(attach additional pages if needed)</small>																					

Tree Farm Maintenance	
<i>Notes: (Please provide the chemical brand name when applicable)</i>	
Grass Seeding:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Grass Mowing:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Fertilize the Tree:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Site Irrigation:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Apply Herbicide:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Prune:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Fence Condition:	Intact <input checked="" type="checkbox"/> Damaged <input type="checkbox"/> Repaired <input type="checkbox"/>
Evidence of Grazing:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Photos Taken:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Tree Growth Audit by Others:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



Notification Table

Results Exceeding 2L Standards for Needmore Road Landfill

May and November 2015

Values in mg/L

Chemical_name	sys_loc_code	Sample_Date	NC 2L 2010	amount
1,1-dichloroethane	B-22A	11/10/2015	0.006	0.0065
1,4-dioxane	B-01	5/7/2015	0.003	2.89
1,4-dioxane	B-01	11/11/2015	0.003	2.64
1,4-dioxane	B-09C	5/6/2015	0.003	0.972
1,4-dioxane	B-09C	11/10/2015	0.003	0.909
1,4-dioxane	B-10	5/7/2015	0.003	0.511
1,4-dioxane	B-10	11/11/2015	0.003	0.404
1,4-dioxane	B-12	5/6/2015	0.003	3.09
1,4-dioxane	B-12	11/11/2015	0.003	2.9
1,4-dioxane	B-17B	11/11/2015	0.003	0.135
1,4-dioxane	B-17C	5/6/2015	0.003	2.9
1,4-dioxane	B-17C	11/11/2015	0.003	1.81
1,4-dioxane	B-21B	11/11/2015	0.003	0.092
1,4-dioxane	B-22A	11/10/2015	0.003	1.69
1,4-dioxane	B-22B	5/6/2015	0.003	1.73
1,4-dioxane	B-22B	11/10/2015	0.003	1.72
1,4-dioxane	B-22B	11/10/2015	0.003	1.61
1,4-dioxane	B-23A	5/6/2015	0.003	3.24
1,4-dioxane	B-23A	11/10/2015	0.003	3.35
1,4-dioxane	B-23B	5/6/2015	0.003	2.78
1,4-dioxane	B-23B	11/10/2015	0.003	3.33
1,4-dioxane	B-24A	5/6/2015	0.003	0.103
1,4-dioxane	B-32B	11/11/2015	0.003	0.0183



May 20, 2015

Bryon Dahlgren  
AECOM  
10 Patewood Drive, Bldg 6  
Suite 500  
Greenville, SC 29615

RE: Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Dear Bryon Dahlgren:

Enclosed are the analytical results for sample(s) received by the laboratory on May 07, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## CERTIFICATIONS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

---

### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268  
Illinois Certification #: 200074  
Indiana Certification #: C-49-06  
Kansas Certification #: E-10177/ E-10247  
Kentucky UST Certification #: 0042  
Kentucky WW Certification #: 98019  
Louisiana/NELAP Certification #: 04076

Ohio VAP Certification #: CL-0065  
Oklahoma Certification #: 2014-148  
Pennsylvania Certification #: 68-05340  
Texas Certification #: T104704355-15-8  
West Virginia Certification #: 330  
Wisconsin Certification #: 999788130  
USDA Soil Permit #: P330-10-00128

---

### Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

---

### Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
West Virginia Certification #: 356  
Virginia/VELAP Certification #: 460222

---

### Greenwood Certification IDs

816 Durst Avenue East, Greenwood, SC 29649  
South Carolina Laboratory ID #: 24562  
North Carolina Division of Water Resources Certification  
number 25

Florida Certification number E87633  
Virginia VELAP ID: 460250  
Asbestos NVLAP accreditation: 101410-0

---

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92248790001	B-24A	EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
92248790002	B-22B	EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
92248790003	B-17C	EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
92248790004	B-23A	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
92248790005	B-23B	SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
92248790006	B-9C	EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C
92248790007	B-01	SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
		SM 2320B	MLS	1	PASI-A
		EPA 9056A	CDC	1	PASI-G
		EPA 8260B Mod.	DLK	3	PASI-C

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### SAMPLE ANALYTE COUNT

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92248790008	B-10	EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 8270	BPJ	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
92248790009	B-12	EPA 353.2	DMN	2	PASI-A
		SM 4500-P E	MAB	1	PASI-A
		EPA 9056A	CDC	1	PASI-G
		EPA 8270	BPJ	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	DMN	2	PASI-A
92248790010	SW-99	SM 4500-P E	MAB	1	PASI-A
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	8	PASI-C
92248790011	SW-5	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
92248790012	CSW-1	EPA 8270	BPJ	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

<b>Sample: B-24A</b>		<b>Lab ID: 92248790001</b>		Collected: 05/06/15 12:05	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>2.0</b>	mg/L	1.0	1		05/13/15 22:22	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>103</b>	ug/L	10.0	5		05/11/15 22:06	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	88	%	50-150	5		05/11/15 22:06	17060-07-0	
Toluene-d8 (S)	101	%	50-150	5		05/11/15 22:06	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>211</b>	mg/L	5.0	1		05/11/15 20:19		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:25		
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 00:25		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.050	1		05/08/15 12:00		M1

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

<b>Sample: B-22B</b>		<b>Lab ID: 92248790002</b>		Collected: 05/06/15 15:25	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	ND	mg/L	1.0	1		05/13/15 22:52	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>1730</b>	ug/L	100	50		05/11/15 22:26	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	91	%	50-150	50		05/11/15 22:26	17060-07-0	
Toluene-d8 (S)	100	%	50-150	50		05/11/15 22:26	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>615</b>	mg/L	5.0	1		05/11/15 20:32		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:37		
Nitrogen, Nitrite	<b>0.032</b>	mg/L	0.020	1		05/08/15 00:37		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.050	1		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

<b>Sample: B-17C</b>		<b>Lab ID: 92248790003</b>		Collected: 05/06/15 17:35	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>1.0</b>	mg/L	1.0	1		05/13/15 23:23	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>2900</b>	ug/L	100	50		05/11/15 22:47	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	92	%	50-150	50		05/11/15 22:47	17060-07-0	
Toluene-d8 (S)	101	%	50-150	50		05/11/15 22:47	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>336</b>	mg/L	5.0	1		05/11/15 20:54		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:43		
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 00:43		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.21</b>	mg/L	0.050	1		05/08/15 12:00		

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### ANALYTICAL RESULTS

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Sample: B-23A	Lab ID: 92248790004	Collected: 05/06/15 13:10	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:00	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	<b>9.0</b>	mg/L	1.0	1		05/13/15 23:53	14808-79-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>3240</b>	ug/L	100	50		05/11/15 23:07	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	96	%	50-150	50		05/11/15 23:07	17060-07-0	
Toluene-d8 (S)	100	%	50-150	50		05/11/15 23:07	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>2490</b>	mg/L	5.0	1		05/11/15 21:10		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:30		
Nitrogen, Nitrite	<b>0.035</b>	mg/L	0.020	1		05/08/15 00:30		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	<b>0.47</b>	mg/L	0.25	5		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

<b>Sample: B-23B</b>		<b>Lab ID: 92248790005</b>		Collected: 05/06/15 14:20	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:09	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>5.3</b>	mg/L	1.0	1		05/14/15 01:25	14808-79-8	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>2780</b>	ug/L	100	50		05/11/15 23:28	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	95	%	50-150	50		05/11/15 23:28	17060-07-0	
Toluene-d8 (S)	100	%	50-150	50		05/11/15 23:28	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2160</b>	mg/L	5.0	1		05/11/15 22:10		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:35		
Nitrogen, Nitrite	<b>0.16</b>	mg/L	0.020	1		05/08/15 00:35		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.25	5		05/08/15 12:00		

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### ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: B-9C	Lab ID: 92248790006	Collected: 05/06/15 18:45	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:19	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	ND	mg/L	1.0	1		05/14/15 01:55	14808-79-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>972</b>	ug/L	20.0	10		05/11/15 23:48	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	99	%	50-150	10		05/11/15 23:48	17060-07-0	
Toluene-d8 (S)	98	%	50-150	10		05/11/15 23:48	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>2500</b>	mg/L	5.0	1		05/11/15 23:01		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:44		
Nitrogen, Nitrite	<b>0.12</b>	mg/L	0.020	1		05/08/15 00:44		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	ND	mg/L	0.25	5		05/08/15 12:00		

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### ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: B-01	Lab ID: 92248790007	Collected: 05/07/15 00:00	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:28	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	3.1	mg/L	1.0	1		05/14/15 02:26	14808-79-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	2890	ug/L	100	50		05/12/15 00:08	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	99	%	50-150	50		05/12/15 00:08	17060-07-0	
Toluene-d8 (S)	98	%	50-150	50		05/12/15 00:08	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1470	mg/L	5.0	1		05/11/15 23:49		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 00:45		
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 00:45		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	1.6	mg/L	0.25	5		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Sample: B-10	Lab ID: 92248790008	Collected: 05/07/15 09:25	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:38	107-21-1	
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	ND	mg/L	1.0	1		05/14/15 02:57	14808-79-8	
<b>8270 MSSV Semivolatile Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	<b>82.8</b>	ug/L	10.0	1	05/11/15 10:45	05/18/15 12:18	92-52-4	
Diphenyl ether (Phenyl ether)	<b>1090</b>	ug/L	200	20	05/11/15 10:45	05/18/15 14:23	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	85	%	21-110	1	05/11/15 10:45	05/18/15 12:18	4165-60-0	
2-Fluorobiphenyl (S)	64	%	27-110	1	05/11/15 10:45	05/18/15 12:18	321-60-8	
Terphenyl-d14 (S)	60	%	31-107	1	05/11/15 10:45	05/18/15 12:18	1718-51-0	
Phenol-d6 (S)	27	%	10-110	1	05/11/15 10:45	05/18/15 12:18	13127-88-3	
2-Fluorophenol (S)	36	%	12-110	1	05/11/15 10:45	05/18/15 12:18	367-12-4	
2,4,6-Tribromophenol (S)	83	%	27-110	1	05/11/15 10:45	05/18/15 12:18	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	<b>511</b>	ug/L	20.0	10		05/12/15 00:29	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	94	%	50-150	10		05/12/15 00:29	17060-07-0	
Toluene-d8 (S)	99	%	50-150	10		05/12/15 00:29	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>664</b>	mg/L	5.0	1		05/12/15 16:43		M1
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		05/08/15 22:15		
Nitrogen, Nitrite	<b>0.044</b>	mg/L	0.020	1		05/08/15 22:15		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	ND	mg/L	0.25	5		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

Sample: B-12	Lab ID: 92248790009	Collected: 05/06/15 16:40	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	1.3	mg/L	1.0	1		05/14/15 03:27	14808-79-8	
<b>8270 MSSV Semivolatile Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 12:50	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 12:50	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	49	%	21-110	1	05/11/15 10:45	05/18/15 12:50	4165-60-0	
2-Fluorobiphenyl (S)	30	%	27-110	1	05/11/15 10:45	05/18/15 12:50	321-60-8	
Terphenyl-d14 (S)	92	%	31-107	1	05/11/15 10:45	05/18/15 12:50	1718-51-0	
Phenol-d6 (S)	10	%	10-110	1	05/11/15 10:45	05/18/15 12:50	13127-88-3	
2-Fluorophenol (S)	15	%	12-110	1	05/11/15 10:45	05/18/15 12:50	367-12-4	
2,4,6-Tribromophenol (S)	48	%	27-110	1	05/11/15 10:45	05/18/15 12:50	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	3090	ug/L	100	50		05/13/15 01:43	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	94	%	50-150	50		05/13/15 01:43	17060-07-0	
Toluene-d8 (S)	97	%	50-150	50		05/13/15 01:43	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	310	mg/L	5.0	1		05/12/15 17:18		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.031	mg/L	0.020	1		05/08/15 22:12		H1
Nitrogen, Nitrite	ND	mg/L	0.020	1		05/08/15 22:12		H1
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	0.13	mg/L	0.050	1		05/08/15 12:00		

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: SW-99	Lab ID: 92248790010	Collected: 05/06/15 15:40	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:47	107-21-1	
<b>8270 MSSV Semivolatile Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:21	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:21	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	111	%	21-110	1	05/11/15 10:45	05/18/15 13:21	4165-60-0	S3
2-Fluorobiphenyl (S)	71	%	27-110	1	05/11/15 10:45	05/18/15 13:21	321-60-8	
Terphenyl-d14 (S)	109	%	31-107	1	05/11/15 10:45	05/18/15 13:21	1718-51-0	S3
Phenol-d6 (S)	23	%	10-110	1	05/11/15 10:45	05/18/15 13:21	13127-88-3	
2-Fluorophenol (S)	35	%	12-110	1	05/11/15 10:45	05/18/15 13:21	367-12-4	
2,4,6-Tribromophenol (S)	74	%	27-110	1	05/11/15 10:45	05/18/15 13:21	118-79-6	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/19/15 13:26	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		05/19/15 13:26	17060-07-0	
Toluene-d8 (S)	83	%	50-150	1		05/19/15 13:26	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: SW-5	Lab ID: 92248790011	Collected: 05/06/15 15:45	Received: 05/07/15 10:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	5.0	1		05/15/15 16:57	107-21-1	
<b>8270 MSSV Semivolatile Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:52	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	05/11/15 10:45	05/18/15 13:52	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	96	%	21-110	1	05/11/15 10:45	05/18/15 13:52	4165-60-0	
2-Fluorobiphenyl (S)	66	%	27-110	1	05/11/15 10:45	05/18/15 13:52	321-60-8	
Terphenyl-d14 (S)	100	%	31-107	1	05/11/15 10:45	05/18/15 13:52	1718-51-0	
Phenol-d6 (S)	22	%	10-110	1	05/11/15 10:45	05/18/15 13:52	13127-88-3	
2-Fluorophenol (S)	35	%	12-110	1	05/11/15 10:45	05/18/15 13:52	367-12-4	
2,4,6-Tribromophenol (S)	66	%	27-110	1	05/11/15 10:45	05/18/15 13:52	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/18/15 16:06	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	118	%	50-150	1		05/18/15 16:06	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		05/18/15 16:06	2037-26-5	

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## ANALYTICAL RESULTS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Sample: CSW-1		Lab ID: 92248790012		Collected: 05/06/15 17:55	Received: 05/07/15 10:43	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>82.1</b>	ug/L	2.0	1		05/18/15 16:27	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	122	%	50-150	1		05/18/15 16:27	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		05/18/15 16:27	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: GCSV/15345 Analysis Method: EPA 8015 Alcohol-Glycol  
 QC Batch Method: EPA 8015 Alcohol-Glycol Analysis Description: EPA 8015 Modified  
 Associated Lab Samples: 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790010, 92248790011

METHOD BLANK: 1297875 Matrix: Water

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	5.0	05/15/15 14:56	

LABORATORY CONTROL SAMPLE: 1297876

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	25	23.7	95	79-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1297878 1297879

Parameter	Units	60193253002		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits					
Ethylene glycol	mg/L	ND	25	25	25	17.0	21.4	68	86	67-133	23	R1			

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

QC Batch: GWD/2113 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions, GWD  
Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

METHOD BLANK: 1456652 Matrix: Water  
Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	05/13/15 13:31	

LABORATORY CONTROL SAMPLE: 1456653

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.8	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456654 1456655

Parameter	Units	92248844006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	0.79J	50	50	52.5	52.3	103	103	90-110	0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456656 1456657

Parameter	Units	92248790009 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	1.3	50	50	51.6	52.7	100	103	90-110	2	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: MSV/31574 Analysis Method: EPA 8260B Mod.

QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM

Associated Lab Samples: 92248790001, 92248790002

METHOD BLANK: 1455613 Matrix: Water

Associated Lab Samples: 92248790001, 92248790002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/11/15 14:53	
1,2-Dichloroethane-d4 (S)	%	102	50-150	05/11/15 14:53	
Toluene-d8 (S)	%	106	50-150	05/11/15 14:53	

LABORATORY CONTROL SAMPLE: 1455614

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.9	104	71-125	
1,2-Dichloroethane-d4 (S)	%			100	50-150	
Toluene-d8 (S)	%			107	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455615 1455616

Parameter	Units	92249041008		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	26.0	25.6	130	128	50-150	2				
1,2-Dichloroethane-d4 (S)	%						102	101	50-150					
Toluene-d8 (S)	%						103	102	50-150					

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF  
Pace Project No.: 92248790

QC Batch: MSV/31575 Analysis Method: EPA 8260B Mod.  
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM  
Associated Lab Samples: 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008

METHOD BLANK: 1455617 Matrix: Water  
Associated Lab Samples: 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/11/15 14:32	
1,2-Dichloroethane-d4 (S)	%	105	50-150	05/11/15 14:32	
Toluene-d8 (S)	%	106	50-150	05/11/15 14:32	

LABORATORY CONTROL SAMPLE: 1455618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	21.0	105	71-125	
1,2-Dichloroethane-d4 (S)	%			103	50-150	
Toluene-d8 (S)	%			106	50-150	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

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QC Batch:	MSV/31602	Analysis Method:	EPA 8260B Mod.
QC Batch Method:	EPA 8260B Mod.	Analysis Description:	8260 MSV SIM
Associated Lab Samples:	92248790009		

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METHOD BLANK: 1456598 Matrix: Water

Associated Lab Samples: 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/12/15 15:29	
1,2-Dichloroethane-d4 (S)	%	88	50-150	05/12/15 15:29	
Toluene-d8 (S)	%	100	50-150	05/12/15 15:29	

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LABORATORY CONTROL SAMPLE: 1456599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	22.3	112	71-125	
1,2-Dichloroethane-d4 (S)	%			84	50-150	
Toluene-d8 (S)	%			100	50-150	

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: MSV/31702 Analysis Method: EPA 8260B Mod.

QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM

Associated Lab Samples: 92248790011, 92248790012

METHOD BLANK: 1461633 Matrix: Water

Associated Lab Samples: 92248790011, 92248790012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/18/15 14:22	
1,2-Dichloroethane-d4 (S)	%	110	50-150	05/18/15 14:22	
Toluene-d8 (S)	%	98	50-150	05/18/15 14:22	

LABORATORY CONTROL SAMPLE: 1461634

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	21.3	107	71-125	
1,2-Dichloroethane-d4 (S)	%			104	50-150	
Toluene-d8 (S)	%			99	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1461635 1461636

Parameter	Units	92249154001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Result	Result	% Rec	Result	% Rec					
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	21.1	21.6	105	108	50-150	2				
1,2-Dichloroethane-d4 (S)	%						123	121	50-150					
Toluene-d8 (S)	%						99	99	50-150					

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: MSV/31719	Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod.	Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92248790010	

METHOD BLANK: 1462242 Matrix: Water

Associated Lab Samples: 92248790010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/19/15 12:03	
1,2-Dichloroethane-d4 (S)	%	116	50-150	05/19/15 12:03	
Toluene-d8 (S)	%	85	50-150	05/19/15 12:03	

LABORATORY CONTROL SAMPLE: 1462243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.5	92	71-125	
1,2-Dichloroethane-d4 (S)	%			122	50-150	
Toluene-d8 (S)	%			86	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1462244 1462245

Parameter	Units	92250030001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec						
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	19.1	18.9	96	94	50-150	1				
1,2-Dichloroethane-d4 (S)	%						130	131	50-150					
Toluene-d8 (S)	%						82	82	50-150					

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WET/37367 Analysis Method: SM 2320B  
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

METHOD BLANK: 1455260 Matrix: Water  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	05/11/15 16:33	

LABORATORY CONTROL SAMPLE: 1455261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.2	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455266 1455267

Parameter	Units	92248924001		MS		MSD		% Rec		Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO3	mg/L	24.1	50	50	50	73.0	71.3	98	95	90-110	2	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455268 1455269

Parameter	Units	92249096001		MS		MSD		% Rec		Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO3	mg/L	69.8	50	50	50	113	109	86	79	90-110	3	M1

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WET/37392

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 92248790008, 92248790009

METHOD BLANK: 1456107

Matrix: Water

Associated Lab Samples: 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	05/12/15 16:24	

LABORATORY CONTROL SAMPLE: 1456108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.1	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456109 1456110

Parameter	Units	92248790008		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Alkalinity, Total as CaCO3	mg/L	664	50	50	1140	1140	960	944	90-110	1	M1			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1456111 1456112

Parameter	Units	92248377003		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Alkalinity, Total as CaCO3	mg/L	55.4	50	50	99.6	105	88	99	90-110	5	M1,R1			

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WETA/22841 Analysis Method: EPA 353.2  
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

METHOD BLANK: 1453829 Matrix: Water  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	05/08/15 00:04	
Nitrogen, Nitrite	mg/L	ND	0.020	05/08/15 00:04	

LABORATORY CONTROL SAMPLE: 1453830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	101	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1453833 1453834

Parameter	Units	92248890002		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec					
Nitrogen, Nitrate	mg/L	2.7	2.5	2.5	5.4	5.3	105	104	90-110	0				
Nitrogen, Nitrite	mg/L	<0.020	1	1	1.0	1.0	102	101	90-110	1				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1453843 1453844

Parameter	Units	92248853002		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec					
Nitrogen, Nitrate	mg/L	3.6	2.5	2.5	4.6	6.3	40	108	90-110	31	M1,R1			
Nitrogen, Nitrite	mg/L	0.044	1	1	1.1	1.1	104	103	90-110	1				

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WETA/22865

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 92248790008, 92248790009

METHOD BLANK: 1454963

Matrix: Water

Associated Lab Samples: 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	05/08/15 22:04	
Nitrogen, Nitrite	mg/L	ND	0.020	05/08/15 22:04	

LABORATORY CONTROL SAMPLE: 1454964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.6	103	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1454965 1454966

Parameter	Units	92248790008 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result					
Nitrogen, Nitrate	mg/L	ND	2.5	2.5	2.4	2.4	97	97	90-110	0	
Nitrogen, Nitrite	mg/L	0.044	1	1	1.0	1.0	97	99	90-110	2	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1454967 1454968

Parameter	Units	92249027001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result					
Nitrogen, Nitrate	mg/L	1.2	2.5	2.5	3.7	3.8	103	104	90-110	0	
Nitrogen, Nitrite	mg/L	0.045	1	1	1.1	1.1	106	105	90-110	1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

QC Batch: WETA/22856 Analysis Method: SM 4500-P E  
 QC Batch Method: SM 4500-P E Analysis Description: SM4500P-E Phosphorus, Ortho  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

METHOD BLANK: 1454040 Matrix: Water  
 Associated Lab Samples: 92248790001, 92248790002, 92248790003, 92248790004, 92248790005, 92248790006, 92248790007, 92248790008, 92248790009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	05/08/15 12:00	

LABORATORY CONTROL SAMPLE: 1454041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.25	0.25	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1454042 1454043

Parameter	92248790001		MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Orthophosphate as P	mg/L	ND	.25	.25	0.33	0.33	122	122	90-110	0	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-C Pace Analytical Services - Charlotte

PASI-G Pace Analytical Services - Greenwood

PASI-I Pace Analytical Services - Indianapolis

### ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92248790004	B-23A	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790005	B-23B	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790006	B-9C	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790007	B-01	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790008	B-10	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790010	SW-99	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790011	SW-5	EPA 8015 Alcohol-Glycol	GCSV/15345		
92248790001	B-24A	EPA 9056A	GWD/2113		
92248790002	B-22B	EPA 9056A	GWD/2113		
92248790003	B-17C	EPA 9056A	GWD/2113		
92248790004	B-23A	EPA 9056A	GWD/2113		
92248790005	B-23B	EPA 9056A	GWD/2113		
92248790006	B-9C	EPA 9056A	GWD/2113		
92248790007	B-01	EPA 9056A	GWD/2113		
92248790008	B-10	EPA 9056A	GWD/2113		
92248790009	B-12	EPA 9056A	GWD/2113		
92248790008	B-10	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790009	B-12	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790010	SW-99	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790011	SW-5	EPA 3510	OEXT/34967	EPA 8270	MSSV/10681
92248790001	B-24A	EPA 8260B Mod.	MSV/31574		
92248790002	B-22B	EPA 8260B Mod.	MSV/31574		
92248790003	B-17C	EPA 8260B Mod.	MSV/31575		
92248790004	B-23A	EPA 8260B Mod.	MSV/31575		
92248790005	B-23B	EPA 8260B Mod.	MSV/31575		
92248790006	B-9C	EPA 8260B Mod.	MSV/31575		
92248790007	B-01	EPA 8260B Mod.	MSV/31575		
92248790008	B-10	EPA 8260B Mod.	MSV/31575		
92248790009	B-12	EPA 8260B Mod.	MSV/31602		
92248790010	SW-99	EPA 8260B Mod.	MSV/31719		
92248790011	SW-5	EPA 8260B Mod.	MSV/31702		
92248790012	CSW-1	EPA 8260B Mod.	MSV/31702		
92248790001	B-24A	SM 2320B	WET/37367		
92248790002	B-22B	SM 2320B	WET/37367		
92248790003	B-17C	SM 2320B	WET/37367		
92248790004	B-23A	SM 2320B	WET/37367		
92248790005	B-23B	SM 2320B	WET/37367		
92248790006	B-9C	SM 2320B	WET/37367		
92248790007	B-01	SM 2320B	WET/37367		
92248790008	B-10	SM 2320B	WET/37392		
92248790009	B-12	SM 2320B	WET/37392		
92248790001	B-24A	EPA 353.2	WETA/22841		
92248790002	B-22B	EPA 353.2	WETA/22841		
92248790003	B-17C	EPA 353.2	WETA/22841		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

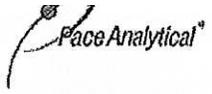
Project: NEEDMORE RD. LF

Pace Project No.: 92248790

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92248790004	B-23A	EPA 353.2	WETA/22841		
92248790005	B-23B	EPA 353.2	WETA/22841		
92248790006	B-9C	EPA 353.2	WETA/22841		
92248790007	B-01	EPA 353.2	WETA/22841		
92248790008	B-10	EPA 353.2	WETA/22865		
92248790009	B-12	EPA 353.2	WETA/22865		
92248790001	B-24A	SM 4500-P E	WETA/22856		
92248790002	B-22B	SM 4500-P E	WETA/22856		
92248790003	B-17C	SM 4500-P E	WETA/22856		
92248790004	B-23A	SM 4500-P E	WETA/22856		
92248790005	B-23B	SM 4500-P E	WETA/22856		
92248790006	B-9C	SM 4500-P E	WETA/22856		
92248790007	B-01	SM 4500-P E	WETA/22856		
92248790008	B-10	SM 4500-P E	WETA/22856		
92248790009	B-12	SM 4500-P E	WETA/22856		

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Client Name: Aecom / EPM

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble V [ ] p  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 0.9 °C Biological Tissue is Frozen: Yes No N/A  
 Temp should be above freezing to 6°C

Optional  
 Proj. Dir. Date  
 Proj. Name

Date and Initials of person examining contents: AP 5-7-15

		Comments:
Chain of Custody Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: \_\_\_\_\_ Field Data Required? Y / N  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/ Resolution: \_\_\_\_\_

SCURF Review: [Signature] Date: 5/7/15  
 SRF Review: [Signature] Date: 5/8/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here  
**WO# : 92248790**  
  
 92248790



November 21, 2015

Bryon Dahlgren  
AECOM  
10 Patewood Drive, Bldg 6  
Suite 500  
Greenville, SC 29615

RE: Project: CNA/NRLF  
Pace Project No.: 92275754

Dear Bryon Dahlgren:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: CNA/NRLF  
Pace Project No.: 92275754

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268  
Illinois Certification #: 200074  
Indiana Certification #: C-49-06  
Kansas Certification #: E-10177  
Kentucky UST Certification #: 0042  
Kentucky WW Certification #: 98019  
Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065  
Oklahoma Certification #: 2014-148  
Texas Certification #: T104704355-15-9  
West Virginia Certification #: 330  
Wisconsin Certification #: 999788130  
USDA Soil Permit #: P330-10-00128

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### Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

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### Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
West Virginia Certification #: 356  
Virginia/VELAP Certification #: 460222

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### Greenwood Certification IDs

816 Durst Avenue East, Greenwood, SC 29649  
South Carolina Laboratory ID #: 24562  
North Carolina Division of Water Resources Certification  
number 25

Florida Certification number E87633  
Virginia VELAP ID: 460250  
Asbestos NVLAP accreditation: 101410-0

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF  
Pace Project No.: 92275754

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92275754001	B-23A	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275754002	B-23B	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275754003	B-22A	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9056A	CDC	1	PASI-G
92275754004	B-22B	EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF  
Pace Project No.: 92275754

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92275754005	B-99B	EPA 9060A	MDW	5	PASI-A
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
92275754006	SW-7	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	3	PASI-C
92275754007	SW-5	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	3	PASI-C
92275754008	CSW-2	EPA 8260B Mod.	DLK	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92275754009	CSW-1	EPA 8260B Mod.	DLK	3	PASI-C
92275754010	SW-3	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	BPJ	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92275754011	SW-8	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 8270	RES	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92275754012	B-09C	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	BPJ	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	BRJ	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23A	Lab ID: 92275754001	Collected: 11/10/15 10:25	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:03	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	7.7	mg/L	1.0	1		11/19/15 02:12	14808-79-8	M1
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	100	10	11/12/15 15:39	11/16/15 19:53	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	100	10	11/12/15 15:39	11/16/15 19:53	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	0	%	27-110	10	11/12/15 15:39	11/16/15 19:53	321-60-8	D3,S4
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	5120	ug/L	500	20		11/18/15 17:05	67-64-1	
Benzene	ND	ug/L	100	20		11/18/15 17:05	71-43-2	
Bromochloromethane	ND	ug/L	100	20		11/18/15 17:05	74-97-5	L3
Bromodichloromethane	ND	ug/L	100	20		11/18/15 17:05	75-27-4	
Bromoform	ND	ug/L	100	20		11/18/15 17:05	75-25-2	
Bromomethane	ND	ug/L	200	20		11/18/15 17:05	74-83-9	
2-Butanone (MEK)	483	ug/L	200	20		11/18/15 17:05	78-93-3	
Carbon disulfide	ND	ug/L	200	20		11/18/15 17:05	75-15-0	
Carbon tetrachloride	ND	ug/L	100	20		11/18/15 17:05	56-23-5	
Chlorobenzene	ND	ug/L	100	20		11/18/15 17:05	108-90-7	
Chloroethane	ND	ug/L	200	20		11/18/15 17:05	75-00-3	
Chloroform	ND	ug/L	100	20		11/18/15 17:05	67-66-3	
Chloromethane	ND	ug/L	100	20		11/18/15 17:05	74-87-3	
Cyclohexane	ND	ug/L	100	20		11/18/15 17:05	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20		11/18/15 17:05	96-12-8	
Dibromochloromethane	ND	ug/L	100	20		11/18/15 17:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	100	20		11/18/15 17:05	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	106-46-7	
Dichlorodifluoromethane	ND	ug/L	100	20		11/18/15 17:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	100	20		11/18/15 17:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	100	20		11/18/15 17:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	100	20		11/18/15 17:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	100	20		11/18/15 17:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:05	10061-02-6	
Ethylbenzene	ND	ug/L	100	20		11/18/15 17:05	100-41-4	
2-Hexanone	ND	ug/L	200	20		11/18/15 17:05	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	100	20		11/18/15 17:05	98-82-8	
Methyl acetate	ND	ug/L	200	20		11/18/15 17:05	79-20-9	
Methylcyclohexane	ND	ug/L	200	20		11/18/15 17:05	108-87-2	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23A	Lab ID: 92275754001	Collected: 11/10/15 10:25	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	100	20		11/18/15 17:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	20		11/18/15 17:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	100	20		11/18/15 17:05	1634-04-4	
Styrene	ND	ug/L	100	20		11/18/15 17:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	100	20		11/18/15 17:05	79-34-5	
Tetrachloroethene	ND	ug/L	100	20		11/18/15 17:05	127-18-4	
Toluene	ND	ug/L	100	20		11/18/15 17:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	100	20		11/18/15 17:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	20		11/18/15 17:05	79-00-5	
Trichloroethene	ND	ug/L	100	20		11/18/15 17:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	20		11/18/15 17:05	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	100	20		11/18/15 17:05	76-13-1	
Vinyl chloride	ND	ug/L	100	20		11/18/15 17:05	75-01-4	
Xylene (Total)	ND	ug/L	200	20		11/18/15 17:05	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	106	%	70-130	20		11/18/15 17:05	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	20		11/18/15 17:05	17060-07-0	
Toluene-d8 (S)	108	%	70-130	20		11/18/15 17:05	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>3350</b>	ug/L	100	50		11/12/15 18:28	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	50		11/12/15 18:28	17060-07-0	
Toluene-d8 (S)	97	%	50-150	50		11/12/15 18:28	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2540</b>	mg/L	5.0	1		11/19/15 10:03		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:04		
Nitrogen, Nitrite	<b>0.040</b>	mg/L	0.020	1		11/12/15 07:04		M1
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>1.3</b>	mg/L	0.20	4		11/11/15 22:20		M6
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>2750</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Total Organic Carbon	<b>2690</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Total Organic Carbon	<b>2780</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Total Organic Carbon	<b>2770</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6
Mean Total Organic Carbon	<b>2750</b>	mg/L	100	100		11/16/15 17:00	7440-44-0	M6

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23B	Lab ID: 92275754002	Collected: 11/10/15 11:15	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>		Analytical Method: EPA 8015 Alcohol-Glycol						
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:13	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	7.5	mg/L	1.0	1		11/19/15 03:26	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 21:43	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 21:43	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	69	%	27-110	1	11/12/15 15:39	11/13/15 21:43	321-60-8	
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	5090	ug/L	500	20		11/18/15 17:21	67-64-1	
Benzene	ND	ug/L	100	20		11/18/15 17:21	71-43-2	
Bromochloromethane	ND	ug/L	100	20		11/18/15 17:21	74-97-5	L3
Bromodichloromethane	ND	ug/L	100	20		11/18/15 17:21	75-27-4	
Bromoform	ND	ug/L	100	20		11/18/15 17:21	75-25-2	
Bromomethane	ND	ug/L	200	20		11/18/15 17:21	74-83-9	
2-Butanone (MEK)	488	ug/L	200	20		11/18/15 17:21	78-93-3	
Carbon disulfide	ND	ug/L	200	20		11/18/15 17:21	75-15-0	
Carbon tetrachloride	ND	ug/L	100	20		11/18/15 17:21	56-23-5	
Chlorobenzene	ND	ug/L	100	20		11/18/15 17:21	108-90-7	
Chloroethane	ND	ug/L	200	20		11/18/15 17:21	75-00-3	
Chloroform	ND	ug/L	100	20		11/18/15 17:21	67-66-3	
Chloromethane	ND	ug/L	100	20		11/18/15 17:21	74-87-3	
Cyclohexane	ND	ug/L	100	20		11/18/15 17:21	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20		11/18/15 17:21	96-12-8	
Dibromochloromethane	ND	ug/L	100	20		11/18/15 17:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	100	20		11/18/15 17:21	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	106-46-7	
Dichlorodifluoromethane	ND	ug/L	100	20		11/18/15 17:21	75-71-8	
1,1-Dichloroethane	ND	ug/L	100	20		11/18/15 17:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	100	20		11/18/15 17:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	100	20		11/18/15 17:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	100	20		11/18/15 17:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	100	20		11/18/15 17:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	100	20		11/18/15 17:21	10061-02-6	
Ethylbenzene	ND	ug/L	100	20		11/18/15 17:21	100-41-4	
2-Hexanone	ND	ug/L	200	20		11/18/15 17:21	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	100	20		11/18/15 17:21	98-82-8	
Methyl acetate	ND	ug/L	200	20		11/18/15 17:21	79-20-9	
Methylcyclohexane	ND	ug/L	200	20		11/18/15 17:21	108-87-2	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-23B	Lab ID: 92275754002	Collected: 11/10/15 11:15	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	100	20		11/18/15 17:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	20		11/18/15 17:21	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	100	20		11/18/15 17:21	1634-04-4	
Styrene	ND	ug/L	100	20		11/18/15 17:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	100	20		11/18/15 17:21	79-34-5	
Tetrachloroethene	ND	ug/L	100	20		11/18/15 17:21	127-18-4	
Toluene	ND	ug/L	100	20		11/18/15 17:21	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	20		11/18/15 17:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	100	20		11/18/15 17:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	20		11/18/15 17:21	79-00-5	
Trichloroethene	ND	ug/L	100	20		11/18/15 17:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	20		11/18/15 17:21	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	100	20		11/18/15 17:21	76-13-1	
Vinyl chloride	ND	ug/L	100	20		11/18/15 17:21	75-01-4	
Xylene (Total)	ND	ug/L	200	20		11/18/15 17:21	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	106	%	70-130	20		11/18/15 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	20		11/18/15 17:21	17060-07-0	
Toluene-d8 (S)	108	%	70-130	20		11/18/15 17:21	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>3330</b>	ug/L	100	50		11/12/15 18:49	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	107	%	50-150	50		11/12/15 18:49	17060-07-0	
Toluene-d8 (S)	99	%	50-150	50		11/12/15 18:49	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2250</b>	mg/L	5.0	1		11/19/15 11:05		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:10		
Nitrogen, Nitrite	<b>0.12</b>	mg/L	0.020	1		11/12/15 07:10		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.96</b>	mg/L	0.20	4		11/11/15 22:20		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>2600</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Total Organic Carbon	<b>2880</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Total Organic Carbon	<b>2890</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Total Organic Carbon	<b>2890</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	
Mean Total Organic Carbon	<b>2810</b>	mg/L	100	100		11/16/15 14:30	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22A	Lab ID: 92275754003	Collected: 11/10/15 14:20	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 04:39	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:09	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:09	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	73	%	27-110	1	11/12/15 15:39	11/13/15 22:09	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	1		11/18/15 17:38	67-64-1	
Benzene	ND	ug/L	5.0	1		11/18/15 17:38	71-43-2	
Bromochloromethane	ND	ug/L	5.0	1		11/18/15 17:38	74-97-5	L3
Bromodichloromethane	ND	ug/L	5.0	1		11/18/15 17:38	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/18/15 17:38	75-25-2	
Bromomethane	ND	ug/L	10.0	1		11/18/15 17:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/18/15 17:38	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/18/15 17:38	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/18/15 17:38	56-23-5	
Chlorobenzene	7.5	ug/L	5.0	1		11/18/15 17:38	108-90-7	
Chloroethane	ND	ug/L	10.0	1		11/18/15 17:38	75-00-3	M1
Chloroform	ND	ug/L	5.0	1		11/18/15 17:38	67-66-3	
Chloromethane	ND	ug/L	5.0	1		11/18/15 17:38	74-87-3	
Cyclohexane	ND	ug/L	5.0	1		11/18/15 17:38	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/18/15 17:38	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1		11/18/15 17:38	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/18/15 17:38	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1		11/18/15 17:38	75-71-8	
1,1-Dichloroethane	6.5	ug/L	5.0	1		11/18/15 17:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/18/15 17:38	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		11/18/15 17:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:38	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		11/18/15 17:38	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/18/15 17:38	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1		11/18/15 17:38	98-82-8	
Methyl acetate	ND	ug/L	10.0	1		11/18/15 17:38	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1		11/18/15 17:38	108-87-2	
Methylene Chloride	ND	ug/L	5.0	1		11/18/15 17:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/18/15 17:38	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/18/15 17:38	1634-04-4	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22A	Lab ID: 92275754003	Collected: 11/10/15 14:20	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Styrene	ND	ug/L	5.0	1		11/18/15 17:38	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/18/15 17:38	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		11/18/15 17:38	127-18-4	
Toluene	ND	ug/L	5.0	1		11/18/15 17:38	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:38	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		11/18/15 17:38	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1		11/18/15 17:38	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	1		11/18/15 17:38	76-13-1	
Vinyl chloride	ND	ug/L	5.0	1		11/18/15 17:38	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		11/18/15 17:38	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/18/15 17:38	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		11/18/15 17:38	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/18/15 17:38	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>1690</b>	ug/L	50.0	25		11/12/15 19:09	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	103	%	50-150	25		11/12/15 19:09	17060-07-0	
Toluene-d8 (S)	97	%	50-150	25		11/12/15 19:09	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>544</b>	mg/L	5.0	1		11/18/15 18:19		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:11		
Nitrogen, Nitrite	<b>0.050</b>	mg/L	0.020	1		11/12/15 07:11		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	ND	mg/L	0.25	5		11/11/15 22:20		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>5.0</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Total Organic Carbon	<b>5.5</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Total Organic Carbon	<b>5.2</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Total Organic Carbon	<b>5.3</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	
Mean Total Organic Carbon	<b>5.2</b>	mg/L	5.0	5		11/16/15 17:24	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22B	Lab ID: 92275754004	Collected: 11/10/15 15:05	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 05:03	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:34	92-52-4	
Diphenyl ether (Phenyl ether)	11.7	ug/L	10.0	1	11/12/15 15:39	11/13/15 22:34	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	43	%	27-110	1	11/12/15 15:39	11/13/15 22:34	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	1		11/18/15 17:55	67-64-1	
Benzene	ND	ug/L	5.0	1		11/18/15 17:55	71-43-2	
Bromochloromethane	ND	ug/L	5.0	1		11/18/15 17:55	74-97-5	L3
Bromodichloromethane	ND	ug/L	5.0	1		11/18/15 17:55	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/18/15 17:55	75-25-2	
Bromomethane	ND	ug/L	10.0	1		11/18/15 17:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/18/15 17:55	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/18/15 17:55	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/18/15 17:55	56-23-5	
Chlorobenzene	8.9	ug/L	5.0	1		11/18/15 17:55	108-90-7	
Chloroethane	11.8	ug/L	10.0	1		11/18/15 17:55	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/18/15 17:55	67-66-3	
Chloromethane	ND	ug/L	5.0	1		11/18/15 17:55	74-87-3	
Cyclohexane	ND	ug/L	5.0	1		11/18/15 17:55	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/18/15 17:55	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1		11/18/15 17:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/18/15 17:55	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1		11/18/15 17:55	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		11/18/15 17:55	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 17:55	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		11/18/15 17:55	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/18/15 17:55	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1		11/18/15 17:55	98-82-8	
Methyl acetate	ND	ug/L	10.0	1		11/18/15 17:55	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1		11/18/15 17:55	108-87-2	
Methylene Chloride	ND	ug/L	5.0	1		11/18/15 17:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/18/15 17:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/18/15 17:55	1634-04-4	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-22B	Lab ID: 92275754004	Collected: 11/10/15 15:05	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Styrene	ND	ug/L	5.0	1		11/18/15 17:55	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/18/15 17:55	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		11/18/15 17:55	127-18-4	
Toluene	ND	ug/L	5.0	1		11/18/15 17:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 17:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		11/18/15 17:55	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		11/18/15 17:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1		11/18/15 17:55	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	1		11/18/15 17:55	76-13-1	
Vinyl chloride	ND	ug/L	5.0	1		11/18/15 17:55	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		11/18/15 17:55	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105	%	70-130	1		11/18/15 17:55	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/18/15 17:55	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		11/18/15 17:55	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	1720	ug/L	100	50		11/12/15 19:29	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	103	%	50-150	50		11/12/15 19:29	17060-07-0	
Toluene-d8 (S)	98	%	50-150	50		11/12/15 19:29	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	724	mg/L	5.0	1		11/18/15 18:45		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:15		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/12/15 07:15		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	0.38	mg/L	0.050	1		11/11/15 22:20		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	6.6	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Total Organic Carbon	6.6	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Total Organic Carbon	6.7	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Total Organic Carbon	6.5	mg/L	5.0	5		11/16/15 17:55	7440-44-0	
Mean Total Organic Carbon	6.6	mg/L	5.0	5		11/16/15 17:55	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-99B	Lab ID: 92275754005	Collected: 11/10/15 15:10	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:00	92-52-4	
Diphenyl ether (Phenyl ether)	10.3	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:00	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	61	%	27-110	1	11/12/15 15:39	11/13/15 23:00	321-60-8	
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		11/18/15 18:29	67-64-1	
Benzene	ND	ug/L	5.0	1		11/18/15 18:29	71-43-2	
Bromochloromethane	ND	ug/L	5.0	1		11/18/15 18:29	74-97-5	L3
Bromodichloromethane	ND	ug/L	5.0	1		11/18/15 18:29	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/18/15 18:29	75-25-2	
Bromomethane	ND	ug/L	10.0	1		11/18/15 18:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/18/15 18:29	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/18/15 18:29	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/18/15 18:29	56-23-5	
Chlorobenzene	8.7	ug/L	5.0	1		11/18/15 18:29	108-90-7	
Chloroethane	10.3	ug/L	10.0	1		11/18/15 18:29	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/18/15 18:29	67-66-3	
Chloromethane	ND	ug/L	5.0	1		11/18/15 18:29	74-87-3	
Cyclohexane	ND	ug/L	5.0	1		11/18/15 18:29	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/18/15 18:29	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1		11/18/15 18:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/18/15 18:29	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1		11/18/15 18:29	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		11/18/15 18:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 18:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		11/18/15 18:29	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		11/18/15 18:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/18/15 18:29	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1		11/18/15 18:29	98-82-8	
Methyl acetate	ND	ug/L	10.0	1		11/18/15 18:29	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1		11/18/15 18:29	108-87-2	
Methylene Chloride	ND	ug/L	5.0	1		11/18/15 18:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/18/15 18:29	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/18/15 18:29	1634-04-4	
Styrene	ND	ug/L	5.0	1		11/18/15 18:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/18/15 18:29	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		11/18/15 18:29	127-18-4	
Toluene	ND	ug/L	5.0	1		11/18/15 18:29	108-88-3	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

<b>Sample: B-99B</b>		<b>Lab ID: 92275754005</b>		Collected: 11/10/15 15:10	Received: 11/11/15 05:58	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/18/15 18:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		11/18/15 18:29	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		11/18/15 18:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1		11/18/15 18:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	1		11/18/15 18:29	76-13-1	
Vinyl chloride	ND	ug/L	5.0	1		11/18/15 18:29	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		11/18/15 18:29	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/18/15 18:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/18/15 18:29	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		11/18/15 18:29	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>1610</b>	ug/L	50.0	25		11/12/15 19:49	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	102	%	50-150	25		11/12/15 19:49	17060-07-0	
Toluene-d8 (S)	98	%	50-150	25		11/12/15 19:49	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: SW-7</b>								
<b>Lab ID: 92275754006</b>								
Collected: 11/10/15 13:10    Received: 11/11/15 05:58    Matrix: Water								
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:32	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270    Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:26	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:26	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	72	%	27-110	1	11/12/15 15:39	11/13/15 23:26	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 20:09	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/12/15 20:09	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 20:09	2037-26-5	

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### ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Sample: SW-5	Lab ID: 92275754007	Collected: 11/10/15 15:45	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:41	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:52	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/13/15 23:52	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	48	%	27-110	1	11/12/15 15:39	11/13/15 23:52	321-60-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 21:10	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/12/15 21:10	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		11/12/15 21:10	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Sample: CSW-2	Lab ID: 92275754008	Collected: 11/10/15 15:55	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>12.4</b>	ug/L	2.0	1		11/12/15 21:30	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		11/12/15 21:30	17060-07-0	
Toluene-d8 (S)	96	%	50-150	1		11/12/15 21:30	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: CSW-1</b>								
<b>Lab ID: 92275754009</b>								
Collected: 11/10/15 16:05								
Received: 11/11/15 05:58								
Matrix: Water								
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	<b>14.0</b>	ug/L	2.0	1		11/12/15 21:51	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		11/12/15 21:51	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 21:51	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: SW-3</b>								
<b>Lab ID: 92275754010</b>								
Collected: 11/10/15 16:20								
Received: 11/11/15 05:58								
Matrix: Water								
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 13:53	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:18	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:18	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	76	%	27-110	1	11/12/15 15:39	11/14/15 00:18	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 22:11	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		11/12/15 22:11	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 22:11	2037-26-5	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275754

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: SW-8</b>								
<b>Lab ID: 92275754011</b>								
Collected: 11/10/15 16:45    Received: 11/11/15 05:58    Matrix: Water								
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 14:02	107-21-1	D3
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270    Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/17/15 09:30	11/18/15 13:50	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/17/15 09:30	11/18/15 13:50	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	64	%	27-110	1	11/17/15 09:30	11/18/15 13:50	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/15 22:31	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/12/15 22:31	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/12/15 22:31	2037-26-5	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

Sample: B-09C	Lab ID: 92275754012	Collected: 11/10/15 17:35	Received: 11/11/15 05:58	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	500	100		11/17/15 13:22	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 05:28	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:43	92-52-4	
Diphenyl ether (Phenyl ether)	<b>10.6</b>	ug/L	10.0	1	11/12/15 15:39	11/14/15 00:43	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	82	%	27-110	1	11/12/15 15:39	11/14/15 00:43	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	<b>2660</b>	ug/L	500	20		11/17/15 19:18	67-64-1	
Benzene	ND	ug/L	100	20		11/17/15 19:18	71-43-2	
Bromochloromethane	ND	ug/L	100	20		11/17/15 19:18	74-97-5	
Bromodichloromethane	ND	ug/L	100	20		11/17/15 19:18	75-27-4	
Bromoform	ND	ug/L	100	20		11/17/15 19:18	75-25-2	
Bromomethane	ND	ug/L	200	20		11/17/15 19:18	74-83-9	
2-Butanone (MEK)	<b>256</b>	ug/L	200	20		11/17/15 19:18	78-93-3	
Carbon disulfide	ND	ug/L	200	20		11/17/15 19:18	75-15-0	
Carbon tetrachloride	ND	ug/L	100	20		11/17/15 19:18	56-23-5	
Chlorobenzene	ND	ug/L	100	20		11/17/15 19:18	108-90-7	
Chloroethane	ND	ug/L	200	20		11/17/15 19:18	75-00-3	
Chloroform	ND	ug/L	100	20		11/17/15 19:18	67-66-3	
Chloromethane	ND	ug/L	100	20		11/17/15 19:18	74-87-3	
Cyclohexane	ND	ug/L	100	20		11/17/15 19:18	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20		11/17/15 19:18	96-12-8	
Dibromochloromethane	ND	ug/L	100	20		11/17/15 19:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	100	20		11/17/15 19:18	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	100	20		11/17/15 19:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	100	20		11/17/15 19:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	100	20		11/17/15 19:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	100	20		11/17/15 19:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	20		11/17/15 19:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	100	20		11/17/15 19:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	100	20		11/17/15 19:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	100	20		11/17/15 19:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	100	20		11/17/15 19:18	10061-02-6	
Ethylbenzene	ND	ug/L	100	20		11/17/15 19:18	100-41-4	
2-Hexanone	ND	ug/L	200	20		11/17/15 19:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	100	20		11/17/15 19:18	98-82-8	
Methyl acetate	ND	ug/L	200	20		11/17/15 19:18	79-20-9	
Methylcyclohexane	ND	ug/L	200	20		11/17/15 19:18	108-87-2	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275754

<b>Sample: B-09C</b>		<b>Lab ID: 92275754012</b>		Collected: 11/10/15 17:35	Received: 11/11/15 05:58	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	100	20		11/17/15 19:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	20		11/17/15 19:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	100	20		11/17/15 19:18	1634-04-4	
Styrene	ND	ug/L	100	20		11/17/15 19:18	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	100	20		11/17/15 19:18	79-34-5	
Tetrachloroethene	ND	ug/L	100	20		11/17/15 19:18	127-18-4	
Toluene	ND	ug/L	100	20		11/17/15 19:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	20		11/17/15 19:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	100	20		11/17/15 19:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	20		11/17/15 19:18	79-00-5	
Trichloroethene	ND	ug/L	100	20		11/17/15 19:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	20		11/17/15 19:18	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	100	20		11/17/15 19:18	76-13-1	
Vinyl chloride	ND	ug/L	100	20		11/17/15 19:18	75-01-4	
Xylene (Total)	ND	ug/L	200	20		11/17/15 19:18	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100	%	70-130	20		11/17/15 19:18	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	20		11/17/15 19:18	17060-07-0	
Toluene-d8 (S)	101	%	70-130	20		11/17/15 19:18	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>909</b>	ug/L	20.0	10		11/12/15 22:51	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	108	%	50-150	10		11/12/15 22:51	17060-07-0	
Toluene-d8 (S)	96	%	50-150	10		11/12/15 22:51	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>2260</b>	mg/L	5.0	1		11/19/15 12:04		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 07:16		
Nitrogen, Nitrite	<b>0.073</b>	mg/L	0.020	1		11/12/15 07:16		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.32</b>	mg/L	0.25	5		11/11/15 22:20		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

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QC Batch:	GCSV/17520	Analysis Method:	EPA 8015 Alcohol-Glycol
QC Batch Method:	EPA 8015 Alcohol-Glycol	Analysis Description:	EPA 8015 Modified
Associated Lab Samples:	92275754001, 92275754002, 92275754006, 92275754007, 92275754010, 92275754011, 92275754012		

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METHOD BLANK: 1426234 Matrix: Water

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	5.0	11/17/15 12:40	

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LABORATORY CONTROL SAMPLE: 1426235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	25	22.4	89	79-129	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: GWD/2671 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions, GWD  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1609962 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	11/19/15 01:24	

LABORATORY CONTROL SAMPLE: 1609963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1609964 1609965

Parameter	Units	92275754001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Sulfate	mg/L	7.7	50	50	47.3	48.8	79	82	90-110	3	M1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: MSV/34316      Analysis Method: EPA 8260  
QC Batch Method: EPA 8260      Analysis Description: 8260 MSV  
Associated Lab Samples: 92275754012

METHOD BLANK: 1608047      Matrix: Water  
Associated Lab Samples: 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/17/15 14:29	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloropropane	ug/L	ND	5.0	11/17/15 14:29	
1,3-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
2-Butanone (MEK)	ug/L	ND	10.0	11/17/15 14:29	
2-Hexanone	ug/L	ND	10.0	11/17/15 14:29	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/17/15 14:29	
Acetone	ug/L	ND	25.0	11/17/15 14:29	
Benzene	ug/L	ND	5.0	11/17/15 14:29	
Bromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromodichloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromoform	ug/L	ND	5.0	11/17/15 14:29	
Bromomethane	ug/L	ND	10.0	11/17/15 14:29	
Carbon disulfide	ug/L	ND	10.0	11/17/15 14:29	
Carbon tetrachloride	ug/L	ND	5.0	11/17/15 14:29	
Chlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
Chloroethane	ug/L	ND	10.0	11/17/15 14:29	
Chloroform	ug/L	ND	5.0	11/17/15 14:29	
Chloromethane	ug/L	ND	5.0	11/17/15 14:29	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
cis-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Cyclohexane	ug/L	ND	5.0	11/17/15 14:29	
Dibromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Dichlorodifluoromethane	ug/L	ND	5.0	11/17/15 14:29	
Ethylbenzene	ug/L	ND	5.0	11/17/15 14:29	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	11/17/15 14:29	
Methyl acetate	ug/L	ND	10.0	11/17/15 14:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/17/15 14:29	
Methylcyclohexane	ug/L	ND	10.0	11/17/15 14:29	
Methylene Chloride	ug/L	ND	5.0	11/17/15 14:29	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

METHOD BLANK: 1608047

Matrix: Water

Associated Lab Samples: 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	11/17/15 14:29	
Tetrachloroethene	ug/L	ND	5.0	11/17/15 14:29	
Toluene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Trichloroethene	ug/L	ND	5.0	11/17/15 14:29	
Trichlorofluoromethane	ug/L	ND	10.0	11/17/15 14:29	
Vinyl chloride	ug/L	ND	5.0	11/17/15 14:29	
Xylene (Total)	ug/L	ND	10.0	11/17/15 14:29	
1,2-Dichloroethane-d4 (S)	%	99	70-130	11/17/15 14:29	
4-Bromofluorobenzene (S)	%	100	70-130	11/17/15 14:29	
Toluene-d8 (S)	%	102	70-130	11/17/15 14:29	

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	44.9	90	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	94	79-124	
1,1,2-Trichloroethane	ug/L	50	44.4	89	85-125	
1,1,2-Trichlorotrifluoroethane	ug/L	50	47.9	96	71-142	
1,1-Dichloroethane	ug/L	50	43.1	86	73-126	
1,1-Dichloroethene	ug/L	50	48.5	97	66-135	
1,2,3-Trichlorobenzene	ug/L	50	49.7	99	73-135	
1,2,4-Trichlorobenzene	ug/L	50	48.1	96	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.0	106	83-124	
1,2-Dichlorobenzene	ug/L	50	50.4	101	80-133	
1,2-Dichloroethane	ug/L	50	47.4	95	67-128	
1,2-Dichloropropane	ug/L	50	46.2	92	75-132	
1,3-Dichlorobenzene	ug/L	50	50.4	101	77-130	
1,4-Dichlorobenzene	ug/L	50	49.4	99	78-130	
2-Butanone (MEK)	ug/L	100	98.2	98	61-144	
2-Hexanone	ug/L	100	98.2	98	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.9	91	72-135	
Acetone	ug/L	100	89.8	90	48-146	
Benzene	ug/L	50	48.1	96	80-125	
Bromochloromethane	ug/L	50	57.1	114	71-125	
Bromodichloromethane	ug/L	50	44.5	89	78-124	
Bromoform	ug/L	50	47.1	94	71-128	
Bromomethane	ug/L	50	53.9	108	40-160	
Carbon disulfide	ug/L	50	47.6	95	50-160	
Carbon tetrachloride	ug/L	50	46.8	94	69-131	
Chlorobenzene	ug/L	50	47.8	96	81-122	
Chloroethane	ug/L	50	50.5	101	39-148	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	50.1	100	73-127	
Chloromethane	ug/L	50	49.0	98	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.4	101	74-124	
cis-1,3-Dichloropropene	ug/L	50	48.0	96	72-132	
Cyclohexane	ug/L	50	47.5	95	62-145	
Dibromochloromethane	ug/L	50	51.5	103	78-125	
Dichlorodifluoromethane	ug/L	50	51.3	103	34-157	
Ethylbenzene	ug/L	50	48.0	96	79-121	
Isopropylbenzene (Cumene)	ug/L	50	53.0	106	81-132	
Methyl acetate	ug/L	50	59.1	118	58-128	
Methyl-tert-butyl ether	ug/L	50	50.6	101	74-131	
Methylcyclohexane	ug/L	50	47.5	95	65-144	
Methylene Chloride	ug/L	50	50.1	100	64-133	
Styrene	ug/L	50	49.9	100	84-126	
Tetrachloroethene	ug/L	50	49.8	100	78-122	
Toluene	ug/L	50	42.0	84	80-121	
trans-1,2-Dichloroethene	ug/L	50	46.7	93	71-127	
trans-1,3-Dichloropropene	ug/L	50	46.9	94	69-141	
Trichloroethene	ug/L	50	45.9	92	78-122	
Trichlorofluoromethane	ug/L	50	47.5	95	53-137	
Vinyl chloride	ug/L	50	50.1	100	58-137	
Xylene (Total)	ug/L	150	146	97	81-126	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			93	70-130	

MATRIX SPIKE SAMPLE: 1608049

Parameter	Units	92275933004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	18.1	90	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	16.7	84	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	17.7	89	70-130	
1,1-Dichloroethane	ug/L	ND	20	17.2	86	70-130	
1,1-Dichloroethene	ug/L	ND	20	18.6	93	65-160	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.2	96	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.8	94	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.9	99	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.2	106	60-139	
1,2-Dichlorobenzene	ug/L	ND	20	21.1	106	70-130	
1,2-Dichloroethane	ug/L	ND	20	16.4	82	70-130	
1,2-Dichloropropane	ug/L	ND	20	18.1	91	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.4	107	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	20.9	104	70-130	
2-Butanone (MEK)	ug/L	ND	40	35.0	88	70-130	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

MATRIX SPIKE SAMPLE: 1608049		92275933004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Hexanone	ug/L	ND	40	40.6	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	34.6	87	70-130	
Acetone	ug/L	19.1J	40	37.4	46	70-130	M1
Benzene	ug/L	3.8J	20	22.9	96	58-162	
Bromochloromethane	ug/L	ND	20	18.6	93	70-130	
Bromodichloromethane	ug/L	ND	20	17.9	89	70-130	
Bromoform	ug/L	ND	20	16.3	81	70-130	
Bromomethane	ug/L	ND	20	12.3	61	70-130	M1
Carbon disulfide	ug/L	ND	20	17.2	86	70-130	
Carbon tetrachloride	ug/L	ND	20	19.2	96	70-130	
Chlorobenzene	ug/L	ND	20	21.5	107	70-138	
Chloroethane	ug/L	ND	20	16.2	81	70-130	
Chloroform	ug/L	ND	20	18.3	92	70-130	
Chloromethane	ug/L	ND	20	18.2	91	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	17.9	89	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.3	86	70-130	
Cyclohexane	ug/L	2.4J	20	19.6	86	70-130	
Dibromochloromethane	ug/L	ND	20	19.6	98	70-130	
Dichlorodifluoromethane	ug/L	ND	20	17.5	88	70-130	
Ethylbenzene	ug/L	ND	20	20.9	100	22-189	
Isopropylbenzene (Cumene)	ug/L	6.8	20	27.8	105	70-130	
Methyl acetate	ug/L	ND	20	16.1	81	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.1	86	37-169	
Methylcyclohexane	ug/L	ND	20	18.4	83	70-130	
Methylene Chloride	ug/L	ND	20	15.6	78	70-130	
Styrene	ug/L	ND	20	20.7	104	70-130	
Tetrachloroethene	ug/L	ND	20	21.4	107	70-130	
Toluene	ug/L	ND	20	17.0	85	65-152	
trans-1,2-Dichloroethene	ug/L	ND	20	17.7	89	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	16.8	84	70-130	
Trichloroethene	ug/L	ND	20	17.6	88	70-142	
Trichlorofluoromethane	ug/L	ND	20	18.5	92	70-130	
Vinyl chloride	ug/L	ND	20	18.4	92	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				94	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichlorobenzene	ug/L	ND	ND		
1,2,4-Trichlorobenzene	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,3-Dichlorobenzene	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	22.5J	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	ND	ND		
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Cyclohexane	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dichlorodifluoromethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Isopropylbenzene (Cumene)	ug/L	ND	ND		
Methyl acetate	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Methylcyclohexane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	99	99		1
4-Bromofluorobenzene (S)	%	97	99		2

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	103	103	1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: MSV/34335 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005

METHOD BLANK: 1609255 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1-Dichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,1-Dichloroethene	ug/L	ND	5.0	11/18/15 16:13	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/18/15 16:13	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dichloroethane	ug/L	ND	5.0	11/18/15 16:13	
1,2-Dichloropropane	ug/L	ND	5.0	11/18/15 16:13	
1,3-Dichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
2-Butanone (MEK)	ug/L	ND	10.0	11/18/15 16:13	
2-Hexanone	ug/L	ND	10.0	11/18/15 16:13	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/18/15 16:13	
Acetone	ug/L	ND	25.0	11/18/15 16:13	
Benzene	ug/L	ND	5.0	11/18/15 16:13	
Bromochloromethane	ug/L	ND	5.0	11/18/15 16:13	
Bromodichloromethane	ug/L	ND	5.0	11/18/15 16:13	
Bromoform	ug/L	ND	5.0	11/18/15 16:13	
Bromomethane	ug/L	ND	10.0	11/18/15 16:13	
Carbon disulfide	ug/L	ND	10.0	11/18/15 16:13	
Carbon tetrachloride	ug/L	ND	5.0	11/18/15 16:13	
Chlorobenzene	ug/L	ND	5.0	11/18/15 16:13	
Chloroethane	ug/L	ND	10.0	11/18/15 16:13	
Chloroform	ug/L	ND	5.0	11/18/15 16:13	
Chloromethane	ug/L	ND	5.0	11/18/15 16:13	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/18/15 16:13	
cis-1,3-Dichloropropene	ug/L	ND	5.0	11/18/15 16:13	
Cyclohexane	ug/L	ND	5.0	11/18/15 16:13	
Dibromochloromethane	ug/L	ND	5.0	11/18/15 16:13	
Dichlorodifluoromethane	ug/L	ND	5.0	11/18/15 16:13	
Ethylbenzene	ug/L	ND	5.0	11/18/15 16:13	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	11/18/15 16:13	
Methyl acetate	ug/L	ND	10.0	11/18/15 16:13	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/18/15 16:13	
Methylcyclohexane	ug/L	ND	10.0	11/18/15 16:13	
Methylene Chloride	ug/L	ND	5.0	11/18/15 16:13	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

METHOD BLANK: 1609255 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	11/18/15 16:13	
Tetrachloroethene	ug/L	ND	5.0	11/18/15 16:13	
Toluene	ug/L	ND	5.0	11/18/15 16:13	
trans-1,2-Dichloroethene	ug/L	ND	5.0	11/18/15 16:13	
trans-1,3-Dichloropropene	ug/L	ND	5.0	11/18/15 16:13	
Trichloroethene	ug/L	ND	5.0	11/18/15 16:13	
Trichlorofluoromethane	ug/L	ND	10.0	11/18/15 16:13	
Vinyl chloride	ug/L	ND	5.0	11/18/15 16:13	
Xylene (Total)	ug/L	ND	10.0	11/18/15 16:13	
1,2-Dichloroethane-d4 (S)	%	95	70-130	11/18/15 16:13	
4-Bromofluorobenzene (S)	%	105	70-130	11/18/15 16:13	
Toluene-d8 (S)	%	107	70-130	11/18/15 16:13	

LABORATORY CONTROL SAMPLE: 1609256

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	52.2	104	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	49.9	100	79-124	
1,1,2-Trichloroethane	ug/L	50	52.3	105	85-125	
1,1,2-Trichlorotrifluoroethane	ug/L	50	52.0	104	71-142	
1,1-Dichloroethane	ug/L	50	49.5	99	73-126	
1,1-Dichloroethene	ug/L	50	56.1	112	66-135	
1,2,3-Trichlorobenzene	ug/L	50	52.0	104	73-135	
1,2,4-Trichlorobenzene	ug/L	50	49.4	99	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	50.4	101	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	56.0	112	83-124	
1,2-Dichlorobenzene	ug/L	50	50.5	101	80-133	
1,2-Dichloroethane	ug/L	50	45.8	92	67-128	
1,2-Dichloropropane	ug/L	50	51.2	102	75-132	
1,3-Dichlorobenzene	ug/L	50	50.9	102	77-130	
1,4-Dichlorobenzene	ug/L	50	50.0	100	78-130	
2-Butanone (MEK)	ug/L	100	114	114	61-144	
2-Hexanone	ug/L	100	105	105	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	72-135	
Acetone	ug/L	100	103	103	48-146	
Benzene	ug/L	50	54.2	108	80-125	
Bromochloromethane	ug/L	50	63.0	126	71-125 L0	
Bromodichloromethane	ug/L	50	49.5	99	78-124	
Bromoform	ug/L	50	49.6	99	71-128	
Bromomethane	ug/L	50	79.2	158	40-160	
Carbon disulfide	ug/L	50	57.8	116	50-160	
Carbon tetrachloride	ug/L	50	50.7	101	69-131	
Chlorobenzene	ug/L	50	49.2	98	81-122	
Chloroethane	ug/L	50	50.8	102	39-148	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

LABORATORY CONTROL SAMPLE: 1609256

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	49.6	99	73-127	
Chloromethane	ug/L	50	56.2	112	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.3	101	74-124	
cis-1,3-Dichloropropene	ug/L	50	53.5	107	72-132	
Cyclohexane	ug/L	50	53.3	107	62-145	
Dibromochloromethane	ug/L	50	49.9	100	78-125	
Dichlorodifluoromethane	ug/L	50	55.5	111	34-157	
Ethylbenzene	ug/L	50	48.2	96	79-121	
Isopropylbenzene (Cumene)	ug/L	50	52.4	105	81-132	
Methyl acetate	ug/L	50	59.3	119	58-128	
Methyl-tert-butyl ether	ug/L	50	59.7	119	74-131	
Methylcyclohexane	ug/L	50	51.1	102	65-144	
Methylene Chloride	ug/L	50	53.8	108	64-133	
Styrene	ug/L	50	48.5	97	84-126	
Tetrachloroethene	ug/L	50	50.5	101	78-122	
Toluene	ug/L	50	48.8	98	80-121	
trans-1,2-Dichloroethene	ug/L	50	53.7	107	71-127	
trans-1,3-Dichloropropene	ug/L	50	54.6	109	69-141	
Trichloroethene	ug/L	50	50.9	102	78-122	
Trichlorofluoromethane	ug/L	50	50.7	101	53-137	
Vinyl chloride	ug/L	50	60.4	121	58-137	
Xylene (Total)	ug/L	150	143	96	81-126	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1609436

Parameter	Units	92275754003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	23.3	117	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.7	103	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	21.4	107	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	23.2	116	70-130	
1,1-Dichloroethane	ug/L	6.5	20	29.1	113	70-130	
1,1-Dichloroethene	ug/L	ND	20	26.2	127	65-160	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.0	100	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	20.0	100	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.2	96	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.9	110	60-139	
1,2-Dichlorobenzene	ug/L	ND	20	21.6	103	70-130	
1,2-Dichloroethane	ug/L	ND	20	20.8	101	70-130	
1,2-Dichloropropane	ug/L	ND	20	22.8	114	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.3	106	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	21.0	104	70-130	
2-Butanone (MEK)	ug/L	ND	40	46.3	116	70-130	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

MATRIX SPIKE SAMPLE: 1609436		92275754003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Hexanone	ug/L	ND	40	40.8	102	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	41.1	103	70-130	
Acetone	ug/L	ND	40	50.4	96	70-130	
Benzene	ug/L	ND	20	24.3	122	58-162	
Bromochloromethane	ug/L	ND	20	25.8	129	70-130	
Bromodichloromethane	ug/L	ND	20	21.8	109	70-130	
Bromoform	ug/L	ND	20	17.3	87	70-130	
Bromomethane	ug/L	ND	20	22.2	111	70-130	
Carbon disulfide	ug/L	ND	20	25.3	127	70-130	
Carbon tetrachloride	ug/L	ND	20	23.7	119	70-130	
Chlorobenzene	ug/L	7.5	20	29.5	110	70-138	
Chloroethane	ug/L	ND	20	28.9	136	70-130	M1
Chloroform	ug/L	ND	20	22.3	112	70-130	
Chloromethane	ug/L	ND	20	17.6	88	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	23.1	116	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	21.5	107	70-130	
Cyclohexane	ug/L	ND	20	23.6	118	70-130	
Dibromochloromethane	ug/L	ND	20	18.8	94	70-130	
Dichlorodifluoromethane	ug/L	ND	20	18.2	91	70-130	
Ethylbenzene	ug/L	ND	20	21.2	106	22-189	
Isopropylbenzene (Cumene)	ug/L	ND	20	23.2	116	70-130	
Methyl acetate	ug/L	ND	20	22.5	112	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	23.5	117	37-169	
Methylcyclohexane	ug/L	ND	20	21.9	109	70-130	
Methylene Chloride	ug/L	ND	20	24.3	121	70-130	
Styrene	ug/L	ND	20	21.7	108	70-130	
Tetrachloroethene	ug/L	ND	20	21.6	108	70-130	
Toluene	ug/L	ND	20	22.2	111	65-152	
trans-1,2-Dichloroethene	ug/L	ND	20	24.2	121	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	21.3	106	70-130	
Trichloroethene	ug/L	ND	20	23.1	116	70-142	
Trichlorofluoromethane	ug/L	ND	20	22.7	114	70-130	
Vinyl chloride	ug/L	ND	20	27.7	128	70-130	
1,2-Dichloroethane-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1609437

Parameter	Units	92275754004 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

SAMPLE DUPLICATE: 1609437

Parameter	Units	92275754004 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichlorobenzene	ug/L	ND	ND		
1,2,4-Trichlorobenzene	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,3-Dichlorobenzene	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	ND	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	8.9	8.3	6	
Chloroethane	ug/L	11.8	10.2	14	
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Cyclohexane	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dichlorodifluoromethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Isopropylbenzene (Cumene)	ug/L	ND	ND		
Methyl acetate	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Methylcyclohexane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	100	98	2	
4-Bromofluorobenzene (S)	%	105	101	3	

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1609437

Parameter	Units	92275754004 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	108	107	1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: MSV/34257 Analysis Method: EPA 8260B Mod.  
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754008, 92275754009, 92275754010, 92275754011, 92275754012

METHOD BLANK: 1604959 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754008, 92275754009, 92275754010, 92275754011, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/12/15 18:08	
1,2-Dichloroethane-d4 (S)	%	100	50-150	11/12/15 18:08	
Toluene-d8 (S)	%	99	50-150	11/12/15 18:08	

LABORATORY CONTROL SAMPLE: 1604960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.6	103	71-125	
1,2-Dichloroethane-d4 (S)	%			103	50-150	
Toluene-d8 (S)	%			97	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1604961 1604962

Parameter	Units	92275754006		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	21.0	21.6	97	100	50-150	3		
1,2-Dichloroethane-d4 (S)	%						107	106	50-150			
Toluene-d8 (S)	%						98	98	50-150			

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
QC Project No.: 92275754

QC Batch: OEXT/39029 Analysis Method: EPA 8270  
QC Batch Method: EPA 3510 Analysis Description: 8270 Water MSSV HVI  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754010, 92275754012

METHOD BLANK: 1605123 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754005, 92275754006, 92275754007, 92275754010, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	11/13/15 14:56	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	11/13/15 14:56	
2,4,6-Tribromophenol (S)	%	39	27-110	11/13/15 14:56	
2-Fluorobiphenyl (S)	%	69	27-110	11/13/15 14:56	
2-Fluorophenol (S)	%	34	12-110	11/13/15 14:56	
Nitrobenzene-d5 (S)	%	73	21-110	11/13/15 14:56	
Phenol-d6 (S)	%	29	10-110	11/13/15 14:56	
Terphenyl-d14 (S)	%	82	31-107	11/13/15 14:56	

LABORATORY CONTROL SAMPLE: 1605124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	50	33.4	67	38-120	
Diphenyl ether (Phenyl ether)	ug/L	50	33.7	67	51-120	
2,4,6-Tribromophenol (S)	%			95	27-110	
2-Fluorobiphenyl (S)	%			69	27-110	
2-Fluorophenol (S)	%			37	12-110	
Nitrobenzene-d5 (S)	%			77	21-110	
Phenol-d6 (S)	%			25	10-110	
Terphenyl-d14 (S)	%			99	31-107	

MATRIX SPIKE SAMPLE: 1605125

Parameter	Units	92275067003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	50	41.6	83	50-150	
Diphenyl ether (Phenyl ether)	ug/L	ND	50	41.4	83	50-150	
2,4,6-Tribromophenol (S)	%				121	27-110	S0
2-Fluorobiphenyl (S)	%				91	27-110	
2-Fluorophenol (S)	%				52	12-110	
Nitrobenzene-d5 (S)	%				93	21-110	
Phenol-d6 (S)	%				38	10-110	
Terphenyl-d14 (S)	%				81	31-107	

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

SAMPLE DUPLICATE: 1605126

Parameter	Units	92275067004 Result	Dup Result	RPD	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	ND		
Diphenyl ether (Phenyl ether)	ug/L	ND	ND		
2,4,6-Tribromophenol (S)	%	52	54	5	
2-Fluorobiphenyl (S)	%	79	70	12	
2-Fluorophenol (S)	%	38	41	10	
Nitrobenzene-d5 (S)	%	75	73	3	
Phenol-d6 (S)	%	29	34	15	
Terphenyl-d14 (S)	%	87	94	8	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: OEXT/39091      Analysis Method: EPA 8270  
QC Batch Method: EPA 3510      Analysis Description: 8270 Water MSSV HVI  
Associated Lab Samples: 92275754011

METHOD BLANK: 1608030      Matrix: Water  
Associated Lab Samples: 92275754011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	11/17/15 13:51	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	11/17/15 13:51	
2,4,6-Tribromophenol (S)	%	64	27-110	11/17/15 13:51	
2-Fluorobiphenyl (S)	%	82	27-110	11/17/15 13:51	
2-Fluorophenol (S)	%	44	12-110	11/17/15 13:51	
Nitrobenzene-d5 (S)	%	76	21-110	11/17/15 13:51	
Phenol-d6 (S)	%	35	10-110	11/17/15 13:51	
Terphenyl-d14 (S)	%	80	31-107	11/17/15 13:51	

LABORATORY CONTROL SAMPLE & LCSD: 1608031

Parameter	Units	1608032							Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD		
Biphenyl (Diphenyl)	ug/L	50	38.3	39.2	77	78	38-120	2	30	
Diphenyl ether (Phenyl ether)	ug/L	50	34.4	37.1	69	74	51-120	7	30	
2,4,6-Tribromophenol (S)	%				88	82	27-110			
2-Fluorobiphenyl (S)	%				84	79	27-110			
2-Fluorophenol (S)	%				47	46	12-110			
Nitrobenzene-d5 (S)	%				82	80	21-110			
Phenol-d6 (S)	%				31	34	10-110			
Terphenyl-d14 (S)	%				92	85	31-107			

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: WET/41436 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1608082 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	5.0	11/18/15 16:37	

LABORATORY CONTROL SAMPLE: 1608083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608084 1608085

Parameter	Units	92275067004		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	6.0	50	50	56.2	56.0	100	100	90-110	0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608086 1608087

Parameter	Units	92275794004		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	102	50	50	147	146	90	88	90-110	1	M1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: WETA/25365 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1604426 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	11/12/15 07:01	
Nitrogen, Nitrite	mg/L	ND	0.020	11/12/15 07:01	

LABORATORY CONTROL SAMPLE: 1604427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1604428 1604429

Parameter	Units	92275754001		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	ND		2.5	2.5	2.3	2.3	91	90	90-110	0				
Nitrogen, Nitrite	mg/L	0.040		1	1	0.81	0.81	77	77	90-110	0 M1				

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275754

QC Batch: WETA/25364

Analysis Method: SM 4500-P E

QC Batch Method: SM 4500-P E

Analysis Description: SM4500P-E Phosphorus, Ortho

Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

METHOD BLANK: 1604413

Matrix: Water

Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004, 92275754012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	11/11/15 22:20	

LABORATORY CONTROL SAMPLE: 1604414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.25	0.27	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1604415 1604416

Parameter	Units	92275754001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Orthophosphate as P	mg/L	1.3	2	2	2	2.4	2.4	53	53	90-110	0	M6		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275754

QC Batch: WETA/25407 Analysis Method: EPA 9060A  
QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004

METHOD BLANK: 1607246 Matrix: Water  
Associated Lab Samples: 92275754001, 92275754002, 92275754003, 92275754004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	

LABORATORY CONTROL SAMPLE: 1607247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.9	96	75-125	
Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607248 1607249

Parameter	92275754001		MS	MSD	MS		MSD		% Rec	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Mean Total Organic Carbon	mg/L	2750	25	25	2730	2750	-76	0	75-125	1	M6
Total Organic Carbon	mg/L	2690	25	25	2750	2840	236	596	75-125	3	M6
Total Organic Carbon	mg/L	2770	25	25	2720	2800	-196	96	75-125	3	M6
Total Organic Carbon	mg/L	2750	25	25	2720	2820	-116	280	75-125	4	M6
Total Organic Carbon	mg/L	2780	25	25	2720	2540	-220	-964	75-125	7	M6

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## QUALIFIERS

Project: CNA/NRLF  
Pace Project No.: 92275754

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-A Pace Analytical Services - Asheville  
PASI-C Pace Analytical Services - Charlotte  
PASI-G Pace Analytical Services - Greenwood  
PASI-I Pace Analytical Services - Indianapolis  
PASI-W Pace Analytical Services - Greenwood

### ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.  
L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.  
L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.  
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.  
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.  
S0 Surrogate recovery outside laboratory control limits.  
S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF  
Pace Project No.: 92275754

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275754001	B-23A	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754002	B-23B	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754006	SW-7	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754007	SW-5	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754010	SW-3	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754011	SW-8	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754012	B-09C	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275754001	B-23A	EPA 9056A	GWD/2671		
92275754002	B-23B	EPA 9056A	GWD/2671		
92275754003	B-22A	EPA 9056A	GWD/2671		
92275754004	B-22B	EPA 9056A	GWD/2671		
92275754012	B-09C	EPA 9056A	GWD/2671		
92275754001	B-23A	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754002	B-23B	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754003	B-22A	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754004	B-22B	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754005	B-99B	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754006	SW-7	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754007	SW-5	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754010	SW-3	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754011	SW-8	EPA 3510	OEXT/39091	EPA 8270	MSSV/11531
92275754012	B-09C	EPA 3510	OEXT/39029	EPA 8270	MSSV/11519
92275754001	B-23A	EPA 8260	MSV/34335		
92275754002	B-23B	EPA 8260	MSV/34335		
92275754003	B-22A	EPA 8260	MSV/34335		
92275754004	B-22B	EPA 8260	MSV/34335		
92275754005	B-99B	EPA 8260	MSV/34335		
92275754012	B-09C	EPA 8260	MSV/34316		
92275754001	B-23A	EPA 8260B Mod.	MSV/34257		
92275754002	B-23B	EPA 8260B Mod.	MSV/34257		
92275754003	B-22A	EPA 8260B Mod.	MSV/34257		
92275754004	B-22B	EPA 8260B Mod.	MSV/34257		
92275754005	B-99B	EPA 8260B Mod.	MSV/34257		
92275754006	SW-7	EPA 8260B Mod.	MSV/34257		
92275754007	SW-5	EPA 8260B Mod.	MSV/34257		
92275754008	CSW-2	EPA 8260B Mod.	MSV/34257		
92275754009	CSW-1	EPA 8260B Mod.	MSV/34257		
92275754010	SW-3	EPA 8260B Mod.	MSV/34257		
92275754011	SW-8	EPA 8260B Mod.	MSV/34257		
92275754012	B-09C	EPA 8260B Mod.	MSV/34257		
92275754001	B-23A	SM 2320B	WET/41436		
92275754002	B-23B	SM 2320B	WET/41436		
92275754003	B-22A	SM 2320B	WET/41436		
92275754004	B-22B	SM 2320B	WET/41436		
92275754012	B-09C	SM 2320B	WET/41436		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF

Pace Project No.: 92275754

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275754001	B-23A	EPA 353.2	WETA/25365		
92275754002	B-23B	EPA 353.2	WETA/25365		
92275754003	B-22A	EPA 353.2	WETA/25365		
92275754004	B-22B	EPA 353.2	WETA/25365		
92275754012	B-09C	EPA 353.2	WETA/25365		
92275754001	B-23A	SM 4500-P E	WETA/25364		
92275754002	B-23B	SM 4500-P E	WETA/25364		
92275754003	B-22A	SM 4500-P E	WETA/25364		
92275754004	B-22B	SM 4500-P E	WETA/25364		
92275754012	B-09C	SM 4500-P E	WETA/25364		
92275754001	B-23A	EPA 9060A	WETA/25407		
92275754002	B-23B	EPA 9060A	WETA/25407		
92275754003	B-22A	EPA 9060A	WETA/25407		
92275754004	B-22B	EPA 9060A	WETA/25407		

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Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: May 10, 2010  
Page 1 of 2\*

Document Number:  
**F-CHR-CS-003-rev.16**

Issuing Authority:  
Pace Huntersville Quality Office

Client Name: Aecom

\* Page 2 of 2 is for Internal Use Only

Courier:  Fed Ex  UP  USP  Clier  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun **T1402** Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor **T1402** No Correction

Corrected Cooler Temp.: 1.7 °C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: AP MKS

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review:	<u>JY</u>	Date:	<u>11/11/15</u>
SRF Review:	<u>JY</u>	Date:	<u>11/12/15</u>

WO#: 92275754



92275754

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)





Pace Analytical Energy Services, LLC  
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November 18, 2015

Kevin Godwin  
Pace Analytical Services, Inc.  
9800 Kinsey Avenue  
Suite 100  
Huntersville, NC 28078

RE: **CNA/NRLF / 92275754**

Pace Workorder: 17373

Dear Kevin Godwin:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, November 13, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 11/18/2015

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 20

Report ID: 17373 - 733415

Page 1 of 18



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### LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water and Solid & Hazardous Waste
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water; Solid and Chemical Materials
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water; Solid and Hazardous Waste
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 17373 CNA/NRLF / 92275754

Lab ID	Sample ID	Matrix	Date Collected	Date Received
173730001	B-23A	Bubble Strip	11/10/2015 10:25	11/13/2015 14:50
173730002	B-23A	Water	11/10/2015 10:25	11/13/2015 14:50
173730003	B-23B	Bubble Strip	11/10/2015 11:15	11/13/2015 14:50
173730004	B-23B	Water	11/10/2015 11:15	11/13/2015 14:50
173730005	B-22A	Bubble Strip	11/10/2015 14:20	11/13/2015 14:50
173730006	B-22A	Water	11/10/2015 14:20	11/13/2015 14:50
173730007	B-22B	Bubble Strip	11/10/2015 15:05	11/13/2015 14:50
173730008	B-22B	Water	11/10/2015 15:05	11/13/2015 14:50



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## PROJECT SUMMARY

Workorder: 17373 CNA/NRLF / 92275754

---

### Batch Comments

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**Batch:** EDON/2719 - Volatile Fatty Acids

The matrix spike and/or spike duplicate, recovery or relative percent difference; accuracy influenced by the concentration of the reference sample 173730002. Analyte Acetic and Butyric acids. Batch acceptance based on laboratory control sample recovery.



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### ANALYTICAL RESULTS

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730001 Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: B-23A Date Collected: 11/10/2015 10:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	9900	ug/l	0.050	0.0080	1	11/18/2015 04:12	TD	n
Ethane	0.0010U	ug/l	0.010	0.0010	1	11/18/2015 04:12	TD	n
Ethene	0.17	ug/l	0.010	0.0030	1	11/18/2015 04:12	TD	n
Carbon Dioxide	730	mg/l	2.0	0.44	1	11/18/2015 04:12	TD	n
Hydrogen	2.2	nM	0.60	0.088	1	11/18/2015 04:12	TD	n



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### ANALYTICAL RESULTS

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730002 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-23A Date Collected: 11/10/2015 10:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	3200	mg/l	50	8.9	10	11/16/2015 19:56	BW	d,n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730003 Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: B-23B Date Collected: 11/10/2015 11:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
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**RISK - MICR**

Analysis Desc: AM20GAX

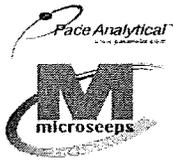
Analytical Method: AM20GAX

Methane	12000	ug/l	0.050	0.0080	1	11/18/2015 04:24	TD	n
Ethane	0.0010U	ug/l	0.010	0.0010	1	11/18/2015 04:24	TD	n
Ethene	0.16	ug/l	0.010	0.0030	1	11/18/2015 04:24	TD	n
Carbon Dioxide	590	mg/l	2.0	0.44	1	11/18/2015 04:24	TD	n
Hydrogen	2.8	nM	0.60	0.088	1	11/18/2015 04:24	TD	n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

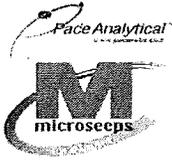
Lab ID: 173730004 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-23B Date Collected: 11/10/2015 11:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	3100	mg/l	50	8.9	10	11/16/2015 20:19	BW	d,n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730005 Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: B-22A Date Collected: 11/10/2015 14:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	34	ug/l	0.050	0.0080	1	11/18/2015 04:37	TD	n
Ethane	1.3	ug/l	0.010	0.0010	1	11/18/2015 04:37	TD	n
Ethene	0.31	ug/l	0.010	0.0030	1	11/18/2015 04:37	TD	n
Carbon Dioxide	250	mg/l	2.0	0.44	1	11/18/2015 04:37	TD	n
Hydrogen	1.6	nM	0.60	0.088	1	11/18/2015 04:37	TD	n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

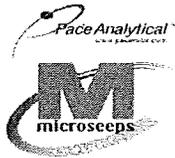
Lab ID: 173730006 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-22A Date Collected: 11/10/2015 14:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	3.0J	mg/l	5.0	0.89	1	11/17/2015 16:33	BW	n



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**ANALYTICAL RESULTS**

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: **173730007** Date Received: 11/13/2015 14:50 Matrix: Bubble Strip  
 Sample ID: **B-22B** Date Collected: 11/10/2015 15:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	12000	ug/l	0.050	0.0080	1	11/18/2015 04:49	TD	n
Ethane	0.77	ug/l	0.010	0.0010	1	11/18/2015 04:49	TD	n
Ethene	0.0030U	ug/l	0.010	0.0030	1	11/18/2015 04:49	TD	n
Carbon Dioxide	260	mg/l	2.0	0.44	1	11/18/2015 04:49	TD	n
Hydrogen	2.0	nM	0.60	0.088	1	11/18/2015 04:49	TD	n



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### ANALYTICAL RESULTS

Workorder: 17373 CNA/NRLF / 92275754

Lab ID: 173730008 Date Received: 11/13/2015 14:50 Matrix: Water  
 Sample ID: B-22B Date Collected: 11/10/2015 15:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	0.89U	mg/l	5.0	0.89	1	11/16/2015 19:33	BW	n



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 17373 CNA/NRLF / 92275754

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### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20Gax, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND** Not detected at or above reporting limit.
- DF** Dilution Factor.
- S** Surrogate.
- RPD** Relative Percent Difference.
- % Rec** Percent Recovery.
- U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
  
- n** The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
- d** The analyte concentration was determined from a dilution.



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**QUALITY CONTROL DATA**

Workorder: 17373 CNA/NRLF / 92275754

QC Batch: EDON/2719 Analysis Method: AM21G  
 QC Batch Method: AM21G  
 Associated Lab Samples: 173730002, 173730004, 173730006, 173730008

METHOD BLANK: 38683

Parameter	Units	Blank Result	Reporting Limit Qualifiers
EDonors Acetic Acid	mg/l	0.89U	0.89 n

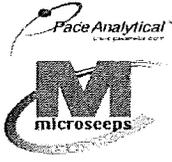
LABORATORY CONTROL SAMPLE: 38684

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors Acetic Acid	mg/l	100	100	105	70-130	n



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**QUALITY CONTROL DATA**

Workorder: 17373 CNA/NRLF / 92275754

QC Batch: DISG/5003 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 173730001, 173730003, 173730005, 173730007

METHOD BLANK: 38695

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.0080U	0.0080	n
Ethane	ug/l	0.0010U	0.0010	n
Ethene	ug/l	0.0030U	0.0030	n

METHOD BLANK: 38696

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Carbon Dioxide	mg/l	0.44U	0.44	n

METHOD BLANK: 38697

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.088U	0.088	n

LABORATORY CONTROL SAMPLE & LCSD: 38698 38701

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	8.2	8.0	8.0	97	97	80-120	0	20	n
Ethane	ug/l	6.5	6.3	6.2	96	96	80-120	0	20	n
Ethene	ug/l	16	16	15	95	94	80-120	1.1	20	n

LABORATORY CONTROL SAMPLE & LCSD: 38699 38702

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Carbon Dioxide	mg/l	97	91	90	93	93	80-120	0	20	n

Report ID: 17373 - 733415



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 220 William Pitt Way  
 Pittsburgh, PA 15238  
 Phone: (412) 826-5245  
 Fax: (412) 826-3433

**QUALITY CONTROL DATA**

Workorder: 17373 CNA/NRLF / 92275754

LABORATORY CONTROL SAMPLE & LCSD: 38700 38703

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	25	24	102	101	80-120	0.99	20	n



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Fax: (412) 826-3433

## QUALITY CONTROL DATA QUALIFIERS

Workorder: 17373 CNA/NRLF / 92275754

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### QUALITY CONTROL PARAMETER QUALIFIERS

n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

Report ID: 17373 - 733415

Page 17 of 18



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Page 66 of 69



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Fax: (412) 826-3433

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 17373 CNA/NRLF / 92275754

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
173730002	B-23A			AM21G	EDON/2719
173730004	B-23B			AM21G	EDON/2719
173730006	B-22A			AM21G	EDON/2719
173730008	B-22B			AM21G	EDON/2719
173730001	B-23A			AM20GAX	DISG/5003
173730003	B-23B			AM20GAX	DISG/5003
173730005	B-22A			AM20GAX	DISG/5003
173730007	B-22B			AM20GAX	DISG/5003



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# Chain of Custody



Workorder: 92275754      Workorder Name: CNA/NRLF      Results Requested 11/19/2015

*Microweighs*

P.O. KRC 14564

17373

Kevin Godwin  
 Pace Analytical Charlotte  
 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092  
 Email: kevin.godwin@pacelabs.com

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Other	Preserved/containers	Methoxy	Ethoxy	ETAC	Dissolved H <sub>2</sub>	Carbon Dioxide	Acetic Acid - AM216	LAB USE ONLY
1	B-23A	11/10/2015 10:25	92275754001	Water		5	X	X	X	X	X	X	
2	B-23B	11/10/2015 11:15	92275754002	Water		5	X	X	X	X	X	X	
3	B-22A	11/10/2015 14:20	92275754003	Water		5	X	X	X	X	X	X	
4	B-22B	11/10/2015 15:05	92275754004	Water		5	X	X	X	X	X	X	
5													
Preserved/containers													
Comments													
Transfers		Released By	Date/Time	Received By	Date/Time	Received on Ice		Y or N		Samples Intact		Y or N	
1		<i>[Signature]</i>	11/16/2015	<i>[Signature]</i>	11.13.15	14SD							
2													
3													

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

# Cooler Receipt Form

Client Name: Pace-H Project: 92275754 Lab Work Order: 17373

**A. Shipping/Container Information (circle appropriate response)**

Courier: FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present: Yes No

Tracking Number: 646172979590

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 2.0°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment
Chain of Custody properly filled out	✓			Reference non-Conformance
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC		✓		
Containers intact	✓			
Were samples in separate bags		✓		
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: \_\_\_\_\_

Cooler contents examined/received by: LJ Date: 11.13.15

Project Manager Review: EW Date: 11-17-15

November 25, 2015

Bryon Dahlgren  
AECOM  
10 Patewood Drive, Bldg 6  
Suite 500  
Greenville, SC 29615

RE: Project: CNA/NRLF  
Pace Project No.: 92275972

Dear Bryon Dahlgren:

Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: CNA/NRLF  
Pace Project No.: 92275972

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268  
Illinois Certification #: 200074  
Indiana Certification #: C-49-06  
Kansas Certification #: E-10177  
Kentucky UST Certification #: 0042  
Kentucky WW Certification #: 98019  
Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065  
Oklahoma Certification #: 2014-148  
Texas Certification #: T104704355-15-9  
West Virginia Certification #: 330  
Wisconsin Certification #: 999788130  
USDA Soil Permit #: P330-10-00128

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### Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

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### Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
West Virginia Certification #: 356  
Virginia/VELAP Certification #: 460222

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### Greenwood Certification IDs

816 Durst Avenue East, Greenwood, SC 29649  
South Carolina Laboratory ID #: 24562  
North Carolina Division of Water Resources Certification  
number 25

Florida Certification number E87633  
Virginia VELAP ID: 460250  
Asbestos NVLAP accreditation: 101410-0

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF  
Pace Project No.: 92275972

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92275972001	B-17C	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275972002	B-17B	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	8	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
92275972003	B-01	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
92275972004	B-10	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
92275972005	B-32B	EPA 8015 Alcohol-Glycol	BJW	1	PASI-I
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260	CCL	53	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A

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### SAMPLE ANALYTE COUNT

Project: CNA/NRLF

Pace Project No.: 92275972

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
		EPA 9060A	MDW	5	PASI-A
<b>92275972006</b>	<b>B-12</b>	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8270	RES	3	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A
<b>92275972007</b>	<b>B-21B</b>	EPA 9056A	CDC	1	PASI-G
		EPA 9056A	CDC	1	PASI-W
		EPA 8260B Mod.	DLK	3	PASI-C
		SM 2320B	MLS	1	PASI-A
		EPA 353.2	SER	2	PASI-A
		SM 4500-P E	WRC	1	PASI-A

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-17C	Lab ID: 92275972001	Collected: 11/11/15 08:25	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	1.4	mg/L	1.0	1		11/19/15 18:50	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 13:46	92-52-4	M1
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 13:46	101-84-8	M1
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	33	%	21-110	1	11/18/15 13:30	11/19/15 13:46	4165-60-0	
2-Fluorobiphenyl (S)	31	%	27-110	1	11/18/15 13:30	11/19/15 13:46	321-60-8	
Terphenyl-d14 (S)	46	%	31-107	1	11/18/15 13:30	11/19/15 13:46	1718-51-0	
Phenol-d6 (S)	13	%	10-110	1	11/18/15 13:30	11/19/15 13:46	13127-88-3	
2-Fluorophenol (S)	17	%	12-110	1	11/18/15 13:30	11/19/15 13:46	367-12-4	
2,4,6-Tribromophenol (S)	27	%	27-110	1	11/18/15 13:30	11/19/15 13:46	118-79-6	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	1810	ug/L	100	50		11/13/15 15:53	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	101	%	50-150	50		11/13/15 15:53	17060-07-0	
Toluene-d8 (S)	91	%	50-150	50		11/13/15 15:53	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	329	mg/L	5.0	1		11/22/15 13:31		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 23:49		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/12/15 23:49		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	0.34	mg/L	0.050	1		11/12/15 23:05		M1
<b>Total Organic Carbon, Asheville</b>	Analytical Method: EPA 9060A							
Total Organic Carbon	61.2	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Total Organic Carbon	58.4	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Total Organic Carbon	59.1	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Total Organic Carbon	59.8	mg/L	2.0	2		11/16/15 18:07	7440-44-0	
Mean Total Organic Carbon	59.6	mg/L	2.0	2		11/16/15 18:07	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

<b>Sample: B-17B</b>		<b>Lab ID: 92275972002</b>	Collected: 11/11/15 09:30	Received: 11/12/15 06:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>9056 IC Anions 28 Days, GWD</b>		Analytical Method: EPA 9056A						
Sulfate	<b>2.3</b>	mg/L	1.0	1		11/19/15 20:03	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>		Analytical Method: EPA 8270 Preparation Method: EPA 3510						
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:00	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:00	101-84-8	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	67	%	21-110	1	11/18/15 13:30	11/19/15 15:00	4165-60-0	
2-Fluorobiphenyl (S)	67	%	27-110	1	11/18/15 13:30	11/19/15 15:00	321-60-8	
Terphenyl-d14 (S)	57	%	31-107	1	11/18/15 13:30	11/19/15 15:00	1718-51-0	
Phenol-d6 (S)	13	%	10-110	1	11/18/15 13:30	11/19/15 15:00	13127-88-3	
2-Fluorophenol (S)	7	%	12-110	1	11/18/15 13:30	11/19/15 15:00	367-12-4	S2
2,4,6-Tribromophenol (S)	12	%	27-110	1	11/18/15 13:30	11/19/15 15:00	118-79-6	S2
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>135</b>	ug/L	10.0	5		11/13/15 16:14	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	100	%	50-150	5		11/13/15 16:14	17060-07-0	
Toluene-d8 (S)	91	%	50-150	5		11/13/15 16:14	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>240</b>	mg/L	5.0	1		11/22/15 13:48		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/12/15 23:59		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/12/15 23:59		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.16</b>	mg/L	0.050	1		11/12/15 23:05		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>53.3</b>	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Total Organic Carbon	<b>52.5</b>	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Total Organic Carbon	<b>53.1</b>	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Total Organic Carbon	<b>53.0</b>	mg/L	2.0	2		11/16/15 18:20	7440-44-0	
Mean Total Organic Carbon	<b>53.0</b>	mg/L	2.0	2		11/16/15 18:20	7440-44-0	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-01	Lab ID: 92275972003	Collected: 11/11/15 14:05	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 16:18	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	<b>28.5</b>	mg/L	1.0	1		11/19/15 21:17	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:50	92-52-4	
Diphenyl ether (Phenyl ether)	<b>122</b>	ug/L	10.0	1	11/18/15 13:30	11/19/15 15:50	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	162	%	27-110	1	11/18/15 13:30	11/19/15 15:50	321-60-8	S5
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	1250	50		11/17/15 19:35	67-64-1	
Benzene	ND	ug/L	250	50		11/17/15 19:35	71-43-2	
Bromochloromethane	ND	ug/L	250	50		11/17/15 19:35	74-97-5	
Bromodichloromethane	ND	ug/L	250	50		11/17/15 19:35	75-27-4	
Bromoform	ND	ug/L	250	50		11/17/15 19:35	75-25-2	
Bromomethane	ND	ug/L	500	50		11/17/15 19:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	500	50		11/17/15 19:35	78-93-3	
Carbon disulfide	ND	ug/L	500	50		11/17/15 19:35	75-15-0	
Carbon tetrachloride	ND	ug/L	250	50		11/17/15 19:35	56-23-5	
Chlorobenzene	ND	ug/L	250	50		11/17/15 19:35	108-90-7	
Chloroethane	ND	ug/L	500	50		11/17/15 19:35	75-00-3	
Chloroform	ND	ug/L	250	50		11/17/15 19:35	67-66-3	
Chloromethane	ND	ug/L	250	50		11/17/15 19:35	74-87-3	
Cyclohexane	ND	ug/L	250	50		11/17/15 19:35	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	100	50		11/17/15 19:35	96-12-8	
Dibromochloromethane	ND	ug/L	250	50		11/17/15 19:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	250	50		11/17/15 19:35	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	106-46-7	
Dichlorodifluoromethane	ND	ug/L	250	50		11/17/15 19:35	75-71-8	
1,1-Dichloroethane	ND	ug/L	250	50		11/17/15 19:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	250	50		11/17/15 19:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	50		11/17/15 19:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	250	50		11/17/15 19:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	250	50		11/17/15 19:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	250	50		11/17/15 19:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	250	50		11/17/15 19:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	250	50		11/17/15 19:35	10061-02-6	
Ethylbenzene	ND	ug/L	250	50		11/17/15 19:35	100-41-4	
2-Hexanone	ND	ug/L	500	50		11/17/15 19:35	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	250	50		11/17/15 19:35	98-82-8	
Methyl acetate	ND	ug/L	500	50		11/17/15 19:35	79-20-9	
Methylcyclohexane	ND	ug/L	500	50		11/17/15 19:35	108-87-2	

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-01		Lab ID: 92275972003		Collected: 11/11/15 14:05	Received: 11/12/15 06:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	250	50		11/17/15 19:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500	50		11/17/15 19:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	250	50		11/17/15 19:35	1634-04-4	
Styrene	ND	ug/L	250	50		11/17/15 19:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	250	50		11/17/15 19:35	79-34-5	
Tetrachloroethene	ND	ug/L	250	50		11/17/15 19:35	127-18-4	
Toluene	ND	ug/L	250	50		11/17/15 19:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	250	50		11/17/15 19:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	250	50		11/17/15 19:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	50		11/17/15 19:35	79-00-5	
Trichloroethene	ND	ug/L	250	50		11/17/15 19:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	500	50		11/17/15 19:35	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	250	50		11/17/15 19:35	76-13-1	
Vinyl chloride	ND	ug/L	250	50		11/17/15 19:35	75-01-4	
Xylene (Total)	ND	ug/L	500	50		11/17/15 19:35	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99	%	70-130	50		11/17/15 19:35	460-00-4	D3
1,2-Dichloroethane-d4 (S)	104	%	70-130	50		11/17/15 19:35	17060-07-0	
Toluene-d8 (S)	102	%	70-130	50		11/17/15 19:35	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>2640</b>	ug/L	100	50		11/13/15 16:34	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	109	%	50-150	50		11/13/15 16:34	17060-07-0	
Toluene-d8 (S)	90	%	50-150	50		11/13/15 16:34	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>1430</b>	mg/L	5.0	1		11/23/15 02:12		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:17		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:17		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.94</b>	mg/L	0.25	5		11/12/15 23:05		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>3620</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Total Organic Carbon	<b>3660</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Total Organic Carbon	<b>3640</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Total Organic Carbon	<b>3290</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	
Mean Total Organic Carbon	<b>3550</b>	mg/L	100	100		11/16/15 15:59	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-10	Lab ID: 92275972004	Collected: 11/11/15 15:50	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>								
Analytical Method: EPA 8015 Alcohol-Glycol								
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 16:28	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	ND	mg/L	1.0	1		11/19/15 21:41	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	192	ug/L	10.0	1	11/18/15 13:30	11/19/15 16:15	92-52-4	
Diphenyl ether (Phenyl ether)	2110	ug/L	100	10	11/18/15 13:30	11/20/15 11:11	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	79	%	27-110	1	11/18/15 13:30	11/19/15 16:15	321-60-8	
<b>8260 MSV</b>								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	625	25		11/17/15 19:52	67-64-1	
Benzene	ND	ug/L	125	25		11/17/15 19:52	71-43-2	
Bromochloromethane	ND	ug/L	125	25		11/17/15 19:52	74-97-5	
Bromodichloromethane	ND	ug/L	125	25		11/17/15 19:52	75-27-4	
Bromoform	ND	ug/L	125	25		11/17/15 19:52	75-25-2	
Bromomethane	ND	ug/L	250	25		11/17/15 19:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	250	25		11/17/15 19:52	78-93-3	
Carbon disulfide	ND	ug/L	250	25		11/17/15 19:52	75-15-0	
Carbon tetrachloride	ND	ug/L	125	25		11/17/15 19:52	56-23-5	
Chlorobenzene	ND	ug/L	125	25		11/17/15 19:52	108-90-7	
Chloroethane	ND	ug/L	250	25		11/17/15 19:52	75-00-3	
Chloroform	ND	ug/L	125	25		11/17/15 19:52	67-66-3	
Chloromethane	ND	ug/L	125	25		11/17/15 19:52	74-87-3	
Cyclohexane	ND	ug/L	125	25		11/17/15 19:52	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	50.0	25		11/17/15 19:52	96-12-8	
Dibromochloromethane	ND	ug/L	125	25		11/17/15 19:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	125	25		11/17/15 19:52	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	106-46-7	
Dichlorodifluoromethane	ND	ug/L	125	25		11/17/15 19:52	75-71-8	
1,1-Dichloroethane	ND	ug/L	125	25		11/17/15 19:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	125	25		11/17/15 19:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	125	25		11/17/15 19:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	125	25		11/17/15 19:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	125	25		11/17/15 19:52	156-60-5	
1,2-Dichloropropane	ND	ug/L	125	25		11/17/15 19:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	125	25		11/17/15 19:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	125	25		11/17/15 19:52	10061-02-6	
Ethylbenzene	ND	ug/L	125	25		11/17/15 19:52	100-41-4	
2-Hexanone	ND	ug/L	250	25		11/17/15 19:52	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	125	25		11/17/15 19:52	98-82-8	
Methyl acetate	ND	ug/L	250	25		11/17/15 19:52	79-20-9	
Methylcyclohexane	ND	ug/L	250	25		11/17/15 19:52	108-87-2	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-10	Lab ID: 92275972004	Collected: 11/11/15 15:50	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260						
Methylene Chloride	ND	ug/L	125	25		11/17/15 19:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	25		11/17/15 19:52	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	125	25		11/17/15 19:52	1634-04-4	
Styrene	ND	ug/L	125	25		11/17/15 19:52	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	125	25		11/17/15 19:52	79-34-5	
Tetrachloroethene	ND	ug/L	125	25		11/17/15 19:52	127-18-4	
Toluene	ND	ug/L	125	25		11/17/15 19:52	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	125	25		11/17/15 19:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	125	25		11/17/15 19:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	125	25		11/17/15 19:52	79-00-5	
Trichloroethene	ND	ug/L	125	25		11/17/15 19:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	250	25		11/17/15 19:52	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	125	25		11/17/15 19:52	76-13-1	
Vinyl chloride	ND	ug/L	125	25		11/17/15 19:52	75-01-4	
Xylene (Total)	ND	ug/L	250	25		11/17/15 19:52	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99	%	70-130	25		11/17/15 19:52	460-00-4	D3
1,2-Dichloroethane-d4 (S)	101	%	70-130	25		11/17/15 19:52	17060-07-0	
Toluene-d8 (S)	101	%	70-130	25		11/17/15 19:52	2037-26-5	
<b>8260 MSV SIM</b>		Analytical Method: EPA 8260B Mod.						
1,4-Dioxane (p-Dioxane)	<b>404</b>	ug/L	20.0	10		11/13/15 16:54	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	104	%	50-150	10		11/13/15 16:54	17060-07-0	
Toluene-d8 (S)	92	%	50-150	10		11/13/15 16:54	2037-26-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	<b>694</b>	mg/L	5.0	1		11/22/15 15:35		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:39		
Nitrogen, Nitrite	<b>0.067</b>	mg/L	0.020	1		11/13/15 00:39		
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E						
Orthophosphate as P	<b>0.68</b>	mg/L	0.20	4		11/12/15 23:05		
<b>Total Organic Carbon, Asheville</b>		Analytical Method: EPA 9060A						
Total Organic Carbon	<b>31.6</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Total Organic Carbon	<b>29.7</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Total Organic Carbon	<b>30.9</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Total Organic Carbon	<b>30.7</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	
Mean Total Organic Carbon	<b>30.7</b>	mg/L	2.0	2		11/16/15 18:45	7440-44-0	

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### ANALYTICAL RESULTS

Project: CNA/NRLF  
Pace Project No.: 92275972

Sample: B-32B	Lab ID: 92275972005	Collected: 11/11/15 12:30	Received: 11/12/15 06:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015M Glycols in water</b>	Analytical Method: EPA 8015 Alcohol-Glycol							
Ethylene glycol	ND	mg/L	50.0	10		11/17/15 16:37	107-21-1	D3
<b>9056 IC Anions 28 Days, GWD</b>	Analytical Method: EPA 9056A							
Sulfate	ND	mg/L	1.0	1		11/19/15 22:05	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 16:40	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 16:40	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	74	%	27-110	1	11/18/15 13:30	11/19/15 16:40	321-60-8	
<b>8260 MSV SIM</b>	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	18.3	ug/L	2.0	1		11/13/15 17:14	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		11/13/15 17:14	17060-07-0	
Toluene-d8 (S)	89	%	50-150	1		11/13/15 17:14	2037-26-5	
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	194	mg/L	5.0	1		11/22/15 16:25		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.14	mg/L	0.020	1		11/13/15 00:14		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:14		
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E							
Orthophosphate as P	0.13	mg/L	0.050	1		11/12/15 23:05		
<b>Total Organic Carbon,Asheville</b>	Analytical Method: EPA 9060A							
Total Organic Carbon	40.8	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Total Organic Carbon	39.1	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Total Organic Carbon	39.8	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Total Organic Carbon	40.2	mg/L	2.0	2		11/16/15 18:58	7440-44-0	
Mean Total Organic Carbon	40.0	mg/L	2.0	2		11/16/15 18:58	7440-44-0	

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275972

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: B-12</b>								
<b>Lab ID: 92275972006</b>								
Collected: 11/11/15 10:20								
Received: 11/12/15 06:00								
Matrix: Water								
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	1.2	mg/L	1.0	1		11/19/15 22:30	14808-79-8	
<b>8270 MSSV HVI Semivol Organic</b>								
Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Biphenyl (Diphenyl)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 17:05	92-52-4	
Diphenyl ether (Phenyl ether)	ND	ug/L	10.0	1	11/18/15 13:30	11/19/15 17:05	101-84-8	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	83	%	27-110	1	11/18/15 13:30	11/19/15 17:05	321-60-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	2900	ug/L	100	50		11/13/15 17:34	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	101	%	50-150	50		11/13/15 17:34	17060-07-0	
Toluene-d8 (S)	90	%	50-150	50		11/13/15 17:34	2037-26-5	
<b>2320B Alkalinity</b>								
Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	313	mg/L	5.0	1		11/22/15 16:40		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>								
Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:00		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:00		
<b>SM4500P-E, Phosphate, Ortho</b>								
Analytical Method: SM 4500-P E								
Orthophosphate as P	0.20	mg/L	0.050	1		11/12/15 23:05		

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## ANALYTICAL RESULTS

Project: CNA/NRLF

Pace Project No.: 92275972

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: B-21B</b>								
<b>Lab ID: 92275972007</b>								
Collected: 11/11/15 11:20								
Received: 11/12/15 06:00								
Matrix: Water								
<b>9056 IC Anions 28 Days, GWD</b>								
Analytical Method: EPA 9056A								
Sulfate	<b>15.1</b>	mg/L	1.0	1		11/19/15 22:54	14808-79-8	
<b>8260 MSV SIM</b>								
Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (p-Dioxane)	<b>92.0</b>	ug/L	2.0	1		11/13/15 17:54	123-91-1	
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	102	%	50-150	1		11/13/15 17:54	17060-07-0	
Toluene-d8 (S)	89	%	50-150	1		11/13/15 17:54	2037-26-5	
<b>2320B Alkalinity</b>								
Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	<b>282</b>	mg/L	5.0	1		11/22/15 16:56		
<b>353.2 Nitrogen, NO2/NO3 unpres</b>								
Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.020	1		11/13/15 00:03		
Nitrogen, Nitrite	ND	mg/L	0.020	1		11/13/15 00:03		
<b>SM4500P-E, Phosphate, Ortho</b>								
Analytical Method: SM 4500-P E								
Orthophosphate as P	<b>0.25</b>	mg/L	0.050	1		11/12/15 23:05		

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275972

QC Batch: GCSV/17520 Analysis Method: EPA 8015 Alcohol-Glycol

QC Batch Method: EPA 8015 Alcohol-Glycol Analysis Description: EPA 8015 Modified

Associated Lab Samples: 92275972003, 92275972004, 92275972005

METHOD BLANK: 1426234

Matrix: Water

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	5.0	11/17/15 12:40	

LABORATORY CONTROL SAMPLE: 1426235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	25	22.4	89	79-129	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: GWD/2674 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions, GWD  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1610278 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	11/19/15 10:41	

LABORATORY CONTROL SAMPLE: 1610279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.0	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610280 1610281

Parameter	Units	92275972001		1610280		1610281		% Rec Limits	RPD	Qual
		MS Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec			
Sulfate	mg/L	1.4	50	50	49.1	49.3	95	96	90-110	0

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: MSV/34316 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV  
Associated Lab Samples: 92275972003, 92275972004

METHOD BLANK: 1608047 Matrix: Water  
Associated Lab Samples: 92275972003, 92275972004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,1-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/17/15 14:29	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloroethane	ug/L	ND	5.0	11/17/15 14:29	
1,2-Dichloropropane	ug/L	ND	5.0	11/17/15 14:29	
1,3-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
2-Butanone (MEK)	ug/L	ND	10.0	11/17/15 14:29	
2-Hexanone	ug/L	ND	10.0	11/17/15 14:29	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/17/15 14:29	
Acetone	ug/L	ND	25.0	11/17/15 14:29	
Benzene	ug/L	ND	5.0	11/17/15 14:29	
Bromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromodichloromethane	ug/L	ND	5.0	11/17/15 14:29	
Bromoform	ug/L	ND	5.0	11/17/15 14:29	
Bromomethane	ug/L	ND	10.0	11/17/15 14:29	
Carbon disulfide	ug/L	ND	10.0	11/17/15 14:29	
Carbon tetrachloride	ug/L	ND	5.0	11/17/15 14:29	
Chlorobenzene	ug/L	ND	5.0	11/17/15 14:29	
Chloroethane	ug/L	ND	10.0	11/17/15 14:29	
Chloroform	ug/L	ND	5.0	11/17/15 14:29	
Chloromethane	ug/L	ND	5.0	11/17/15 14:29	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
cis-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Cyclohexane	ug/L	ND	5.0	11/17/15 14:29	
Dibromochloromethane	ug/L	ND	5.0	11/17/15 14:29	
Dichlorodifluoromethane	ug/L	ND	5.0	11/17/15 14:29	
Ethylbenzene	ug/L	ND	5.0	11/17/15 14:29	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	11/17/15 14:29	
Methyl acetate	ug/L	ND	10.0	11/17/15 14:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/17/15 14:29	
Methylcyclohexane	ug/L	ND	10.0	11/17/15 14:29	
Methylene Chloride	ug/L	ND	5.0	11/17/15 14:29	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

METHOD BLANK: 1608047 Matrix: Water

Associated Lab Samples: 92275972003, 92275972004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	11/17/15 14:29	
Tetrachloroethene	ug/L	ND	5.0	11/17/15 14:29	
Toluene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,2-Dichloroethene	ug/L	ND	5.0	11/17/15 14:29	
trans-1,3-Dichloropropene	ug/L	ND	5.0	11/17/15 14:29	
Trichloroethene	ug/L	ND	5.0	11/17/15 14:29	
Trichlorofluoromethane	ug/L	ND	10.0	11/17/15 14:29	
Vinyl chloride	ug/L	ND	5.0	11/17/15 14:29	
Xylene (Total)	ug/L	ND	10.0	11/17/15 14:29	
1,2-Dichloroethane-d4 (S)	%	99	70-130	11/17/15 14:29	
4-Bromofluorobenzene (S)	%	100	70-130	11/17/15 14:29	
Toluene-d8 (S)	%	102	70-130	11/17/15 14:29	

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	44.9	90	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	94	79-124	
1,1,2-Trichloroethane	ug/L	50	44.4	89	85-125	
1,1,2-Trichlorotrifluoroethane	ug/L	50	47.9	96	71-142	
1,1-Dichloroethane	ug/L	50	43.1	86	73-126	
1,1-Dichloroethene	ug/L	50	48.5	97	66-135	
1,2,3-Trichlorobenzene	ug/L	50	49.7	99	73-135	
1,2,4-Trichlorobenzene	ug/L	50	48.1	96	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.0	106	83-124	
1,2-Dichlorobenzene	ug/L	50	50.4	101	80-133	
1,2-Dichloroethane	ug/L	50	47.4	95	67-128	
1,2-Dichloropropane	ug/L	50	46.2	92	75-132	
1,3-Dichlorobenzene	ug/L	50	50.4	101	77-130	
1,4-Dichlorobenzene	ug/L	50	49.4	99	78-130	
2-Butanone (MEK)	ug/L	100	98.2	98	61-144	
2-Hexanone	ug/L	100	98.2	98	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.9	91	72-135	
Acetone	ug/L	100	89.8	90	48-146	
Benzene	ug/L	50	48.1	96	80-125	
Bromochloromethane	ug/L	50	57.1	114	71-125	
Bromodichloromethane	ug/L	50	44.5	89	78-124	
Bromoform	ug/L	50	47.1	94	71-128	
Bromomethane	ug/L	50	53.9	108	40-160	
Carbon disulfide	ug/L	50	47.6	95	50-160	
Carbon tetrachloride	ug/L	50	46.8	94	69-131	
Chlorobenzene	ug/L	50	47.8	96	81-122	
Chloroethane	ug/L	50	50.5	101	39-148	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

LABORATORY CONTROL SAMPLE: 1608048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	50.1	100	73-127	
Chloromethane	ug/L	50	49.0	98	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.4	101	74-124	
cis-1,3-Dichloropropene	ug/L	50	48.0	96	72-132	
Cyclohexane	ug/L	50	47.5	95	62-145	
Dibromochloromethane	ug/L	50	51.5	103	78-125	
Dichlorodifluoromethane	ug/L	50	51.3	103	34-157	
Ethylbenzene	ug/L	50	48.0	96	79-121	
Isopropylbenzene (Cumene)	ug/L	50	53.0	106	81-132	
Methyl acetate	ug/L	50	59.1	118	58-128	
Methyl-tert-butyl ether	ug/L	50	50.6	101	74-131	
Methylcyclohexane	ug/L	50	47.5	95	65-144	
Methylene Chloride	ug/L	50	50.1	100	64-133	
Styrene	ug/L	50	49.9	100	84-126	
Tetrachloroethene	ug/L	50	49.8	100	78-122	
Toluene	ug/L	50	42.0	84	80-121	
trans-1,2-Dichloroethene	ug/L	50	46.7	93	71-127	
trans-1,3-Dichloropropene	ug/L	50	46.9	94	69-141	
Trichloroethene	ug/L	50	45.9	92	78-122	
Trichlorofluoromethane	ug/L	50	47.5	95	53-137	
Vinyl chloride	ug/L	50	50.1	100	58-137	
Xylene (Total)	ug/L	150	146	97	81-126	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			93	70-130	

MATRIX SPIKE SAMPLE: 1608049

Parameter	Units	92275933004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	18.1	90	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	16.7	84	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	17.7	89	70-130	
1,1-Dichloroethane	ug/L	ND	20	17.2	86	70-130	
1,1-Dichloroethene	ug/L	ND	20	18.6	93	65-160	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.2	96	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.8	94	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.9	99	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.2	106	60-139	
1,2-Dichlorobenzene	ug/L	ND	20	21.1	106	70-130	
1,2-Dichloroethane	ug/L	ND	20	16.4	82	70-130	
1,2-Dichloropropane	ug/L	ND	20	18.1	91	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.4	107	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	20.9	104	70-130	
2-Butanone (MEK)	ug/L	ND	40	35.0	88	70-130	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

MATRIX SPIKE SAMPLE: 1608049		92275933004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Hexanone	ug/L	ND	40	40.6	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	34.6	87	70-130	
Acetone	ug/L	19.1J	40	37.4	46	70-130	M1
Benzene	ug/L	3.8J	20	22.9	96	58-162	
Bromochloromethane	ug/L	ND	20	18.6	93	70-130	
Bromodichloromethane	ug/L	ND	20	17.9	89	70-130	
Bromoform	ug/L	ND	20	16.3	81	70-130	
Bromomethane	ug/L	ND	20	12.3	61	70-130	M1
Carbon disulfide	ug/L	ND	20	17.2	86	70-130	
Carbon tetrachloride	ug/L	ND	20	19.2	96	70-130	
Chlorobenzene	ug/L	ND	20	21.5	107	70-138	
Chloroethane	ug/L	ND	20	16.2	81	70-130	
Chloroform	ug/L	ND	20	18.3	92	70-130	
Chloromethane	ug/L	ND	20	18.2	91	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	17.9	89	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.3	86	70-130	
Cyclohexane	ug/L	2.4J	20	19.6	86	70-130	
Dibromochloromethane	ug/L	ND	20	19.6	98	70-130	
Dichlorodifluoromethane	ug/L	ND	20	17.5	88	70-130	
Ethylbenzene	ug/L	ND	20	20.9	100	22-189	
Isopropylbenzene (Cumene)	ug/L	6.8	20	27.8	105	70-130	
Methyl acetate	ug/L	ND	20	16.1	81	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.1	86	37-169	
Methylcyclohexane	ug/L	ND	20	18.4	83	70-130	
Methylene Chloride	ug/L	ND	20	15.6	78	70-130	
Styrene	ug/L	ND	20	20.7	104	70-130	
Tetrachloroethene	ug/L	ND	20	21.4	107	70-130	
Toluene	ug/L	ND	20	17.0	85	65-152	
trans-1,2-Dichloroethene	ug/L	ND	20	17.7	89	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	16.8	84	70-130	
Trichloroethene	ug/L	ND	20	17.6	88	70-142	
Trichlorofluoromethane	ug/L	ND	20	18.5	92	70-130	
Vinyl chloride	ug/L	ND	20	18.4	92	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				94	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichlorobenzene	ug/L	ND	ND		
1,2,4-Trichlorobenzene	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,3-Dichlorobenzene	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	22.5J	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	ND	ND		
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Cyclohexane	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dichlorodifluoromethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Isopropylbenzene (Cumene)	ug/L	ND	ND		
Methyl acetate	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Methylcyclohexane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	99	99		1
4-Bromofluorobenzene (S)	%	97	99		2

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275972

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SAMPLE DUPLICATE: 1608050

Parameter	Units	92275933005 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	103	103	1	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: MSV/34275 Analysis Method: EPA 8260B Mod.  
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1606378 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/13/15 15:33	
1,2-Dichloroethane-d4 (S)	%	100	50-150	11/13/15 15:33	
Toluene-d8 (S)	%	91	50-150	11/13/15 15:33	

LABORATORY CONTROL SAMPLE: 1606379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	22.3	111	71-125	
1,2-Dichloroethane-d4 (S)	%			100	50-150	
Toluene-d8 (S)	%			92	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1606380 1606381

Parameter	Units	92276008003		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	20.1	21.3	101	106	50-150	6				
1,2-Dichloroethane-d4 (S)	%						102	102	50-150					
Toluene-d8 (S)	%						89	88	50-150					

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: OEXT/39138 Analysis Method: EPA 8270  
QC Batch Method: EPA 3510 Analysis Description: 8270 Water MSSV HVI  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006

METHOD BLANK: 1609395 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	10.0	11/19/15 11:17	
Diphenyl ether (Phenyl ether)	ug/L	ND	10.0	11/19/15 11:17	
2,4,6-Tribromophenol (S)	%	57	27-110	11/19/15 11:17	
2-Fluorobiphenyl (S)	%	78	27-110	11/19/15 11:17	
2-Fluorophenol (S)	%	42	12-110	11/19/15 11:17	
Nitrobenzene-d5 (S)	%	77	21-110	11/19/15 11:17	
Phenol-d6 (S)	%	35	10-110	11/19/15 11:17	
Terphenyl-d14 (S)	%	69	31-107	11/19/15 11:17	

LABORATORY CONTROL SAMPLE: 1609396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	50	30.1	60	38-120	
Diphenyl ether (Phenyl ether)	ug/L	50	27.0	54	51-120	
2,4,6-Tribromophenol (S)	%			69	27-110	
2-Fluorobiphenyl (S)	%			63	27-110	
2-Fluorophenol (S)	%			41	12-110	
Nitrobenzene-d5 (S)	%			66	21-110	
Phenol-d6 (S)	%			31	10-110	
Terphenyl-d14 (S)	%			64	31-107	

MATRIX SPIKE SAMPLE: 1609397

Parameter	Units	92275972001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	50	15.2	30	50-150	M1
Diphenyl ether (Phenyl ether)	ug/L	ND	50	13.3	27	50-150	M1
2,4,6-Tribromophenol (S)	%				62	27-110	
2-Fluorobiphenyl (S)	%				31	27-110	
2-Fluorophenol (S)	%				19	12-110	
Nitrobenzene-d5 (S)	%				33	21-110	
Phenol-d6 (S)	%				12	10-110	
Terphenyl-d14 (S)	%				55	31-107	

SAMPLE DUPLICATE: 1609398

Parameter	Units	92275972002 Result	Dup Result	RPD	Qualifiers
Biphenyl (Diphenyl)	ug/L	ND	ND		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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### QUALITY CONTROL DATA

Project: CNA/NRLF

Pace Project No.: 92275972

SAMPLE DUPLICATE: 1609398

Parameter	Units	92275972002 Result	Dup Result	RPD	Qualifiers
Diphenyl ether (Phenyl ether)	ug/L	ND	6J		
2,4,6-Tribromophenol (S)	%	12	13	6	S0
2-Fluorobiphenyl (S)	%	67	58	15	
2-Fluorophenol (S)	%	7	11	48	S0
Nitrobenzene-d5 (S)	%	67	60	10	
Phenol-d6 (S)	%	13	20	42	
Terphenyl-d14 (S)	%	57	53	9	

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WET/41532 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1612032 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	11/22/15 12:14	

LABORATORY CONTROL SAMPLE: 1612033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612034 1612035

Parameter	Units	92276163001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO3	mg/L	206	50	50	251	245	89	79	90-110	2	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612036 1612037

Parameter	Units	92276011002		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Alkalinity, Total as CaCO3	mg/L	ND	50	50	49.2	47.8	98	96	90-110	3		

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25376 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1605650 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	11/12/15 23:38	
Nitrogen, Nitrite	mg/L	ND	0.020	11/12/15 23:38	

LABORATORY CONTROL SAMPLE: 1605651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605652 1605653

Parameter	Units	92275827002		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	0.95	2.5	2.5	2.5	3.4	3.3	97	96	90-110	90-110	1			
Nitrogen, Nitrite	mg/L	ND	1	1	1	1.1	1.1	106	106	90-110	90-110	0			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605654 1605655

Parameter	Units	92275962003		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	8.5	2.5	2.5	2.5	10.8	11.1	93	107	90-110	90-110	3			
Nitrogen, Nitrite	mg/L	ND	1	1	1	1.0	1.0	101	102	90-110	90-110	0			

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25377      Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2      Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 92275972004

METHOD BLANK: 1605656      Matrix: Water  
Associated Lab Samples: 92275972004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	11/13/15 00:24	
Nitrogen, Nitrite	mg/L	ND	0.020	11/13/15 00:24	

LABORATORY CONTROL SAMPLE: 1605657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	101	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605658      1605659

Parameter	Units	92276004003		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	Limits				
Nitrogen, Nitrate	mg/L	0.030	2.5	2.5	2.4	2.4	96	96	90-110	0					
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	0.99	100	99	90-110	1					

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25381 Analysis Method: SM 4500-P E  
QC Batch Method: SM 4500-P E Analysis Description: SM4500P-E Phosphorus, Ortho  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

METHOD BLANK: 1605684 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005, 92275972006, 92275972007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	11/12/15 23:05	

LABORATORY CONTROL SAMPLE: 1605685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.25	0.26	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605686 1605687

Parameter	Units	92275972001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Orthophosphate as P	mg/L	0.34	.5	.5	.5	0.49	0.49	29	29	90-110	0	M1		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: CNA/NRLF  
Pace Project No.: 92275972

QC Batch: WETA/25407 Analysis Method: EPA 9060A  
QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005

METHOD BLANK: 1607246 Matrix: Water  
Associated Lab Samples: 92275972001, 92275972002, 92275972003, 92275972004, 92275972005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	
Total Organic Carbon	mg/L	ND	1.0	11/16/15 12:21	

LABORATORY CONTROL SAMPLE: 1607247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.9	96	75-125	
Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607248 1607249

Parameter	92275754001		MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.							
Mean Total Organic Carbon	mg/L	2750	25	25	2730	2750	-76	0	75-125	1	M6
Total Organic Carbon	mg/L	2690	25	25	2750	2840	236	596	75-125	3	M6
Total Organic Carbon	mg/L	2770	25	25	2720	2800	-196	96	75-125	3	M6
Total Organic Carbon	mg/L	2750	25	25	2720	2820	-116	280	75-125	4	M6
Total Organic Carbon	mg/L	2780	25	25	2720	2540	-220	-964	75-125	7	M6

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: CNA/NRLF  
Pace Project No.: 92275972

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte
PASI-G	Pace Analytical Services - Greenwood
PASI-I	Pace Analytical Services - Indianapolis
PASI-W	Pace Analytical Services - Greenwood

### ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
S0	Surrogate recovery outside laboratory control limits.
S2	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF  
Pace Project No.: 92275972

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275972003	B-01	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275972004	B-10	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275972005	B-32B	EPA 8015 Alcohol-Glycol	GCSV/17520		
92275972001	B-17C	EPA 9056A	GWD/2674		
92275972002	B-17B	EPA 9056A	GWD/2674		
92275972003	B-01	EPA 9056A	GWD/2674		
92275972004	B-10	EPA 9056A	GWD/2674		
92275972005	B-32B	EPA 9056A	GWD/2674		
92275972006	B-12	EPA 9056A	GWD/2674		
92275972007	B-21B	EPA 9056A	GWD/2674		
92275972001	B-17C	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972002	B-17B	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972003	B-01	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972004	B-10	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972005	B-32B	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972006	B-12	EPA 3510	OEXT/39138	EPA 8270	MSSV/11545
92275972003	B-01	EPA 8260	MSV/34316		
92275972004	B-10	EPA 8260	MSV/34316		
92275972001	B-17C	EPA 8260B Mod.	MSV/34275		
92275972002	B-17B	EPA 8260B Mod.	MSV/34275		
92275972003	B-01	EPA 8260B Mod.	MSV/34275		
92275972004	B-10	EPA 8260B Mod.	MSV/34275		
92275972005	B-32B	EPA 8260B Mod.	MSV/34275		
92275972006	B-12	EPA 8260B Mod.	MSV/34275		
92275972007	B-21B	EPA 8260B Mod.	MSV/34275		
92275972001	B-17C	SM 2320B	WET/41532		
92275972002	B-17B	SM 2320B	WET/41532		
92275972003	B-01	SM 2320B	WET/41532		
92275972004	B-10	SM 2320B	WET/41532		
92275972005	B-32B	SM 2320B	WET/41532		
92275972006	B-12	SM 2320B	WET/41532		
92275972007	B-21B	SM 2320B	WET/41532		
92275972001	B-17C	EPA 353.2	WETA/25376		
92275972002	B-17B	EPA 353.2	WETA/25376		
92275972003	B-01	EPA 353.2	WETA/25376		
92275972004	B-10	EPA 353.2	WETA/25377		
92275972005	B-32B	EPA 353.2	WETA/25376		
92275972006	B-12	EPA 353.2	WETA/25376		
92275972007	B-21B	EPA 353.2	WETA/25376		
92275972001	B-17C	SM 4500-P E	WETA/25381		
92275972002	B-17B	SM 4500-P E	WETA/25381		
92275972003	B-01	SM 4500-P E	WETA/25381		
92275972004	B-10	SM 4500-P E	WETA/25381		
92275972005	B-32B	SM 4500-P E	WETA/25381		

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CNA/NRLF

Pace Project No.: 92275972

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92275972006	B-12	SM 4500-P E	WETA/25381		
92275972007	B-21B	SM 4500-P E	WETA/25381		
92275972001	B-17C	EPA 9060A	WETA/25407		
92275972002	B-17B	EPA 9060A	WETA/25407		
92275972003	B-01	EPA 9060A	WETA/25407		
92275972004	B-10	EPA 9060A	WETA/25407		
92275972005	B-32B	EPA 9060A	WETA/25407		

### REPORT OF LABORATORY ANALYSIS

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Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: May 10, 2010

Page 1 of 2\*

Document Number:  
**F-CHR-CS-003-rev.16**

Issuing Authority:  
Pace Huntersville Quality Office

Client Name: Acrom

\* Page 2 of 2 is for Internal Use Only

Courier:  Fed Ex  UP  USP  Clier  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T1402 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T1402 No Correction

Corrected Cooler Temp.: 3.8 °C

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: mm 11/12

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>Did not receive Alk, say, other phos. nitrate for sample B32B</u>
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <u>received Alk, say orthophos, nitrate with no id/time/date on bottles</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	_____	

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review:

[Signature]

Date: 11/12/15

SRF Review:

[Signature]

Date: 11/13/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92275972



92275972





Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

November 23, 2015

Kevin Godwin  
Pace Analytical Services, Inc.  
9800 Kinsey Avenue  
Suite 100  
Huntersville, NC 28078

RE: **CNA/NRLF / 92275972**

*Pace Workorder: 17406*

Dear Kevin Godwin:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, November 17, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 11/23/2015  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 21

Report ID: 17406 - 734866

Page 1 of 19



**CERTIFICATE OF ANALYSIS**

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### LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water and Solid & Hazardous Waste
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water; Solid and Chemical Materials
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water; Solid and Hazardous Waste
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 17406 CNA/NRLF / 92275972

Lab ID	Sample ID	Matrix	Date Collected	Date Received
174060001	B-17C	Bubble Strip	11/11/2015 08:25	11/17/2015 12:00
174060002	B-17C	Water	11/11/2015 08:25	11/17/2015 12:00
174060003	B-17B	Bubble Strip	11/11/2015 09:30	11/17/2015 12:00
174060004	B-17B	Water	11/11/2015 09:30	11/17/2015 12:00
174060005	B-01	Bubble Strip	11/11/2015 14:05	11/17/2015 12:00
174060006	B-01	Water	11/11/2015 14:05	11/17/2015 12:00
174060007	B-10	Bubble Strip	11/11/2015 15:50	11/17/2015 12:00
174060008	B-10	Water	11/11/2015 15:50	11/17/2015 12:00
174060009	B-32B	Bubble Strip	11/11/2015 12:30	11/17/2015 12:00
174060010	B-32B	Water	11/11/2015 12:30	11/17/2015 12:00



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060001** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-17C** Date Collected: 11/11/2015 08:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	59	ug/l	0.050	0.0080	1	11/21/2015 06:23	TD	n
Ethane	0.24	ug/l	0.010	0.0010	1	11/21/2015 06:23	TD	n
Ethene	0.0050J	ug/l	0.010	0.0030	1	11/21/2015 06:23	TD	n
Carbon Dioxide	140	mg/l	2.0	0.44	1	11/21/2015 06:23	TD	n
Hydrogen	1.6	nM	0.60	0.088	1	11/21/2015 06:23	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060002** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-17C** Date Collected: 11/11/2015 08:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>1.3J</b>	mg/l	5.0	0.89	1	11/18/2015 10:19	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 10:19	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 10:19	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 10:19	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 10:19	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060003** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-17B** Date Collected: 11/11/2015 09:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis-Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	21	ug/l	0.050	0.0080	1	11/21/2015 06:35	TD	n
Ethane	0.14	ug/l	0.010	0.0010	1	11/21/2015 06:35	TD	n
Ethene	0.0073J	ug/l	0.010	0.0030	1	11/21/2015 06:35	TD	n
Carbon Dioxide	140	mg/l	2.0	0.44	1	11/21/2015 06:35	TD	n
Hydrogen	1.4	nM	0.60	0.088	1	11/21/2015 06:35	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060004**  
 Sample ID: **B-17B**

Date Received: 11/17/2015 12:00 Matrix: Water  
 Date Collected: 11/11/2015 09:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>0.89U</b>	mg/l	5.0	0.89	1	11/18/2015 10:42	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 10:42	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 10:42	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 10:42	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 10:42	BW	n



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**ANALYTICAL RESULTS**

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060005** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-01** Date Collected: 11/11/2015 14:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	<b>2300</b>	ug/l	0.050	0.0080	1	11/21/2015 06:48	TD	n
Ethane	<b>0.0037J</b>	ug/l	0.010	0.0010	1	11/21/2015 06:48	TD	n
Ethene	<b>0.14</b>	ug/l	0.010	0.0030	1	11/21/2015 06:48	TD	n
Carbon Dioxide	<b>140</b>	mg/l	2.0	0.44	1	11/21/2015 06:48	TD	n
Hydrogen	<b>8.7</b>	nM	0.60	0.088	1	11/21/2015 06:48	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060006**  
 Sample ID: **B-01**

Date Received: 11/17/2015 12:00 Matrix: Water  
 Date Collected: 11/11/2015 14:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>5500</b>	mg/l	100	18	20	11/18/2015 13:00	BW	d,n
Propionic Acid	<b>27</b>	mg/l	5.0	0.73	1	11/18/2015 11:05	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 11:05	BW	n
Butyric Acid	<b>1000</b>	mg/l	100	28	20	11/18/2015 13:00	BW	d,n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 11:05	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

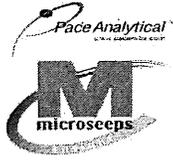
Lab ID: **174060007** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-10** Date Collected: 11/11/2015 15:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	<b>8900</b>	ug/l	0.10	0.016	2	11/21/2015 07:04	TD	d,n
Ethane	<b>0.0062J</b>	ug/l	0.020	0.0020	2	11/21/2015 07:04	TD	d,n
Ethene	<b>0.21</b>	ug/l	0.020	0.0060	2	11/21/2015 07:04	TD	d,n
Carbon Dioxide	<b>420</b>	mg/l	4.0	0.89	2	11/21/2015 07:04	TD	d,n
Hydrogen	<b>1.8</b>	nM	1.2	0.18	2	11/21/2015 07:04	TD	d,n



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**ANALYTICAL RESULTS**

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060008** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-10** Date Collected: 11/11/2015 15:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>11</b>	mg/l	5.0	0.89	1	11/18/2015 15:17	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 15:17	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 15:17	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 15:17	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 15:17	BW	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNA/NRLF / 92275972

Lab ID: **174060009** Date Received: 11/17/2015 12:00 Matrix: Bubble Strip  
 Sample ID: **B-32B** Date Collected: 11/11/2015 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>RISK - MICR</b>								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	220	ug/l	0.050	0.0080	1	11/21/2015 07:17	TD	n
Ethane	0.0052J	ug/l	0.010	0.0010	1	11/21/2015 07:17	TD	n
Ethene	0.0058J	ug/l	0.010	0.0030	1	11/21/2015 07:17	TD	n
Carbon Dioxide	41	mg/l	2.0	0.44	1	11/21/2015 07:17	TD	n
Hydrogen	1.8	nM	0.60	0.088	1	11/21/2015 07:17	TD	n



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### ANALYTICAL RESULTS

Workorder: 17406 CNAVRLF / 92275972

Lab ID: **174060010** Date Received: 11/17/2015 12:00 Matrix: Water  
 Sample ID: **B-32B** Date Collected: 11/11/2015 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
<b>EDonors - MICR</b>								
Analysis Desc: AM21G			Analytical Method: AM21G					
Acetic Acid	<b>0.89U</b>	mg/l	5.0	0.89	1	11/18/2015 12:14	BW	n
Propionic Acid	<b>0.73U</b>	mg/l	5.0	0.73	1	11/18/2015 12:14	BW	n
Pyruvic Acid	<b>0.41U</b>	mg/l	5.0	0.41	1	11/18/2015 12:14	BW	n
Butyric Acid	<b>1.4U</b>	mg/l	5.0	1.4	1	11/18/2015 12:14	BW	n
Lactic Acid	<b>2.4U</b>	mg/l	10	2.4	1	11/18/2015 12:14	BW	n



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 17406 CNA/NRLF / 92275972

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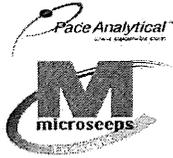
### DEFINITIONS/QUALIFIERS

- Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.
- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
- 
- n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
- d The analyte concentration was determined from a dilution.



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**QUALITY CONTROL DATA**

Workorder: 17406 CNA/NRLF / 92275972

QC Batch: EDON/2721 Analysis Method: AM21G  
 QC Batch Method: AM21G  
 Associated Lab Samples: 174060002, 174060004, 174060006, 174060008, 174060010

METHOD BLANK: 38707

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Acetic Acid	mg/l	0.89U	0.89	n
Propionic Acid	mg/l	0.73U	0.73	n
Pyruvic Acid	mg/l	0.41U	0.41	n
Butyric Acid	mg/l	1.4U	1.4	n
Lactic Acid	mg/l	2.4U	2.4	n

LABORATORY CONTROL SAMPLE: 38708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Acetic Acid	mg/l	100	100	105	70-130	n
Propionic Acid	mg/l	100	100	106	70-130	n
Pyruvic Acid	mg/l	100	100	104	70-130	n
Butyric Acid	mg/l	100	100	106	70-130	n
Lactic Acid	mg/l	100	91	91	70-130	n

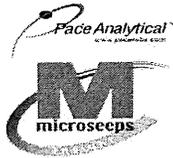
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38710 38711 Original: 174060002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Qualifiers
EDonors										
Acetic Acid	mg/l	1.3	100	110	110	108	108	70-130	0 20	n
Propionic Acid	mg/l	0.2	100	110	100	107	104	70-130	2.8 20	n
Pyruvic Acid	mg/l	0.17	100	110	110	109	108	70-130	0.92 20	n
Butyric Acid	mg/l	0.4	100	110	100	107	105	70-130	1.9 20	n
Lactic Acid	mg/l	0	100	97	90	97	90	70-130	7.5 20	n



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**QUALITY CONTROL DATA**

Workorder: 17406 CNA/NRLF / 92275972

QC Batch: DISG/5012 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 174060001, 174060003, 174060005, 174060007, 174060009

METHOD BLANK: 38812

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Methane	ug/l	0.0080U	0.0080 n
Ethane	ug/l	0.0010U	0.0010 n
Ethene	ug/l	0.0030U	0.0030 n

METHOD BLANK: 38813

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Carbon Dioxide	mg/l	0.44U	0.44 n

METHOD BLANK: 38814

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Hydrogen	nM	0.088U	0.088 n

LABORATORY CONTROL SAMPLE & LCSD: 38815 38818

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	8.2	8.0	7.8	98	95	80-120	3.1	20	n
Ethane	ug/l	6.5	6.2	6.1	96	95	80-120	1	20	n
Ethene	ug/l	16	16	15	94	93	80-120	1.1	20	n

LABORATORY CONTROL SAMPLE & LCSD: 38816 38819

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Carbon Dioxide	mg/l	97	90	88	93	91	80-120	2.2	20	n

Report ID: 17406 - 734866



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### QUALITY CONTROL DATA

Workorder: 17406 CNA/NRLF / 92275972

LABORATORY CONTROL SAMPLE & LCSD: 38817 38820

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	23	22	94	92	80-120	2.2	20	n



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### QUALITY CONTROL DATA QUALIFIERS

Workorder: 17406 CNA/NRLF / 92275972

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### QUALITY CONTROL PARAMETER QUALIFIERS

n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 17406 CNA/NRLF / 92275972

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
174060002	B-17C			AM21G	EDON/2721
174060004	B-17B			AM21G	EDON/2721
174060006	B-01			AM21G	EDON/2721
174060008	B-10			AM21G	EDON/2721
174060010	B-32B			AM21G	EDON/2721
174060001	B-17C			AM20GAX	DISG/5012
174060003	B-17B			AM20GAX	DISG/5012
174060005	B-01			AM20GAX	DISG/5012
174060007	B-10			AM20GAX	DISG/5012
174060009	B-32B			AM20GAX	DISG/5012



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# Chain of Custody

17406



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Workorder: 92275972      Workorder Name: CNANRLE      Results Requested 11/23/2015

Report / Invoice To: Subcontract To: Requested Analysis

Kevin Godwin  
 Pace Analytical Charlotte  
 9800 Kinney Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092  
 Email: kevin.godwin@pacelabs.com

P.O. #LL614565  
 M.roseops

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Methane, Ethane, Propane	Dissolved Hydrogen	VFA (Acetic Acid only)	Carbon Dioxide	LAB USE ONLY
					Unpreserved	Preserved					
1	B-17C	11/11/2015 08:25	92275972001	Water	S		X	X	X		
2	B-17B	11/11/2015 09:30	92275972002	Water	S		X	X	X		
3	B-01	11/11/2015 14:05	92275972003	Water	S		X	X	X		
4	B-10	11/11/2015 15:50	92275972004	Water	S		X	X	X		
5	B-32B	11/11/2015 12:30	92275972005	Water	S		X	X	X		
Comments											
Transfers		Released By	Date/Time	Received By	Date/Time	Received on Ice		Samples Intact			
1		V. Godwin	11/16/15 12:00	NORM	11/17/15	Y		Y			
2											
3											
Cooler Temperature on Receipt		°C	Custody Seal	Y or N	Received on Ice	Y or N	Samples Intact		Y or N		
		1		N	Y	N	Y		N		

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

## Cooler Receipt Form

Client Name: Pace Project: 92275972 Lab Work Order: 17406

**A. Shipping/Container Information (circle appropriate response)**

Courier:  FedEx  UPS  USPS  Client Other: \_\_\_\_\_ Air bill Present:  Yes  No

Tracking Number: 646172980252

Custody Seal on Cooler/Box Present: Yes  No  Seals Intact: Yes  No

Cooler/Box Packing Material: Bubble Wrap  Absorbent Foam  Other: \_\_\_\_\_

Type of Ice:  Wet  Blue  None Ice Intact:  Yes  Melted

Cooler Temperature: 10C Radiation Screened: Yes  No  Chain of Custody Present:  Yes  No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC			✓	
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 11.17.15

Project Manager Review: RW Date: 11-18-15