UNC
ENVIRONMENT,
HEALTH & SAFETY

The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Ext., CB# 1650
Chapel Hill, North Carolina 27599-1650

Via Electronic Mail

June 7, 2016

Kim T. Caulk
NC DEQ Division of Waste Management
Inactive Hazardous Sites Branch, REC Program
1646 Mail Service Center
Raleigh, NC 27699-1646

Subject: Remedial Action Progress Report - January 2015 through December 2015
UNC/Airport Road Waste Disposal Area, Chapel Hill, North Carolina
Site ID No. NCD 980 557 623

Dear Mr. Caulk:

Please find attached the Remedial Action Progress Report - January 2015 through December 2015 for the subject site. ARCADIS G&M of North Carolina, Inc., the Registered Environmental Consultant for the site, prepared the report. Please contact me at (919) 962-6666 if I can be of further assistance. Thank you.

Sincerely,

J. Laurence Daw, L.G.
Environmental Compliance Officer/
Geophysicist/Licensed Geologist

Attachment

Cc: Mary Beth Koza
Alan Pinnix
Roger Stancil

REMEDIAL ACTION PROGRESS REPORT – JANUARY 2015 THROUGH DECEMBER 2015

UNC Chapel Hill

Airport Road Waste Disposal Area

Chapel Hill, North Carolina

NCD 980 557 623

June 2016

REMEDIAL ACTION PROGRESS REPORT – JANUARY 2015 THROUGH DECEMBER 2015

UNC Chapel Hill
Airport Road Waste Disposal Area,
Chapel Hill, North Carolina

J. Alan Pinnix, L.G., RSM
Principal Scientist / Project Manager

Prepared for:

The University of North Carolina at Chapel Hill

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Our Ref.:

NC000239.0019

Date:

June 2016

IHSB SITE NAME The UNC Airport Road Waste Disposal Area

DATE & NAME OF DOCUMENT 2015 Remedial Action Progress Report June 7, 2016

TYPE OF SUBMITTAL (circle all that apply): Report, Work plan, Work Phase Comp. Statement, Schedule Change

REMEDIATING PARTY DOCUMENT CERTIFICATION STATEMENT (.0306(B)(2))

"I certify under penalty of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Mary Beth Koza
Name of Remediating Party

Mary Beth Koza
Signature of Remediating Party

6-7-16
Date

NOTARIZATION

North Carolina (Enter State)

Alamance COUNTY

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

WITNESS my hand and official seal this 7th day of June, 2016.

Amy Butler
Notary Public (signature)

(OFFICIAL SEAL)

Amy Butler
Notary Public
Alamance County
North Carolina

My commission expires: May 28, 2017

REC PROGRAM DOCUMENT CERTIFICATION FORM - PAGE 2 OF 2
IHSB SITE NAME The UNC Airport Road Waste Disposal Area
DATE & NAME OF DOCUMENT 2015 Remedial Action Progress Report June 7, 2016
TYPE OF SUBMITTAL (circle all that apply): Report, Work plan, Work Phase Comp. Statement, Schedule Change

REGISTERED SITE MANAGER CERTIFICATION OF SIGNATURES

As the Registered Environmental Consultant for the Site for which this filing is made, I certify that the signatures included herewith are genuine and authentic original handwritten signatures and/or true, accurate, and complete copies of the genuine and authentic original handwritten signatures of the persons who purport to sign for this filing. I further certify that I have collected through reliable means the originals and/or copies of said signatures from the persons authorized to sign for this filing who, in fact, signed the originals thereof. Those persons and I understand and agree that any copies of signatures have the same legally binding effect as original handwritten signatures, and I certify that any person for whom I am submitting a copy of their signature has provided me with their express consent to submit said copy. Additionally, I certify that I am authorized to attest to the genuineness and authenticity of the signatures, both originals and any copies, being submitted herewith and that by signing below, I do in fact attest to the genuineness and authenticity of all the signatures, both originals and copies, being submitted for this filing.

J. Alan Pinnix
Name of Registered Site Manager

Signature of Registered Site Manager

6/10/2016
Date

REGISTERED SITE MANAGER DOCUMENT CERTIFICATION STATEMENT (.0306(b)(1))

"I certify under penalty of law that I am personally familiar with the information contained in this submittal, including any and all supporting documents accompanying this certification, and that the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete and complies with the Inactive Hazardous Sites Response Act N.C.G.S. 130A-310, et seq, and the remedial action program Rules 15A NCAC 13C .0300. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

J. Alan Pinnix
Name of Registered Site Manager

Signature of Registered Site Manager

6/10/2016
Date

NOTARIZATION

North Carolina (Enter State)

Wake **COUNTY**

I, Carol Rickerby, a Notary Public of ~~said~~ Harnett County and State, do hereby certify that J. Alan Pinnix did personally appear and sign before me this day, produced proper identification in the form of NCDL 895951, was duly sworn or affirmed, and declared that, he or she is the duly authorized environmental consultant of the remediating party of the property referenced above and that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certifications is true and accurate, and he or she then signed these Certifications in my presence.

WITNESS my hand and official seal this _____ day of May, 2016.

Carol Rickerby
Notary Public (signature)

(OFFICIAL SEAL)

Carol Rickerby
NOTARY PUBLIC
HARNETT COUNTY, N.C.

My commission expires: 11/30/19.

Document Certification Form No. DC - II
(Revised 8/11)

CONTENTS

1 Introduction 1-1

2 Groundwater Remediation System 2-1

2.1 Treatment System Operation and Maintenance 2-1

2.2 Treatment System Sampling 2-1

2.2.1 Monthly OWASA Discharge Permit Sampling 2-1

2.2.2 Air Discharge Effluent Sampling 2-2

3 Annual Groundwater and Surface Water Sampling Event 3-1

3.1 Groundwater Flow Direction 3-1

3.2 Groundwater Parameters 3-1

3.3 Groundwater Sample Analytical Results 3-2

3.4 Historical Groundwater Analytical Trends 3-3

3.5 Surface Water Analytical Results 3-3

4 Summary 4-1

4.1 Groundwater Remediation System O&M 4-1

4.2 Groundwater Remediation System Monthly OWASA Sampling 4-1

4.3 Air Discharge Effluent Sampling 4-1

4.4 Groundwater Sampling 4-1

4.5 Surface Water Sampling 4-2

4.6 Conclusions 4-2

TABLES

Table 1. Groundwater Remediation System Sampling and Operation and Maintenance Record, January 2015 through December 2015

Table 2. Summary of Groundwater Treatment System Effluent Sample Results

Table 3. Summary of Air Stripper Discharge Sample Results

Table 4. Summary of Monitor Well and Recovery Well Construction Details

Table 5. Water-Level Elevations in Monitor Wells and Recovery Wells, December 7, 2015

Table 6. Historical Groundwater Elevation Data

Table 7. Groundwater Sampling Data for Samples Collected from Monitor Wells and Recovery Wells in December 2015

Table 8. Summary of Analytical Results for Groundwater Samples Collected in December 2015

Table 9. Historical Groundwater Analytical Data

Table 10. Summary of Analytical Results for Surface Water Samples Collected in December 2015

FIGURES

Figure 1. Site Location

Figure 2. Monitor Well and Recovery Well Location Map

Figure 3. Groundwater Potentiometric Surface of the Shallow Aquifer - December 2015

Figure 4. Groundwater Potentiometric Surface of the Bedrock Aquifer - December 2015

Figure 5. Benzene Isoconcentration Contour Map of the Shallow Aquifer - December 2015

Figure 6. Chloroform Isoconcentration Contour Map of the Shallow Aquifer - December 2015

Figure 7. Methylene Chloride Isoconcentration Contour Map of the Shallow Aquifer - December 2015

Figure 8. Diethyl Ether Isoconcentration Contour Map of the Shallow Aquifer - December 2015

Figure 9. Benzene Isoconcentration Contour Map of the Bedrock Aquifer - December 2015

Figure 10. Chloroform Isoconcentration Contour Map of the Bedrock Aquifer - December 2015

Figure 11. Diethyl Ether Isoconcentration Contour Map of the Bedrock Aquifer - December 2015

Figure 12. Benzene Isoconcentration Cross Section - December 2015

Figure 13. Diethyl Ether Isoconcentration Cross Section - December 2015

APPENDICES

A Discharge Monitoring Reports

B Laboratory Analytical Data Reports for Groundwater Samples

C Laboratory Analytical Data Reports for Air Discharge Samples

1 INTRODUCTION

ARCADIS G&M of North Carolina, Inc. (ARCADIS) prepared this report on behalf of the University of North Carolina at Chapel Hill (UNC) to document remedial action progress and performance of the groundwater remediation system at the UNC Airport Road Waste Disposal Area (the site). The site is located near the intersection of Municipal Drive and Animal Shelter Road and is shown on **Figure 1**.

This site is being remediated under the Registered Environmental Consultant (REC) Program. As required by the REC program implementation guidance, this report is the eleventh Remedial Action Progress Report submitted since certification of the Groundwater Remediation System Construction Completion Report on October 25, 2006. As four consecutive quarterly reports were submitted in 2007, REC program guidelines allows for submittal of a single annual report detailing all groundwater remedial activities over the past year. This report is the eighth annual report and covers the reporting period of January 2015 through December 2015.

This report discusses the operation and maintenance (O&M) of the groundwater remediation system for the period, along with results of the required groundwater effluent sampling and air discharge sampling. The selected remedial option for the site consists of groundwater extraction using electric submersible pumps and dual phase (groundwater/soil vapor) recovery utilizing vacuum-enhanced recovery (VER). Treated groundwater is discharged to the Orange Water and Sewer Authority (OWASA) sewer system under OWASA discharge permit #010. The groundwater remediation system became fully operational on October 5, 2006.

This report also contains the results of the December 2015 annual groundwater and surface water monitoring event. The samples were collected from 24 monitor wells, 4 vapor extraction and recovery wells, 6 recovery wells, and 4 surface water sample locations to evaluate overall effectiveness of the groundwater remediation efforts.

2 GROUNDWATER REMEDIATION SYSTEM

The groundwater remediation system was installed at the site in the summer of 2006, and the system became fully operational on October 5, 2006. The groundwater remediation system consists of four vapor extraction and recovery (VER) wells (designated VER-1 through VER-4), three shallow recovery wells (designated as SRW-1 through SRW-3) and three deep recovery wells (designated as DRW-1 through DRW-3) as shown on **Figure 2**. Groundwater from the VER wells and shallow recovery wells is pumped into a settling tank, followed by bag filtration. This flow then joins groundwater pumped from the deep recovery wells and the combined flow enters the air stripper. Following treatment by the air stripper, the water is pumped to OWASA Manhole 47C4001 where it is discharged into the OWASA sewer system.

2.1 Treatment System Operation and Maintenance

The groundwater remediation system is inspected by ARCADIS personnel on a monthly basis. System operational information recorded during the site checks includes readings from the various pressure and flow gauges located on the bag filter, influent flow meters, air stripper, VER system, effluent pump, and effluent totalizer. Minor adjustments are made to keep the system operating as efficiently as possible. Maintenance activities include changing of the cloth bag filter. Monthly O&M activities include collecting readings from the various flow meters and pressure gauges at each well head, as well as cleaning of the air stripper and removal of accumulated sediment from the settling tank.

A record of system O&M activities conducted from January 2015 through December 2015 is included in **Table 1**. The information presented on **Table 1** includes descriptions of the activities and the dates on which the activities were performed.

The groundwater remediation system and recovery wells were generally operational between January 2015 and December 2015. Given the large reduction in concentration of constituents seen in the VER and adjacent wells since groundwater remediation commenced and the high maintenance requirements of the VER system, the VER system was operated only periodically throughout the year. If this trend reverses at any point in the future, the VER system will be brought back online on a full time basis.

Based on the totalizer reading recorded at the treatment system on December 7, 2015, approximately 51,753,868 gallons of impacted groundwater have been extracted from the site and treated and discharged since the system was first activated on October 5, 2006.

2.2 Treatment System Sampling

Treatment system sampling consists of collection of groundwater effluent samples to monitor the quality of water entering the OWASA system and also collection of air discharge samples from the air stripper. The following sections describe the sampling in greater detail.

2.2.1 Monthly OWASA Discharge Permit Sampling

Following start up of the groundwater remediation system, monthly collection of treated groundwater samples was performed as per the requirements of the OWASA discharge permit #010, which became

effective on June 1, 2006. The permit requires monthly discharge sampling and monthly reporting for the first year of system operation followed by monthly sampling and quarterly reporting for subsequent years. The first year of operation was completed as of October 2007 and as such the reporting frequency was adjusted to quarterly. Monthly effluent sampling will continue for the duration of the permit.

The treatment system effluent samples were analyzed for volatile organic compounds (VOCs) and arsenic, chromium, copper, lead, zinc and mercury. Samples designated for analysis of VOCs, arsenic, chromium, copper, lead, and zinc were submitted to TestAmerica in Savannah, Georgia for analysis. Samples designated for analysis of mercury were submitted to TestAmerica in Pensacola, Florida for analysis.

System effluent samples were collected on January 7, 2015, February 25, 2015, March 24, 2015, April 20, 2015, May 19, 2015, June 28, 2015, July 20, 2015, August 28, 2015, September 30, 2015, October 26, 2016, November 23, 2015, and December 7, 2015, for reporting to OWASA.

The analytical results from all effluent monitoring events (**Table 2**) indicate the groundwater treatment system is effectively treating the extracted groundwater. In 2015, all parameters were in compliance with OWASA discharge limits for the respective monitoring period.

Quarterly discharge monitoring reports (DMR) were generated for the January to March 2015 monitoring period, April to June 2015 monitoring period, July to September 2015 monitoring period and October to December 2015 monitoring period. Copies of the DMRs are included in **Appendix A**. The laboratory analytical reports associated with the groundwater treatment system effluent samples are included in **Appendix B**.

2.2.2 Air Discharge Effluent Sampling

In addition to the OWASA effluent sampling, air discharge samples were collected from the air stripper on April 20, 2015 and December 7, 2015. No VER samples were collected during 2014 as the VER system was only operated periodically. Should the VER portion of the remedial system be used more than several days a month in the future, air sampling will resume.

Air samples collected in the field remained in the custody of an ARCADIS employee until hand delivered to the laboratory. Air sample analytical services were provided by Research Triangle Park Laboratories. All air samples were analyzed for VOCs by EPA Method TO-15.

The analytical results from the air discharge sampling events associated with the air stripper are presented in **Table 3**. The analytical data were converted to daily mass flow in pounds per day using the raw data and the air flow information collected during each monitoring event. The converted data indicates a total average of 0.02 pounds per day of volatile organics for the air stripper for the period of January 2015 through December 2015. Extrapolated for a year, this average would be 7.3 pounds per year or approximately 0.004 tons. This volume remains well below the 5 tons per year required for an air quality permit.

Monitoring of air quality from the air stripper will continue on a semi-annual basis as per the monitoring schedule contained in the Construction Completion Report: Groundwater Remediation System dated October 2006.

Copies of the air quality laboratory reports are included in **Appendix C**. In the event the VER system is restarted air sampling will be resumed for this portion of the remedial system as well.

3 ANNUAL GROUNDWATER AND SURFACE WATER SAMPLING EVENT

The results of the field measurements collected from the site monitor wells are presented in this section along with the analytical results for the December 2015 groundwater and surface water sampling event. The locations of the site monitor wells, recovery wells, and surface water sample points are shown on **Figure 2.** The construction details for site monitor wells and recovery wells are listed on **Table 4**.

3.1 Groundwater Flow Direction

Water-level measurements from top of casing were collected from the site wells on December 7, 2015, to determine the groundwater flow direction at the site. The water-level measurements were converted to water-level elevations using existing monitor well top of casing elevation data. The depth-to-water measurements and the converted water-level elevations for the December 2015 gauging event are listed on **Table 5**.

The water-level elevations in the shallow monitor wells ranged from 451.58 feet above mean sea level (ft msl) in downgradient well MW-5 to 481.34 ft msl in upgradient well MW-3, located near the source area. In the bedrock aquifer, water-level elevations ranged from 379.35 ft msl in downgradient monitor well MW-35 to 477.26 in monitor well MW-28 which is located upgradient of the source area.

The water-level elevations in the monitor wells adjacent to, or near, recovery wells are most directly affected by the active pumping of the recovery wells. Since the activation of the recovery wells in October 2006, water-level elevations in site monitor wells located near the recovery wells have decreased slightly to significantly depending on the proximity of the monitor well relative to the recovery wells. Historical depth-to-water measurements and groundwater elevation data for the site monitor wells are presented in **Table 6**.

Water-level contour maps for the December 2015 sampling event were prepared for the surficial and bedrock aquifers using the water-level elevation data from the wells (**Figures 3** and **4**, respectively). Based on the information presented on **Figures 3** and **4**, the overall groundwater flow direction in the surficial and bedrock aquifers is generally towards the north and northeast. In comparing the groundwater flow map created with the December 2015 water-level elevation data to the numerous historic potentiometric surface maps that have been created for the site, it is apparent that the groundwater recovery system has altered the groundwater flow pattern at the site. Based on the December 2015 water level data, the capture zone created by the groundwater extraction wells extends from the source area north/northwest to the SRW series of recovery wells and northeast toward deep recovery wells DRW-2 and DRW-3.

3.2 Groundwater Parameters

The field groundwater parameters for temperature, pH, specific conductance, dissolved oxygen and oxidation reduction potential were measured for samples collected from monitor wells during the

December 2015 sampling event. The last set of temperature, pH, and specific conductance measurements that were recorded prior to sampling the monitor wells are presented in **Table 7**. The temperature, pH, and specific conductance ranges for the monitoring wells were as follows: 13.70 to 18.80 (degrees Celsius), 5.63 to 7.94 (standard units), and 71 to 1,102 (µmhos), respectively. The temperature, pH, and specific conductance measurements collected during the October 2014 sampling event are consistent with the measurements collected during previous monitor well sampling events.

3.3 Groundwater Sample Analytical Results

Groundwater samples were collected from 24 monitor wells, 4 vapor extraction and recovery wells, and 6 recovery wells during the October 2014 groundwater sampling event. The analytical results for the October 2014 groundwater sampling event are summarized in **Table 8**. A copy of the laboratory analytical data report associated with this sampling event is included in **Appendix B**.

Based on the laboratory data report for the October 2014 sampling event, benzene, chlorobenzene, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,2,2-tetrachloroethane, diethyl ether, MTBE, tetrachloroethene, trichloroethene, and vinyl chloride were reported at concentrations above North Carolina Groundwater Standards. Historically, concentrations have been observed to be highest in VER-2; however, they were significantly lower during the December 2015 sampling event. The area has received higher than normal rainfall amounts during the year; therefore, the influx of water throughout bedrock fractures may have contributed to the decrease in concentrations at VER-2.

MTBE continues to be limited to two monitor wells. Historically MTBE has been detected at variable concentrations in bedrock well MW-36 and shallow well MW-4, which are located approximately 1,000 feet lateral gradient of the waste disposal area and within approximately 100 feet of Martin Luther King, Jr. Boulevard (formerly Airport Road). Based on the fact that MTBE has only recently been detected at the site, and that the timeframe for use of MTBE began in the 1980s (well after burial activities were suspended at the waste disposal area), it appears that the detection of MTBE in well MW-36 is likely related to an offsite unrelated release of gasoline on or near Martin Luther King Jr. Boulevard.

Contaminant isoconcentration contour maps for benzene, chloroform, methylene chloride, and diethyl ether are presented for the shallow unconsolidated aquifer in **Figures 5, 6, 7,** and **8**, respectively. Isoconcentration contour maps for benzene, chloroform, and diethyl ether are presented for the bedrock aquifer in **Figures 9, 10,** and **11**, respectively. The maps were created using the data from the December 2015 sampling event, and historical data was also considered in the placement of the contours. Isoconcentration contour cross section maps for benzene and diethyl ether have been prepared and are included as **Figures 12** and **13**, respectively. Historical groundwater analytical data for site monitor wells are presented in **Table 9**.

Overall the groundwater analytical data from the groundwater sampling event indicates that the existing monitor well network has defined the extent of impacted groundwater at the site.

3.4 Historical Groundwater Analytical Trends

The groundwater analytical data obtained during the October 2014 sampling event indicate localized decreases in specific VOC concentrations since activation of the groundwater remediation system. VOC concentration reductions have been observed primarily in shallow monitor wells MW-1, MW-2, MW-6 and MW-12, and bedrock monitor wells MW-11, MW-15 and MW-31. Monitor wells MW-1 and MW-2 are located in close proximity to the VER wells, downgradient of the source area, while monitor well MW-12 is located between SRW-2 and SRW-3. Monitor wells MW-11 and MW-15 are adjacent to DRW-2 and DRW-1 respectively. The general decrease in VOC concentrations, especially in monitor wells located in the vicinity of recovery wells, suggests the groundwater remediation system is effectively reducing groundwater contaminant concentrations at the site. The analytical results for these wells will be further evaluated during future monitoring events to determine if these trends continue. In addition to groundwater remediation, completion of the source removal activities likely is further contributing to the reductions seen in groundwater concentrations.

3.5 Surface Water Analytical Results

Surface water samples were collected from historic sample locations SW-3, SW-4, SW-5, and SW-6 and analyzed for VOCs during the December 2015 monitoring event. Surface water sample locations are shown on **Figure 2** and tabulated analytical results are displayed on **Table 10**. Analytical results indicate that no VOCs were detected above laboratory reporting limits in any of the surface water samples collected.

4 SUMMARY

This section provides a summary of the groundwater remediation system O&M activities and system sampling activities conducted for the performance monitoring period of January 2015 through December 2015. This section also provides a summary of the analytical results for the groundwater and surface water sampling event conducted at the site in December 2015. The data collected during the performance monitoring period documented in this report indicate that the groundwater remediation system is effectively extracting and treating impacted groundwater, and that the impacted groundwater plume at the site is adequately defined by the existing monitor well network.

4.1 Groundwater Remediation System O&M

The groundwater remediation system is inspected by ARCADIS personnel on a regular basis. System operational information recorded during the site checks includes readings from the various pressure and flow gauges located on the bag filter, influent flow meters, air stripper, effluent pump, and effluent totalizer. Minor adjustments are made to keep the system operating as efficiently as possible. Regular maintenance activities include changing of the cloth bag filter. Monthly O&M activities include collecting readings from the various flow meters and pressure gauges at each well head, as well as cleaning of the air stripper and effluent transfer pump. As previously indicated, the VER portion of the system is being operated on a periodic basis.

Based on the totalizer reading at the treatment system on December 7, 2015, approximately 51,753,868 gallons of impacted groundwater have been pumped from the site recovery wells and treated and discharged since the system was activated on October 5, 2006.

4.2 Groundwater Remediation System Monthly OWASA Sampling

The sampling of the effluent entering the OWASA system was conducted on a monthly basis. The analytical data from the monthly sampling events indicate the groundwater treatment system is sufficiently removing the constituents of concern from the discharge. In 2015, all parameters were in compliance with the OWASA discharge limits.

4.3 Air Discharge Effluent Sampling

The air discharge sampling performed on the effluent discharge of the air stripper during the operational period indicated that on average, 0.02 pounds per day of VOCs are being generated from the groundwater remediation system. This value extrapolated over a period of a year indicates the total VOC discharge will be approximately 0.004 tons which is well below the 5 tons per year limit for an air discharge permit.

4.4 Groundwater Sampling

Water-level measurements were collected from site monitor wells and recovery wells during the December 2015 monitor well sampling event. The depth-to-water measurements and the converted

water-level elevation data for the shallow and bedrock monitor wells indicate that groundwater is flowing north and northeast across the site.

The groundwater flow pattern derived using the water level elevation data indicates that the groundwater recovery system has altered groundwater flow at the site in comparison to previous static water-level elevation measurement events. The groundwater extraction system has created a capture zone that extends from the VER wells north/northwest to the SRW series of recovery wells and northeast toward deep recovery wells DRW-2 and DRW-3. The current capture zone overlaps well with the existing footprint of impacted groundwater.

Groundwater samples were collected from 24 monitor wells, 4 vapor extraction and recovery wells, and 6 recovery wells during the December 2015 annual sampling event and the samples were analyzed for VOCs. The analytical results from the December 2015 groundwater sampling event indicate that benzene, chlorobenzene, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,2,2-tetrachloroethene, diethyl ether, MTBE, tetrachloroethene, trichloroethene, and vinyl chloride were reported at concentrations above North Carolina Groundwater Standards. The concentrations of some of these constituents have been reduced at specific well locations during 2015.

4.5 Surface Water Sampling

Analytical results indicate that no VOCs were detected above laboratory reporting limits in any of the surface water samples collected in 2015. This is similar to historic surface water monitoring results.

4.6 Conclusions

The data generated for the UNC Airport Road Waste Disposal Area during 2015 continues to indicate that the extent of impacted groundwater is well understood, and that the impacted groundwater plume is contained onsite. Furthermore, the active groundwater remediation system appears to be effective at containing and recovering the impacted groundwater and reduced contaminant concentrations have been observed at several monitor well locations. Operation of the groundwater remediation system will continue through 2016 with the next Remedial Action Progress Report being submitted in mid-2017.

TABLES

Table 1. Groundwater Remediation System Sampling and Operation and Maintenance Record Airport Road Waste Disposal Site, Chapel Hill, North Carolina.

Date	Personnel On-Site	Maintenance Activity/Comments	System Status	Samples Collected	System Totalizer Reading (gallons)	Gallons Pumped During Period (gallons)	OWASA Totalizer Reading	Average Daily Flow for Period (gallons)	Period Start	Period End
1/7/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	9,523,150	251,050	9,667,840	9,298	12/11/2014	1/7/2015
2/25/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	9,947,985	424,835	10,099,435	8,670	1/7/2015	2/25/2015
2/26/2015	L. Daw	System was found to be deactivated due to motor starter malfunction. Maintenance request sent to SAEDACCO.	Not Running	None	NR		NR	NA	--	--
3/20/2015	**SAEDACCO**	Performed O&M and restarted system. Level controls for DRW-1 and DRW-3 replaced.	Running	None	NR		NR	NA	--	--
3/24/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	10,098,180	150,195	10,251,845	5,563	2/25/2015	3/24/2015
4/20/2015	D.Twamley, D.Rhodes	On-site to collect monthly effluent samples and semiannual Vapor samples. AS stack pressure was 70 cfm.	Running	Effluent (VOCs, RCRA Metals and Hg); AS Discharge (TO-15)	10,487,620	389,440	10,648,615	14,424	3/24/2015	4/20/2015
5/11/2015	**SAEDACCO**	Repaired LRP	Not Running	None	NR		NR	NA	--	--
5/12/2015	**SAEDACCO**	Completed LRP repairs and restarted syste,	Running	None	NR		NR	NA	--	--
5/19/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	10,882,558	394,938	11,051,090	13,619	4/20/2015	5/19/2015
6/28/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	11,455,900	573,342	11,634,770	14,334	5/19/2015	6/28/2015
7/20/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	11,734,770	278,870	11,919,460	12,676	6/28/2015	7/20/2015
8/26/2015	**SAEDACCO**	On-site to perform monthly O&M activities.	Running	None	NR		NR	NA	--	--
8/28/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	12,288,230	553,460	12,486,560	14,191	7/20/2015	8/28/2015
9/22/2015	**SAEDACCO**	On-site to perform monthly O&M activities. DRW-3 was deactivated, pump needs to be replaced (motor is ok).	Running	None	NR		NR	NA	--	--
9/28/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	12,630,470	342,240	12,831,700	11,040	8/28/2015	9/28/2015
10/26/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	12,924,911	294,441	13,125,050	10,516	9/28/2015	10/26/2015
11/23/2015	D. Twamley	On-site to collect monthly effluent samples.	Running	Effluent (VOCs, RCRA Metals and Hg)	13,204,530	279,619	13,406,235	9,986	10/26/2015	11/23/2015
12/7/2015	D. Twamley	On-site to collect monthly effluent samples and semiannual Vapor samples. AS stack pressure was 165 cfm.	Running	Effluent (VOCs, RCRA Metals and Hg); AS Discharge (TO-15)	13,350,033	145,503	13,557,410	10,393	11/23/2015	12/7/2015
12/10/2015	**SAEDACCO**	monthly O&M activities.	Running	None	NR		NR	NA	--	--

Table 2. Summary of Groundwater Treatment System Effluent Sample Results, UNC Airport Road Waste Disposal Area, The University of North Carolina at Chapel Hill, North Carolina.

Parameter	**OWASA Maximum Allowable Discharge Concentration**	**Groundwater Treatment System Effluent Samples**					
		1/7/2015	2/25/2015	3/24/2015	4/20/2015	5/19/2015	6/28/2015
Benzene (µg/L)	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform (µg/L)	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (µg/L)	71	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene Chloride (µg/L)	930	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane (µg/L)	30	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Arsenic (µg/L)	16	< 20	< 20	< 20	< 20	< 20	< 20
Chromium (µg/L)	50	< 10	< 10	< 10	< 10	< 10	< 10
Copper (µg/L)	60	< 20	< 20	< 20	< 20	< 20	< 20
Lead (µg/L)	49	< 10	< 10	< 10	< 10	< 10	< 10
Zinc (µg/L)	535	< 20	61	< 20	27	< 20	< 20
Mercury (ng/L)	50	< 0.50	0.75	1.9	2.2	6.8	1.60

µg/L Micrograms per liter
ng/L Nanograms per liter

Table 2. Summary of Groundwater Treatment System Effluent Sample Results, UNC Airport Road Waste Disposal Area, The University of North Carolina at Chapel Hill, North Carolina.

Parameter	**OWASA Maximum Allowable Discharge Concentration**	**Groundwater Treatment System Effluent Samples**					
		7/20/2015	8/28/2015	9/30/2015	10/26/2015	11/23/2015	12/7/2015
Benzene (µg/L)	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform (µg/L)	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (µg/L)	71	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene Chloride (µg/L)	930	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane (µg/L)	30	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Arsenic (µg/L)	16	< 20	< 20	< 20	< 20	< 20	< 20
Chromium (µg/L)	50	< 10	< 10	< 10	< 10	< 10	< 10
Copper (µg/L)	60	< 20	< 20	20	< 20	< 20	< 20
Lead (µg/L)	49	< 10	< 10	< 10	< 10	< 10	< 10
Zinc (µg/L)	535	<20	< 20	62	< 20	<20	<20
Mercury (ng/L)	50	8.2	1.9	0.80	< 0.50	1.2	1.80

µg/L Micrograms per liter
ng/L Nanograms per liter

Table 3. Summary of Air Stripper Discharge Sample Results, UNC Airport Road Waste Disposal Area, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituents	Sample ID.: / Date Sampled:	Air Stripper Discharge 4/20/2015			Air Stripper Discharge 12/7/2015		
Air Stripper Discharge Pipe (6 inch diameter)							
Vapor Flow Rate (cfm)		70			165		
Vapor Temperature (degrees celcius)		35			35		
Vapor Flow Rate (m3/day)		3024			7128		
Discharge Velocity (ft/sec)		1.49			3.50		
Volatile Organics (ppbv) *(USEPA Method TO-15 GC/MS)*	Molecular Weight (g/mol)	**Air Concentration ppbv**	**Converted Concentration mg/m3**	**Daily Mass Flow Rate lbs/day**	**Air Concentration ppbv**	**Converted Concentration mg/m3**	**Daily Mass Flow Rate lbs/day**
Dichlorodifluoromethane (Freon 12)	120.91						
1,2-Chloro-1,1,2,2-Tetrafluorethane	170.92						
Chloromethane	50.49	**23.24**	0.05	0.00	**25.63**	0.05	0.00
Vinyl chloride	62.50						
1,3-Butadiene	54.09						
Bromomethane	94.94						
Cloroethane	64.51	**8.19**	0.02	0.00	**31.17**	0.08	0.00
Trichloromonofluoromethane	137.37						
1,1-Dichloroethene	96.94						
1,1,2-Trichloro-1,2,2-trifluoroethane	187.38						
Ethanol	46.07	**8.18**	0.02	0.00	**7.03**	0.01	0.00
Carbon Disulfide	76.14						
Isopropyl alcohol	60.10	**18.68**	0.05	0.00	**9.99**	0.02	0.00
Methylene Chloride	84.93	**2.3**	0.01	0.00	**4.64**	0.02	0.00
Acetone	58.08	**24.68**	0.06	0.00	**21.53**	0.05	0.00
t-1,2-dichloroethene	96.94						
Hexane	86.18	**10.56**	0.04	0.00	**30.59**	0.11	0.00
Methyl-t-butyl ether (MTBE)	88.15						
1,1-Dichloroethane	98.96						
Vinyl acetate	86.09						
cis-1,2-dichloroethene	96.94						
Cyclohexane	84.18	**2.67**	0.01	0.00	**9.38**	0.03	0.00
Chloroform	119.38	**1.12**	0.01	0.00	**2.53**	0.01	0.00
Ethyl Acetate	88.10				**3.56**	0.01	0.00
Tetrahydrofuran	72.11	**3.17**	0.01	0.00			
1,1,1-Trichloroethane	133.40						
Carbon Tetrachloride	153.82						
2-Butanone	72.11						
Heptane	100.2	**6.73**	0.03	0.00	**230.33**	0.94	0.01
Benzene	78.11	**4.07**	0.01	0.00	**4.84**	0.02	0.00
1,2-Dichloroethane	98.96	**15.25**	0.06	0.00	**15.26**	0.06	0.00
Trichloroethylene	131.39	**2.55**	0.01	0.00	**2.42**	0.01	0.00
1,2-Dichloropropane	112.99						
Bromodichloromethane	163.83						
1,4-Dioxane	88.11	**1.64**	0.01	0.00			
Cis-1,3-Dichloropropene	110.97						
Toluene	92.14	**6.78**	0.03	0.00	**17.71**	0.07	0.00
4-Methyl-2-pentanone (MIBK)	100.16						
t-1,2-dichloropropene	110.97						
Tetrachloroethylene	165.83						
1,1,2-Trichloroethane	133.40						
Dibromochloromethane	208.28						
1,2-Dibromoethane	187.86						
2-Hexanone	100.16						
Ethylbenzene	106.17				**4.44**	0.02	0.00
Chlorobenzene	112.56	**2.60**	0.01	0.00	**3.07**	0.01	0.00
m/p-Xylene	106.17	**2.31**	0.01	0.00	**16.01**	0.07	0.00
o-Xylene	106.17				**5.73**	0.02	0.00
Styrene	104.15	**1.53**	0.01	0.00			
Tribromomethane	252.73						
1,1,2,2-Tetrachloroethane	167.85						
1-Ethyl-4-Methylbenzene	120.19				**2.37**	0.01	0.00
1,3,5-Trimethylbenzene	120.19				**1.08**	0.01	0.00
1,2,4-Trimethylbenzene	120.19				**3.36**	0.02	0.00
1,3-Dichlorobenzene	147.01	**78.95**	0.47	0.00	**63.83**	0.38	0.01
1,4-Dichlorobenzene	147.01	**81.95**	0.49	0.00	**66.47**	0.40	0.01
Benzyl Chloride	126.59						
1,2-Dichlorobenzene	147.01						
1,1,2,3,4,4-hexachloro-1,2-butadiene	260.76						
1,2,4-Trichlorobenzene	181.45						
	Total lbs/day			0.01			0.04

Calculated values

Conversion from ppvb to mg/m3: mg/m3 = (ppbv/1000)(MW)/24.45

mg/m^3 milligrams per cubic meter

lbs/day pounds per day

cfm cubic feet per minute

m^3/day cubic meters per day

ft/sec feet per second

ppbv parts per billion by volume

Table 4. Summary of Monitor Well and Recovery Well Construction Details, UNC Airport Road Waste Disposal Area, Univesity of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

	Monitor Well Identification	Date of Installation	Measuring Point Elevation (Top of Casing) (ft msl)	Depth of Surface Casing (ft bls)	Total Drilled Depth (ft bls)	Screened Interval (ft bls)
	MW-1	INA	483.11	NA	28.3	INA
	MW-2	INA	484.30	NA	29	INA
	MW-3	INA	483.34	NA	20	INA
	MW-4	INA	472.18	NA	24.6	INA
	MW-5	INA	454.62	NA	15	INA
	MW-6	4/11/1995	472.55	NA	22	12.0-22.0
*	MW-7	4/21/1995	475.01	22	48	38.0-48.0
*	MW-9	4/21/1995	476.25	NA	43.5	20.0-35.0
*	MW-11	4/18/1995	472.78	NA	36	26.0-36.0
	MW-12	4/13/1995	464.21	NA	22	12.0-22.0
*	MW-13	4/19/1995	467.60	NA	23	13.0-23.0
*	MW-14	8/11/1995	481.67	29	175	165.0-175.0
*	MW-15	7/20/1995	465.04	40	60.5	50.0-60.0
*	MW-16	7/21/1995	467.14	16	82	22.0-42.0
*	MW-17	7/24/1995	478.99	26	71	60.0-70.0
	MW-18	7/19/1995	467.96	NA	16	5.0-15.0
	MW-19	7/19/1995	473.90	NA	10	5.0-10.0
	MW-20	7/27/1995	475.03	NA	25	14.0-24.0
*	MW-21	7/21/1995	463.28	NA	22	11.0-21.0
	MW-22	7/26/1995	460.78	NA	10	5.0-10.0
*	MW-23	8/17/1995	458.92	17	89	78.0-88.0
*	MW-24	1/19/1996	465.32	105	200	175.0-195.0
	MW-25	1/23/1996	458.74	NA	15	5.0-15.0
*	MW-26	2/5/1996	458.79	20	180	75.0-95.0
*	MW-28	1/15/1996	480.40	NA	46	36.0-46.0
*	MW-29	11/14/1996	480.73	55	170	160.0-170.0
*	MW-30	11/12/1996	468.57	NA	40	25.0-40.0
*	MW-31	11/13/1996	468.45	50	90	75.0-90.0
*	MW-32	11/12/1996	462.06	NA	43	28.0-43.0
*	MW-33	11/13/1996	461.46	50	85	70.0-85.0
*	MW-34	7/6/2004	464.65	NA	85	70.0-85.0
*	MW-35	7/6/2004	452.45	NA	75	60.0-75.0
*	MW-36	7/7/2004	466.90	NA	84	69.0-84.0
*	MW-37	7/6/2004	460.29	100	125	115.0-125.0
	MW-38	9/10/2010	484.85	NA	20	10.0-20.0
	MW-39	9/10/2010	478.20	NA	20	10.0-20.0
	SRW-1	4/4/2006	460.98	NA	25	10.0-25.0
	SRW-2	4/13/2006	464.20	NA	35	20.0-35.0
	SRW-3	4/4/2006	462.76	NA	35	20.0-35.0
*	DRW-1	4/2/1998	466.11	20	80	Open Borehole
*	DRW-2	4/7/2006	461.90	20	80	Open Borehole
*	DRW-3	4/7/2006	459.20	20	150	Open Borehole
	VER-1	4/4/2006	483.08	NA	25	5.0-25.0
	VER-2	3/26/1998	482.20	NA	25	5.0-25.0
	VER-3	4/4/2006	480.11	NA	25	5.0-25.0
	VER-4	4/4/2006	478.83	NA	25	5.0-25.0

* Bedrock wells - This designation indicates that the entire screened interval or open borehole interval is in bedrock
ft msl Feet above mean sea level.
NA Not Applicable.
ft bls Feet below land surface.
INA Information not available.
Note: Monitor Wells MW-8, MW-10, and MW-27 were not installed.

Table 5. Water Level Elevations in Monitor Wells and Recovery Wells, December 7, 2015, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Monitor Well Identification	Measuring Point Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)
MW-1	483.11	11.60	471.51
MW-2	484.30	14.58	469.72
MW-3	483.34	2.00	481.34
MW-4	472.18	15.41	456.77
MW-5	454.62	3.04	451.58
MW-6	472.55	16.25	456.30
*MW-7	475.01	24.75	450.26
*MW-9	476.25	11.66	464.59
*MW-11	472.78	27.68	445.10
MW-12	464.21	8.95	455.26
*MW-13	467.60	8.44	459.16
*MW-14	481.67	26.93	454.74
*MW-15	465.04	33.90	431.14
*MW-16	467.14	4.91	462.23
*MW-17	478.99	14.06	464.93
MW-18	467.96	3.30	464.66
MW-19	473.90	3.07	470.83
MW-20	475.03	20.32	454.71
*MW-21	463.28	7.01	456.27
MW-22	460.78	3.25	457.53
*MW-23	458.92	8.69	450.23
*MW-24	465.32	13.58	451.74
MW-25	458.74	5.52	453.22
*MW-26	458.79	24.08	434.71
*MW-28	480.4	3.14	477.26
*MW-29	480.73	10.17	470.56
*MW-30	468.57	23.07	445.50
*MW-31	468.45	26.02	442.43
*MW-32	462.06	18.03	444.03
*MW-33	461.46	26.54	434.92
*MW-34	464.65	21.48	443.17
*MW-35	452.45	73.10	379.35
*MW-36	466.90	19.68	447.22
*MW-37	460.29	20.61	439.68
MW-38	484.85	13.01	471.84
MW-39	478.20	1.19	477.01
VER-1	483.08	10.71	472.37
VER-2	482.20	10.35	471.85
VER-3	480.11	7.93	472.18
VER-4	478.83	1.30	477.53
SRW-1	460.98	NM	--
SRW-2	464.20	26.09	438.11
SRW-3	462.76	24.17	438.59
*DRW-1	466.11	33.18	432.93
*DRW-2	461.90	49.15	412.75
*DRW-3	459.20	38.92	420.28

ft toc Feet below top of casing.
ft msl Feet above mean sea level.
* Bedrock Wells - This designation indicates that the entire screened interval or open borehole interval is in bedrock.
Dry Well dry at time of gauging
NA Not available.
NM Not measured.

Table 6. Historical Groundwater Elevation Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Date Measured:		7/19/04		11/2/10		11/14/11		12/18/12		11/4/13		10/13/14		12/7/15	
Monitor Well ID	TOC (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)	Depth to WL (ft toc)	GW Elevation (ft msl)
MW-1	483.11	12.40	470.71	16.40	466.71	17.92	465.19	14.43	468.68	15.03	468.08	16.20	466.91	11.60	471.51
MW-2	484.30	13.60	470.70	18.71	465.59	20.44	463.86	17.14	467.16	17.3	467.00	18.65	465.65	14.58	469.72
MW-3	483.34	5.30	478.04	4.53	478.81	5.32	478.02	5.68	477.66	5.95	477.39	6.17	477.17	2.00	481.34
MW-4	472.18	14.75	457.43	19.08	453.10	20.89	451.29	18.04	454.14	16.43	455.75	17.85	454.33	15.41	456.77
MW-5	454.62	4.75	449.87	5.18	449.44	9.70	444.92	7.42	447.20	7.88	446.74	Dry	--	3.04	451.58
MW-6	472.55	9.70	462.85	18.35	454.20	14.42	458.13	15.71	456.84	14.73	457.82	16.47	456.08	16.25	456.30
*MW-7	475.01	9.10	465.91	23.33	451.68	16.07	458.94	25.82	449.19	22.97	452.04	23.44	451.57	24.75	450.26
*MW-9	476.25	8.90	467.35	15.58	460.67	15.54	460.71	12.83	463.42	11.71	464.54	13.03	463.22	11.66	464.59
*MW-11	472.78	19.57	453.21	34.40	438.38	37.50	435.28	35.00	437.78	35.13	437.65	35.98	436.80	27.68	445.10
MW-12	464.21	6.77	457.44	14.02	450.19	10.77	453.44	12.24	451.97	16.09	448.12	15.98	448.23	8.95	455.26
*MW-13	467.60	6.98	460.62	15.52	452.08	12.94	454.66	10.68	456.92	13.14	454.46	13.05	454.55	8.44	459.16
*MW-14	481.67	16.17	465.5	27.26	454.41	23.22	458.45	29.03	452.64	27.11	454.56	27.72	453.95	26.93	454.74
*MW-15	465.04	1.77	463.27	22.95	442.09	11.06	453.98	31.58	433.46	25.94	439.10	24.80	440.24	33.90	431.14
*MW-16	467.14	6.42	460.72	5.85	461.29	5.98	461.16	6.28	460.86	6.85	460.29	7.21	459.93	4.91	462.23
*MW-17	478.99	10.97	468.02	16.22	462.77	15.07	463.92	16.79	462.20	15.8	463.19	16.24	462.75	14.06	464.93
MW-18	467.96	4.54	463.42	4.13	463.83	4.39	463.57	4.74	463.22	4.52	463.44	4.78	463.18	3.30	464.66
MW-19	473.90	NM	NM	4.21	469.69	5.08	468.82	3.83	470.07	4.17	469.73	4.91	468.99	3.07	470.83
MW-20	475.03	18.58	456.45	Dry	--	Dry	--	Dry	--	20.05	454.98	24.28	450.75	20.32	454.71
*MW-21	463.28	5.52	457.76	12.21	451.07	11.23	452.05	10.75	452.53	10.46	452.82	12.93	450.35	7.01	456.27
MW-22	460.78	4.44	456.34	4.71	456.07	4.27	456.51	4.21	456.57	5.32	455.46	6.26	454.52	3.25	457.53
*MW-23	458.92	3.09	455.83	11.56	447.36	10.45	448.47	10.55	448.37	10.62	448.30	13.25	445.67	8.69	450.23
*MW-24	465.32	2.20	463.12	17.53	447.79	11.86	453.46	10.43	454.89	9.64	455.68	11.24	454.08	13.58	451.74
MW-25	458.74	6.60	452.14	11.33	447.41	12.17	446.57	9.41	449.33	9.69	449.05	12.05	446.69	5.52	453.22
*MW-26	458.79	6.45	452.34	26.60	432.19	33.02	425.77	28.61	430.18	31.83	426.96	40.69	418.10	24.08	434.71
*MW-28	480.40	7.18	473.22	6.83	473.57	6.05	474.35	5.65	474.75	5.23	475.17	5.46	474.94	3.14	477.26
*MW-29	480.73	10.60	470.13	14.46	466.27	14.46	466.27	13.24	467.49	12.09	468.64	13.14	467.59	10.17	470.56
*MW-30	468.57	17.70	450.87	32.54	436.03	33.50	435.07	31.72	436.85	32.16	436.41	32.82	435.75	23.07	445.50
*MW-31	468.45	17.00	451.45	33.06	435.39	45.46	422.99	36.35	432.10	41.95	426.50	52.73	415.72	26.02	442.43
*MW-32	462.06	17.07	444.99	23.34	438.72	26.65	435.41	19.98	442.08	19.85	442.21	23.33	438.73	18.03	444.03
*MW-33	461.46	15.00	446.46	27.07	434.39	32.08	429.38	25.79	435.67	33.96	427.50	36.14	425.32	26.54	434.92
*MW-34	464.65	21.54	443.11	24.63	440.02	27.07	437.58	22.73	441.92	22.64	442.01	25.41	439.24	21.48	443.17
*MW-35	452.45	64.18	388.27	68.60	383.85	70.98	381.47	72.27	380.18	72.94	379.51	74.11	378.34	73.10	379.35
*MW-36	466.90	27.31	439.59	20.99	445.91	21.67	445.23	20.41	446.49	20.63	446.27	21.81	445.09	19.68	447.22
*MW-37	460.29	13.98	446.31	22.19	438.10	25.69	434.60	22.13	438.16	23.43	436.86	27.79	432.50	20.61	439.68
MW-38	484.85	--	--	16.16	468.69	17.37	467.48	16.08	468.77	15.83	469.02	17.06	467.79	13.01	471.84
MW-39	478.20	--	--	3.86	474.34	3.43	474.77	2.05	476.15	3.12	475.08	4.03	474.17	1.19	477.01
VER-1	483.08	--	--	14.39	468.69	23.38	459.70	13.75	469.33	13.62	469.46	15.00	468.08	10.71	472.37
VER-2	482.20	--	--	21.15	461.05	18.45	463.75	12.29	469.91	12.78	469.42	14.16	468.04	10.35	471.85
VER-3	480.11	--	--	23.53	456.58	22.05	458.06	11.96	468.15	17.13	462.98	12.01	468.10	7.93	472.18
VER-4	478.83	--	--	4.11	474.72	7.19	471.64	4.44	474.39	4.93	473.90	4.28	474.55	1.30	477.53
SRW-1	460.98	--	--	Dry	--	2.30	458.68	11.55	449.43	NM	--	NM	--	NM	--
SRW-2	464.20	--	--	26.43	437.77	25.99	438.21	26.90	437.30	Dry	--	Dry	--	26.09	438.11
SRW-3	462.76	--	--	22.52	440.24	7.11	455.65	21.91	440.85	23.28	439.48	22.74	440.02	24.17	438.59
*DRW-1	466.11	--	--	19.53	446.58	9.73	456.38	30.41	435.70	24.66	441.45	23.51	442.60	33.18	432.93
*DRW-2	461.90	--	--	46.43	415.47	31.74	430.16	44.29	417.61	42.81	419.09	45.60	416.30	49.15	412.75
*DRW-3	459.20	--	--	34.54	424.66	NM	--	51.40	407.80	NM	--	NM	--	38.92	420.28

TOC Top of Casing
WL Water Level
GW Groundwater
NM Not measured.
ft toc Feet below top of casing.
ft msl Feet above mean sea level.
* Bedrock Wells - This designation indicates that the entire screened interval or open borehole interval is in bedrock.
Dry Well dry at time of gauging

Table 7. Groundwater Sampling Data for Samples Collected from Monitor Wells and Recovery Wells in December 2015, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Well No.	Date Sampled	Gallons per Well Volume	Gallons Purged	Temperature (Degrees Celsius)	pH (Standard Units)	Specific Conductance (µmhos/cm)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity (NTU)	Sampling Method
MW-1	12/9/2015	2.7	5.3	17.03	6.65	1,602	4.59	-154.2	79	Bailer
MW-2	12/9/2015	2.3	6.9	16.36	6.49	1,856	1.00	-219.7	66	Bailer
MW-3	12/9/2015	2.9	5.8	16.81	6.69	588	3.73	-172.7	680	Bailer
MW-4	12/8/2015	1.5	3.1	15.58	5.94	277	4.95	-136.5	94	Bailer
MW-5	12/8/2015	1.8	2.5	15.47	6.29	123	2.53	-191.6	164	NS
MW-6	12/9/2015	0.9	2.7	16.56	5.77	142	2.36	163.9	77	Peristaltic Pump
MW-7	12/9/2015	3.7	NS	NS	NS	NS	NS	NS	NS	Grundfos Pump
MW-9	12/9/2015	3.7	11.1	15.31	6.44	402	1.00	-214.3	143	Bailer
MW-11	12/8/2015	1.3	3.9	15.21	6.38	241	1.42	-199.1	21.4	Bailer
MW-12	12/9/2015	2.1	6.3	15.93	6.12	203	2.31	-168.3	76	Bailer
MW-14	12/9/2015	23.7	71.1	17.18	7.48	812	0.23	-358.1	1.87	Grundfos Pump
MW-15	12/9/2015	4.2	12.6	15.81	7.02	737	0.47	-287.1	4.18	Grundfos Pump
MW-16	12/9/2015	5.9	17.7	16.71	7.78	784	0.49	-276.4	1.14	Grundfos Pump
MW-17	12/9/2015	9.0	27.0	16.20	6.82	2,477	0.28	-320.3	2.27	Grundfos Pump
MW-22	12/8/2015	1.1	3.3	13.70	6.90	826	2.42	-195.4	18.4	Bailer
MW-23	12/9/2015	12.7	38.1	15.38	6.96	345	0.32	-289.3	0.75	Grundfos Pump
MW-25	12/8/2015	1.5	4.5	15.21	5.46	71	1.34	-184.0	44.4	Bailer
MW-26	12/8/2015	11.3	24.0	16.92	7.94	440	0.7	-244.1	6.48	Grundfos Pump
MW-28	12/8/2015	6.8	20.4	18.80	7.39	485	1.15	-286.8	45.6	Grundfos Pump
MW-30	12/8/2015	2.7	8.1	14.38	7.34	394	4.35	-183.3	26.8	Bailer
MW-31	12/8/2015	10.2	30.6	15.28	6.39	312	0.78	-262.7	0.96	Grundfos Pump
MW-32	12/8/2015	4.0	10.0	16.47	6.70	302	1.04	-225.7	32.8	Bailer
MW-33	12/8/2015	9.3	27.9	16.27	7.79	378	0.4	-350.4	2.03	Grundfos Pump
MW-35	12/8/2015	0.3	0.9	14.29	7.18	999	3.62	-182.1	>1000	Bailer
MW-36	12/8/2015	10.3	20.0	17.31	7.05	458	1.55	-201.4	130	Grundfos Pump
MW-38	12/10/2015	0.3	0.9	17.47	6.82	758	2.35	-231.1	6.78	Bailer
MW-39	12/10/2015	0.8	2.3	16.04	5.63	74	1.81	-186.3	8.52	Bailer
SRW-1	12/7/2015	NA	NA	13.78	5.88	1,001	1.32	-48.2	2.75	Sample Port
SRW-2	12/7/2015	NA	NA	NM	NM	NM	NM	NM	NM	Sample Port
SRW-3	12/7/2015	NA	NA	14.21	6.82	194	2.15	-193.3	5.07	Sample Port
DRW-1	12/7/2015	NA	NA	15.55	5.90	741	5.85	-47.2	1.22	Sample Port
DRW-2	12/7/2015	NA	NA	14.95	5.89	394	3.84	-69.9	0.74	Sample Port
DRW-3	12/7/2015	NA	NA	14.79	6.06	404	5.43	-63.4	5.56	Sample Port
VER-1	12/10/2015	NA	2.0	17.55	6.57	1,102	1.00	-234.9	8.62	Peristaltic Pump
VER-2	12/10/2015	NA	2.2	16.37	6.44	417	1.04	-250.7	28.3	Peristaltic Pump
VER-3	12/10/2015	NA	2.3	16.04	6.25	197	1.45	-233.5	22.5	Peristaltic Pump
VER-4	12/10/2015	NA	2.3	14.83	6.55	268	1.82	-224.0	3.77	Peristaltic Pump

Notes:

µmhos/cm micromhos per centimeter

mV millivolts

NM Not measured

NA Not applicable as active recovery well

Table 8. Summary of Analytical Results for Groundwater Samples Collected in December 2015, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-1 12/9/2015	MW-2 12/9/2015	MW-3 12/9/2015	MW-4 12/8/2015	MW-5 12/8/2015	MW-6 12/9/2015	MW-7 12/9/2015	MW-9 12/9/2015	MW-11 12/8/2015	MW-12 12/9/2015	MW-14 12/9/2015	Dup-1 (MW-14) 12/9/2015	MW-15 12/9/2015
Volatile Organics (USEPA Method 8260) µg/L	NCAC 2L GW Standard													
Acetone		100 U	250 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	50 U	50 U	100 U
Benzene	1	10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	**5.8**	**5.4**	10 U
Bromoform		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Bromomethane		50 U	130 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	25 U	25 U	50 U
Carbon disulfide		20 U	50 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	10 U	10 U	20 U
Carbon tetrachloride		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Chlorobenzene	50	10 U	**27**	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Chlorodibromomethane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Chloroethane		50 U	130 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	25 U	25 U	50 U
Chloroform	70	10 U	25 U	1 U	1 U	1 U	**1.1**	NA	1 U	1 U	1 U	5 U	5 U	**20**
Chloromethane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
1,1-Dichloroethane	6	**29**	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
1,2-Dichloroethane	0.4	**32**	**140**	1 U	1 U	1 U	1 U	NA	**1.7**	1 U	1 U	**7.2**	**7.2**	**17**
1,1-Dichloroethene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
cis-1,2-Dichloroethene	70	10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
1,2-Dichloropropane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
cis-1,3-Dichloropropene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Dichlorobromomethane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Diethyl ether	3,100*	**1,200**	**1,700**	10 U	10 U	5 U	**27**	NA	**550**	**5.4**	5 U	**430**	**400**	**630**
Ethylbenzene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
2-Hexanone		100 U	250 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	50 U	50 U	100 U
Methylene Chloride		50 U	130 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	**37**	**32**	50 U
4-Methyl-2-pentanone (MIBK)		100 U	250 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	50 U	50 U	100 U
Methyl tert-butyl ether	20	100 U	250 U	10 U	**270**	10 U	10 U	NA	10 U	10 U	10 U	50 U	50 U	100 U
2-Butanone (MEK)		100 U	250 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	50 U	50 U	100 U
Styrene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Tetrachloroethene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
1,1,2,2-Tetrachloroethane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Toluene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
trans-1,2-Dichloroethene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
trans-1,3-Dichloropropene		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
1,1,1-Trichloroethane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
1,1,2-Trichloroethane		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Trichloroethene	3	10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Vinyl chloride	0.03	10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U
Xylenes, Total		10 U	25 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5 U	5 U	10 U

NCAC 2L	North Carolina Administrative Code 2L Groundwater Standard
ug/L	Micrograms per liter.
U	Constituent was not detected above the reporting limit.
D	Constituent concentration was quantitated using a secondary dilution.
*	USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
	Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.
NA	Not analyzed.

Table 8. Summary of Analytical Results for Groundwater Samples Collected in December 2015, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-16 12/9/2015	MW-17 12/9/2015	MW-22 12/8/2015	MW-23 12/9/2015	MW-25 12/8/2015	MW-26 12/8/2015	MW-28 12/8/2015	MW-30 12/8/2015	MW-31 12/8/2015	MW-32 12/8/2015	MW-33 12/8/2015	MW-35 12/8/2015
Volatile Organics (USEPA Method 8260) µg/L	NCAC 2L GW Standard												
Acetone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	1	1 U	**1.5**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Carbon tetrachloride		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	1 U	**3.6**	**2.4**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	1 U	**3.9**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl ether	3,100*	5 U	**35**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone (MEK)		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	0.03	1 U	**3.5**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

NCAC 2L	North Carolina Administrative Code 2L Groundwater Standard
ug/L	Micrograms per liter.
U	Constituent was not detected above the reporting limit.
D	Constituent concentration was quantitated using a secondary dilution.
*	USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
	Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.
NA	Not analyzed.

Table 8. Summary of Analytical Results for Groundwater Samples Collected in December 2015, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-36 12/8/2015	MW-38 12/10/2015	MW-39 12/10/2015	VER-1 12/10/2015	VER-2 12/10/2015	VER-3 12/10/2015	VER-4 12/10/2015	SRW-1 12/7/2015	SRW-3 12/9/2015	DRW-1 12/7/2015	DRW-2 12/7/2015	DRW-3 12/7/2015
Volatile Organics (USEPA Method 8260) µg/L	NCAC 2L GW Standard												
Acetone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	10 U
Benzene	1	1 U	1 U	1 U	**2.6**	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Bromoform		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Bromomethane		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	130 U	5 U	5 U
Carbon disulfide		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U	2 U	2 U
Carbon tetrachloride		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Chlorobenzene	50	1 U	**4.8**	1 U	**62**	**1**	1 U	1 U	**4.7**	1 U	25 U	1 U	1 U
Chlorodibromomethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Chloroethane		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	130 U	5 U	5 U
Chloroform	70	1 U	1 U	1 U	1 U	**13**	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Chloromethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
1,1-Dichloroethane	6	1 U	1 U	1 U	**7.4**	**2.4**	1 U	1 U	1 U	1 U	25 U	1 U	1 U
1,2-Dichloroethane	0.4	1 U	1 U	1 U	**48**	**3.8**	1 U	1 U	1 U	1 U	**29**	1 U	1 U
1,1-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
cis-1,2-Dichloroethene	70	1 U	1 U	1 U	**3.8**	**1.2**	1 U	1 U	1 U	1 U	25 U	1 U	1 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
cis-1,3-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Dichlorobromomethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Diethyl ether	3,100*	5 U	5 U	5 U	**1000**	**39**	5 U	5 U	**12**	5 U	**960**	**11**	5 U
Ethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	10 U
Methylene Chloride		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	130 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	10 U
Methyl tert-butyl ether	20	**41**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	10 U
2-Butanone (MEK)		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	10 U
Styrene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Tetrachloroethene	0.7	**1.1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.2	1 U	1 U	1 U	1 U	**11**	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Toluene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
trans-1,2-Dichloroethene	100	1 U	1 U	1 U	**2.3**	**2**	1 U	1 U	1 U	1 U	25 U	1 U	1 U
trans-1,3-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Trichloroethene	3	1 U	1 U	1 U	**14**	**12**	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Vinyl chloride	0.03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
Xylenes, Total		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U

NCAC 2L	North Carolina Administrative Code 2L Groundwater Standard
ug/L	Micrograms per liter.
U	Constituent was not detected above the reporting limit.
D	Constituent concentration was quantitated using a secondary dilution.
*	USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
	Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.
NA	Not analyzed.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-1 05/15/98	MW-1 11/15/00	MW-1 10/31/02	MW-1 07/22/04	MW-1 01/11/07	MW-1 04/18/07	MW-1 07/11/07	MW-1 10/03/07	MW-1 10/22/08	MW-1 11/05/09	MW-1 11/4/10	MW-1 11/16/11	MW-1 12/18/12	MW-1 11/6/13	MW-1 10/14/14	MW-1 12/9/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	50 U	5,000 U	**160,000**	**260,000**	**20,000**	50,000 U	10,000 U	5,000 U	25,000 U	25,000 U	2,500 U	5,000 U	2,500 U	1300 U	500 U	100 U
Benzene	1	**69,000**	**142,000**	**32,000**	**100,000**	**27,000 D**	**26,000**	**19,000**	**31,000**	**25,000**	**14,000**	**1000**	**450**	100 U	50 U	50 U	10 U
Chlorobenzene	50	**24**	**450**	**440**	1,000 U	**330**	2,000 U	400 U	**560**	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	10 U
Chloroform	70	**90,000**	**273,000**	**89,000**	**190,000**	**55,000 D**	**49,000**	**37,000**	**51,000 D**	**28,000**	**28,000**	**3400**	200 U	**110**	50 U	50 U	10 U
1,4-Dichlorobenzene	6	NA	200 U	**41**	NA	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	6	**5.2**	200 U	**42**	1,000 U	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	**29**
1,2-Dichloroethane	0.4	50,000 U	**6,700**	**3,800**	**9,900**	100 U	2,000 U	**1,800**	200 U	1,000 U	**1,400**	**360**	**300**	100 U	50 U	50 U	**32**
Cis-1,2-Dichloroethene	70	**9**	200 U	**64**	1,000 U	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	10 U
Trans-1,2-Dichloroethene	100	NA	200 U	**20**	NA	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	200 U	NA	50 U	50 U	10 U
Diethyl ether	3,100*	**220,000**	**430,000**	**160,000**	**290,000**	**85,000 D**	**110,000**	**40,000**	**53,000 D**	**39,000**	**44,000**	**5,200**	**4,600**	**5,200**	**2,900**	**2,800**	**1200**
Ethylbenzene	600	50,000 U	**640**	**920**	**3,100**	**2,600**	2,000 U	**1,100**	**1,700**	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	10 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	1,000 U	1,000 U	NA	1000 U	500 U	500 U	100 U
Methylene chloride	5	**66,000**	**222,000**	**71,000**	**140,000**	**36,000 D**	**41,000**	**29,000**	**27,000**	**18,000**	**19,000**	500 U	1,000 U	500 U	250 U	250 U	50 U
1,1,2,2-Tetrachloroethane	0.2	5 U	200 U	**2,600**	**8,000**	**4,300**	**3,600**	**3,300**	**3,400**	1,000 U	1,000 U	**390**	200 U	100 U	50 U	50 U	10 U
Tetrachloroethene	0.7	50,000 U	200 U	**42**	1,000 U	**140**	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	10 U
Toluene	600	50,000 U	**5,530**	**250**	1,000 U	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	10 U
Trichloroethene	3	5 U	**4,960**	**1,600**	**14,000**	**5,300**	**3,700**	**2,900**	**3,200**	**1,200**	1,000 U	**140**	200 U	100 U	50 U	50 U	10 U
Trichlorflouromethane	2000	NA	200 U	**35**	NA	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	**11**	200 U	**3**	1,000 U	100 U	2,000 U	400 U	200 U	1,000 U	1,000 U	100 U	200 U	100 U	50 U	50 U	10 U
Xylenes, Total	500	50,000 U	**1,890**	**2,140**	**2,300**	**1,700**	4,000 U	**1,100**	**2,400**	2,000 U	2,000 U	200 U	400 U	200 U	100 U	100 U	10 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-2 05/15/98	MW-2 11/14/00	MW-2 10/31/02	MW-2 07/21/04	MW-2 01/11/07	MW-2 04/18/07	MW-2 07/11/07	MW-2 10/03/07	MW-2 10/22/08	MW-2 11/04/09	MW-2 11/4/10	MW-2 11/16/11	MW-2 12/18/12	MW-2 11/06/13	MW-2 10/14/14	MW-2 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	25,000 U	5,000 U	**30,000**	50,000 U	**39,000**	50,000 U	**98,000**	**60,000**	25,000 U	25,000 U	5,000 U	1,300 U	1,300 U	630 U	250 U	250 U
Benzene	1	**8,500**	**12,800**	**13,000**	**25,000**	**27,000 D**	**23,000**	**28,000**	**32,000**	**16,000**	**15,000**	**5900**	**450**	50 U	25 U	25 U	25 U
Chlorobenzene	50	2,500 U	200 U	**150**	2,000 U	**380**	2,000 U	1,000 U	**630**	1,000 U	1,000 U	**220**	**110**	**73**	**66**	**69**	**27**
Chloroform	70	**46,000**	**102,000**	**85,000**	**130,000**	**120,000 D**	**94,000**	**110,000**	**110,000 D**	**47,000**	**49,000**	**800**	50 U	50 U	25 U	25 U	25 U
1,4-Dichlorobenzene	6	NA	200 U	2 U	NA	100 U	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	NA	50 U	NA	NA	NA
1,1-Dichloroethane	6	2,500 U	200 U	**23**	2,000 U	100 U	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	50 U	50 U	25 U	25 U	25 U
1,2-Dichloroethane	0.4	2,500 U	**4,140**	**4,400**	2,000 U	**4,900**	**4,700**	**4,300**	**5,700**	1,000 U	**2,700**	**970**	**340**	**200**	**190**	**250**	**140**
Cis-1,2-Dichloroethene	70	2,500 U	200 U	**8**	4,000 U	100 U	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	50 U	50 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene	100	NA	200 U	**4**	NA	100 U	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	50 U	NA	50 U	50 U	50 U
Diethyl ether	3,100*	**55,000**	**82,000**	**65,000**	**130,000**	**96,000 D**	**130,000**	**72,000**	**64,000 D**	**42,000**	**54,000**	**13000**	**4,500**	**3,200**	**1500**	**3000**	**1700**
Ethylbenzene	600	2,500 U	200 U	**320**	2,000 U	**2,400**	2,000 U	**2,400**	**3,400**	**1,100**	1,000 U	**340**	50 U	50 U	25 U	25 U	25 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	10,000 U	2,000 U	NA	500 U	250 U	250 U	250 U
Methylene chloride	5	**26,000**	**48,700**	**35,000**	**58,000**	**48,000 D**	**52,000**	**55,000**	**39,000**	**19,000**	**37,000**	1,000 U	250 U	250 U	130 U	130 U	130 U
1,1,2,2-Tetrachloroethane	0.2	2,500 U	200 U	**63**	2,000 U	**190**	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	50 U	50 U	25 U	25 U	25 U
Tetrachloroethene	0.7	2,500 U	--	**4**	2,000 U	100 U	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	50 U	50 U	25 U	25 U	25 U
Toluene	600	2,500 U	**650**	**510**	2,000 U	**2,600**	2,000 U	**4,800**	**6,400**	1,000 U	1,000 U	200 U	50 U	50 U	25 U	25 U	25 U
Trichloroethene	3	2,500 U	**177**	**170**	2,000 U	**490**	2,000 U	1,000 U	**630**	1,000 U	1,000 U	200 U	50 U	50 U	25 U	**29**	25 U
Trichlorflouromethane	2,000	NA	**6,830 J**	**7,400**	NA	100 U	2,000 U	1,000 U	500 U	**1,900**	1,000 U	200 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	5,000 U	200 U	**3**	2,000 U	100 U	2,000 U	1,000 U	500 U	1,000 U	1,000 U	200 U	50 U	50 U	25 U	25 U	25 U
Xylenes, Total	500	2,500 U	**470**	**290**	4,000 U	**12,000**	**54,000**	**13,000**	**18,000**	**3,900**	**2,200**	**920**	100 U	100 U	50 U	50 U	25 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-3 05/15/98	MW-3 11/14/00	MW-3 10/31/02	MW-3 07/21/04	MW-3 01/11/07	MW-3 04/18/07	MW-3 07/11/07	MW-3 10/03/07	MW-3 10/22/08	MW-3 11/04/09	MW-3 11/4/10	MW-3 11/16/11	MW-3 12/18/12	MW-3 11/05/13	MW-3 10/14/14	MW-3 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	50 U	2 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	**8.7**	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	NA	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**10**	2 U	2 U	**16 U**	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	600	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-4 10/31/02	MW-4 07/20/04	MW-4 10/01/07	MW-4 10/20/08	MW-4 11/03/09	MW-4 11/2/2010	MW-4 11/14/2011	MW-4 12/19/12	MW-4 11/05/13	MW-4 10/15/14	MW-4 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard											
Acetone	6,000	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	2 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	2 U	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	2 U	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	600	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	**80**	**270**
Methylene chloride	5	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	2 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-5 11/14/00	MW-5 10/30/02	MW-5 07/20/04	MW-5 11/03/09	MW-5 11/2/10	MW-5 11/14/11	MW-5 12/19/12	MW-5 11/05/13	MW-5 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard									
Acetone	6,000	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U
Benzene	1	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	2 U	2 U	NA	1 U	1 U	NA	1 U	NA	NA
1,1-Dichloroethane	6	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	2 U	2 U	NA	1 U	1 U	1 U	NA	1 U	1 U
Diethyl ether	3,100*	2 U	2 U	**3.4**	10 U	10 U	10 U	10 U	10 U	5 U
Ethylbenzene	600	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	10 U	10 U	NA	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2000	2 U	2 U	NA	1 U	1 U	NA	NA	NA	NA
Vinyl chloride	0.03	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-6 05/14/98	MW-6 11/14/00	MW-6 10/31/02	MW-6 07/21/04	MW-6 02/06/07	MW-6 04/18/07	MW-6 07/12/07	MW-6 10/02/07	MW-6 10/21/08	MW-6 11/04/09	MW-6 11/3/10	MW-6 11/15/11	MW-6 12/20/12	MW-6 11/7/13	MW-6 10/14/14	MW-6 12/9/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	5,000 U	50 U	50 U	1,200 U	500 U	2,500 U	2,500 U	130 U	1,200 U	25 U	1,300 U	250 U	130 U	50 U	10 U	10 U
Benzene	1	**500**	**834**	**440**	**910**	**920**	**690**	**960**	**790**	**170**	**200**	50 U	10 U	5 U	2 U	1 U	1 U
Chlorobenzene	50	500 U	**2.1**	**2**	50 U	20 U	100 U	100 U	5 U	50 U	**1**	50 U	10 U	5 U	2 U	1 U	1 U
Chloroform	70	**1,100**	**963**	**140**	**470**	**510**	**370**	**250**	**20**	50 U	**39**	50 U	10 U	5 U	**4.5**	**1.7**	**1.1**
1,4-Dichlorobenzene	6	NA	2 U	2 U	50 U	20 U	100 U	100 U	5 U	50 U	1 U	50 U	NA	5 U	NA	NA	NA
1,1-Dichloroethane	6	500 U	2 U	2 U	50 U	20 U	100 U	100 U	5 U	50 U	1 U	50 U	10 U	5 U	2 U	1 U	1 U
1,2-Dichloroethane	0.4	500 U	**21.5**	**16**	50 U	**42**	100 U	100 U	5 U	50 U	**18**	50 U	10 U	5 U	2 U	1 U	1 U
Cis-1,2-Dichloroethene	70	500 U	2 U	2 U	200 U[1]	20 U	100 U	100 U	**13**	50 U	**1.8**	50 U	10 U	5 U	2 U	1 U	1 U
Trans-1,2-Dichloroethene	100	NA	**4**	**5**	NA	20 U	100 U	100 U	**12**	50 U	**3.3**	50 U	10 U	5 U	2 U	1 U	1 U
Diethyl ether	3,100*	**7,500**	**4,450**	**5,400**	**12,000**	**10,000 D**	**20,000 D**	**8,400**	**20,000 D**	**2,700**	**4,700 D**	**2,400**	**550**	**150**	**72**	**110**	**27**
Ethylbenzene	600	500 U	2 U	2 U	**390**	20 U	100 U	100 U	5 U	50 U	1 U	50 U	10 U	5 U	2 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	500 U	10 U	500 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	**800**	**655**	**88**	50 U	**490**	500 U	500 U	25 U	250 U	**25**	250 U	50 U	25 U	10 U	10 U	5 U
1,1,2,2-Tetrachloroethane	0.2	500 U	2 U	2 U	50 U	20 U	100 U	100 U	5 U	50 U	1 U	50 U	10 U	5 U	2 U	1 U	1 U
Tetrachloroethene	0.7	500 U	2 U	2 U	50 U	20 U	100 U	100 U	5 U	50 U	1 U	50 U	10 U	5 U	2 U	1 U	1 U
Toluene	600	500 U	2 U	2 U	50 U	20 U	100 U	100 U	5 U	50 U	1 U	50 U	10 U	5 U	2 U	1 U	1 U
Trichloroethene	3	500 U	**10.7**	**13**	**28 J**	**25**	100 U	100 U	**18**	50 U	**6.5**	50 U	10 U	5 U	2 U	1 U	1 U
Trichlorflouromethane	2,000	NA	**2.9 J**	**4**	50 U	20 U	100 U	100 U	5 U	50 U	**1.3**	50 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1,000 U	2 U	2 U	50 U	20 U	100 U	100 U	5 U	50 U	1 U	50 U	10 U	5 U	2 U	1 U	1 U
Xylenes, Total	500	500 U	2 U	2 U	100 U	40 U	200 U	200 U	10 U	100 U	2 U	100 U	20 U	10 U	4 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-7 05/14/98	MW-7 11/16/00	MW-7 10/29/02	MW-7 07/21/04	MW-7 01/11/07	MW-7 04/18/07	MW-7 07/12/07	MW-7 10/02/07	MW-7 10/21/08	MW-7 11/04/09	MW-7 11/3/10	MW-7 11/15/11	MW-7 12/20/12	MW-7 11/07/13	MW-7 10/16/14
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard															
Acetone	6,000	50 U	50 U	50 U	5 U	250 U	6,300 U	2,500 U	25 U	1,200 U	2,500 U	1,300 U	1,300 U	1,300 U	250 U	500 U
Benzene	1	5 U	**140**	**4**	**2.7 U**	10 U	250 U	100 U	**2.5**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Chlorobenzene	50	5 U	**15.1**	**5**	**8.3**	**14**	250 U	100 U	**5.6**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Chloroform	70	**16**	2.7 U	2 U	**6.9 U**	10 U	250 U	100 U	**1.2**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
1,4-Dichlorobenzene	6	NA	**2.9**	2 U	1 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	NA	50 U	NA	50 U
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	50 U	50 U	10 U	50 U
1,2-Dichloroethane	0.4	**15**	**59.6**	**33**	**49**	**52**	250 U	100 U	**38**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Cis-1,2-Dichloroethene	70	5 U	**4.1**	**2**	2.0 U[1]	10 U	250 U	100 U	**7.9**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Trans-1,2-Dichloroethene	100	NA	2 U	2 U	NA	10 U	250 U	100 U	**12**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Diethyl ether	3,100*	**64**	**2,480**	**930**	**2,300**	**3,400 D**	**19,000**	**8,200**	**10,000 D**	**3,300**	**4,300**	**3,300**	**4,400**	**2,400**	**430**	**4,500**
Ethylbenzene	600	5 U	2 U	2 U	5 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	500 U	NA	500 U	100 U	500 U
Methylene chloride	5	5 U	5 U	5 U	1 U	50 U	1,300 U	500 U	5 U	250 U	500 U	250 U	250 U	250 U	50 U	250 U
1,1,2,2-Tetrachloroethane	0.2	5 U	5 U	2 U	1 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Tetrachloroethene	0.7	5 U	--	2 U	1 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Toluene	600	5 U	**2.1**	2 U	1 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Trichloroethene	3	5 U	**8.2**	**2**	**4.2**	10 U	250 U	100 U	**18**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	10 U	250 U	100 U	1 U	50 U	100 U	50 U	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	**6.9**	**4**	**5.5**	10 U	250 U	100 U	**5.9**	50 U	100 U	50 U	50 U	50 U	10 U	50 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	20 U	500 U	200 U	2 U	100 U	200 U	100 U	100 U	100 U	20 U	100 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-9 05/14/98	MW-9 11/14/00	MW-9 10/31/02	MW-9 07/22/04	MW-9 10/03/07	MW-9 10/21/08	MW-9 11/04/09	MW-9 11/03/10	MW-9 11/16/11	MW-9 12/20/12	MW-9 11/07/13	MW-9 10/14/14	MW-9 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard													
Acetone	6,000	50 U	50 U	50 U	25 U	25 U	50 U	25 U	25 U	25 U	250 U	25 U	10 U	10 U
Benzene	1	5 U	3.4 U	**50**	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Chloroform	70	**5.1**	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	1 U	1 U	2 U	1 U	1 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	**2.4**	**5**	**1.2**	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	**1.7**
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	2.0 U[1]	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	NA	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Diethyl ether	3,100*	**120**	**160**	**720**	**140**	**110 D**	**110**	**95 D**	**65**	**210**	**400**	**37**	**8.5**	**550**
Ethylbenzene	600	5 U	2 U	2 U	5 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	20 U	10 U	10 U	NA	100 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	1 U	2 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	4 U	2 U	2 U	2 U	20 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-11 05/13/98	MW-11 11/14/00	MW-11 10/31/02	MW-11 07/22/04	MW-11 01/11/07	MW-11 04/17/07	MW-11 07/12/07	MW-11 10/03/07	MW-11 10/21/08	MW-11 11/02/09	MW-11 11/05/10	MW-11 11/15/11	MW-11 12/19/12	MW-11 11/04/13	MW-11 10/13/14	MW-11 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	50 U	50 U	50 U	1,200 U	130 U	630 U	250 U	25 U	250 U	25 U	25 U	25 U	50 U	25 U	10 U	10 U
Benzene	1	5 U	2.5 U	**6**	50 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	**7.4**	**8**	50 U	5 U	25 U	10 U	**2.8**	10 U	**1.5**	1 U	1 U	2 U	1 U	1 U	1 U
Chloroform	70	**20**	8.6 U	**12**	50 U	**5.1**	25 U	10 U	**4.8**	10 U	**1.9**	1 U	1 U	2 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	50 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	NA	2 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	50 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	**47.7**	**50**	**56**	**26**	25 U	**10**	**17**	10 U	**8.3**	**3.0**	1 U	2 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	**3.2**	**2**	100 U[1]	5 U	25 U	10 U	**1.1**	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	NA	5 U	25 U	10 U	1 U	10 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**1,400**	**1,790**	**1,600**	**3,100**	**1,300 D**	**1,100**	**420**	**610 D**	**340**	**290 D**	**100**	10 U	**98**	**42**	**15**	**5.4**
Ethylbenzene	600	50 U	2 U	2 U	250 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	20 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	**6**	50 U	25 U	130 U	50 U	5 U	50 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	50 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
Tetrachloroethene	0.7	50 U	--	2 U	50 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	50 U	5 U	25 U	10 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
Trichloroethene	3	**6.5**	**8.4**	**8**	50 U	5 U	25 U	10 U	**4.0**	10 U	**1.9**	1 U	1 U	2 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	**5.4**	**7**	50 U	5 U	25 U	10 U	1 U	10 U	**1.3**	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	**12**	**8**	**13**	50 U	5 U	25 U	10 U	**2.2**	10 U	**1.4**	1 U	1 U	2 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	100 U	10 U	50 U	20 U	2 U	20 U	2 U	2 U	2 U	4 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-12 05/14/98	MW-12 11/15/00	MW-12 10/29/02	MW-12 12/18/03	MW-12 07/21/04	MW-12 01/11/07	MW-12 04/18/07	MW-12 07/11/07	MW-12 10/02/07	MW-12 10/21/08	MW-12 11/03/09	MW-12 11/04/10	MW-12 11/15/11	MW-12 01/23/13	MW-12 11/06/13	MW-12 10/15/14	MW-12 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																	
Acetone	6,000	5,000 U	50 U	50 U	1,200 U	500 U	130 U	130 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	**1,300**	**2,020**	**290 J**	**350**	**470**	5 U	5 U	1 U	**1.5**	1 U	1 U	1 U	**1.5**	1 U	1 U	1 U	1 U
Chlorobenzene	50	500 U	**23.4**	**17**	50 U	**23**	5 U	5 U	1 U	1 U	1 U	1 U	1 U	**7.6**	1 U	1 U	1 U	1 U
Chloroform	70	**10,000**	**8,050**	**32**	50 U	**21**	5 U	5 U	1 U	**3.4**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	**3.1**	**2**	NA	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	500 U	2 U	**4**	50 U	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	500 U	**585**	**330 J**	50 U	**360**	**19**	5 U	**3.6**	**14**	**1.6**	1 U	1 U	**68**	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	500 U	**5.6**	**4**	100 U	40 U[1]	5 U	5 U	1 U	1 U	1 U	1 U	1 U	**1.3**	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	500 U	2 U	2 U	100 U	NA	5 U	5 U	1 U	1 U	1 U	1 U	1 U	**1.6**	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**13,000**	**13,900**	**11,000**	**8,800**	**13,000**	**720 D**	**300**	**150**	**360 D**	**94**	10 U	10 U	**3,200**	10 U	10 U	5 U	5 U
Ethylbenzene	600	500 U	2 U	2 U	50 U	100 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	**5,700**	**4,160**	5 U	250 U	20 U	25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	500 U	2 U	2 U	50 U	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	500 U	2 U	2 U	50 U	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	500 U	**2**	2 U	50 U	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	500 U	**43**	**30**	**25 J**	**35**	5 U	5 U	**3.1**	**4.4**	1 U	1 U	1 U	**9.3**	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	**550**	**20**	NA	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1,000 U	2 U	**4**	50 U	20 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	500 U	2 U	2 U	100 U	40 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-13 05/14/98	MW-13 11/14/00	MW-13 10/30/02	MW-13 07/21/04	MW-13 01/10/07	MW-13 04/17/07	MW-13 07/12/07
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard							
Acetone	6,000	2,500 U	50 U	50 U	120 U	25 U	130 U	500 U
Benzene	1	250 U	18.1 U	**32**	**22**	**16**	**6.8**	20 U
Chlorobenzene	50	250 U	**15.6**	**4**	**8.2**	1 U	5 U	20 U
Chloroform	70	250 U	23.8 U	**8**	5 U	**1.9**	5 U	20 U
1,4-Dichlorobenzene	6	NA	**2.4**	2 U	5 U	1 U	5 U	20 U
1,1-Dichloroethane	6	250 U	**2.7**	2 U	5 U	1 U	5 U	20 U
1,2-Dichloroethane	0.4	250 U	**211**	**42**	**96**	**3.2**	5 U	20 U
Cis-1,2-Dichloroethene	70	250 U	**5**	2 U	10 U[1]	1 U	5 U	20 U
Trans-1,2-Dichloroethene	100	250 U	2 U	2 U	NA	1 U	5 U	20 U
Diethyl ether	3,100*	**3,300**	**5,840**	**1,900**	**4,200**	**330 D**	**450**	**990**
Ethylbenzene	600	250 U	2 U	2 U	25 U	1 U	5 U	20 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	5	250 U	5 U	5 U	5 U	5 U	25 U	100 U
1,1,2,2-Tetrachloroethane	0.2	250 U	2 U	2 U	5 U	1 U	5 U	20 U
Tetrachloroethene	0.7	250 U	--	2 U	5 U	1 U	5 U	20 U
Toluene	600	250 U	2 U	2 U	5 U	1 U	5 U	20 U
Trichloroethene	3	250 U	**28**	**5**	5 U	**1.1**	5 U	20 U
Trichlorflouromethane	2,000	NA	**8.2**		5 U	1 U	5 U	20 U
Vinyl chloride	0.03	500 U	**5.8**	**2**	5 U	1 U	5 U	20 U
Xylenes, Total	500	250 U	2 U	2 U	10 U	2 U	10 U	40 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-14 05/14/98	MW-14 11/15/00	MW-14 10/29/02	MW-14 07/21/04	MW-14 01/11/07	MW-14 04/18/07	MW-14 07/11/07	MW-14 10/03/07	MW-14 10/22/08	MW-14 11/05/09	MW-14 11/05/10	MW-14 11/15/11	MW-14 01/23/13	MW-14 11/07/13	MW-14 10/16/14	MW-14 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	500 U	50 U	50 U	**170**	130 U	2,500 U	1,300 U	1,300 U	500 U	500 U	500 U	500 U	500 U	130 U	50 U	50 U
Benzene	1	**280**	3.8 U	**180**	**190**	**190**	**230**	**260**	**210**	**59**	**54**	**36**	**38**	**20**	**16**	**14**	**5.8**
Chlorobenzene	50	50 U	2 U	**2**	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Chloroform	70	**56**	2 U	**97**	**53**	**46**	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	NA	20 U	NA	NA	NA
1,1-Dichloroethane	6	50 U	2 U	2 U	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
1,2-Dichloroethane	0.4	**63**	**4.7**	**47**	**50**	**42**	100 U	50 U	50 U	20 U	**27**	20 U	**20**	20 U	**8.5**	**13**	**7.2**
Cis-1,2-Dichloroethene	70	50 U	2 U	2 U	40 U[1]	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene	100	50 U	2 U	2 U	NA	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	NA	5 U	5 U	5 U
Diethyl ether	3,100*	**1,800**	51 U	**1,900**	**1,800**	**3,100**	**5,400**	**2,500**	**1,800**	**800**	**880**	**650**	**1,400**	**590**	**380**	**470**	**430**
Ethylbenzene	600	50 U	2 U	2 U	25 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	200 U	200 U	200 U	NA	200 U	50 U	50 U	50 U
Methylene chloride	5	50 U	5 U	**6**	5 U	25 U	500 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	25 U	25 U	**37**
1,1,2,2-Tetrachloroethane	0.2	50 U	2 U	2 U	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Tetrachloroethene	0.7	50 U	2 U	2 U	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Toluene	600	50 U	2 U	2 U	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Trichloroethene	3	50 U	2 U	**10**	**10**	**9.3**	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Trichlorflouromethane	2,000	NA	2 U	**10**	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	100 U	2 U	**2**	5 U	5 U	100 U	50 U	50 U	20 U	20 U	20 U	20 U	20 U	5 U	5 U	5 U
Xylenes, Total	500	50 U	2 U	**3**	10 U	10 U	200 U	100 U	100 U	40 U	40 U	40 U	40 U	40 U	10 U	10 U	5 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-15 05/14/98	MW-15 11/15/00	MW-15 10/29/02	MW-15 12/18/03	MW-15 07/21/04	MW-15 01/11/07	MW-15 04/18/07	MW-15 07/11/07	MW-15 10/02/07	MW-15 10/21/08	MW-15 11/05/09	MW-15 11/04/10	MW-15 11/15/11	MW-15 01/23/13	MW-15 11/06/13	MW-15 10/16/14	MW-15 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																	
Acetone	6,000	5,000 U	50 U	50 U	1,200 U	**1,600**	250 U	5,000 U	2,500 U	25 U	2,500 U	2,500 U	2,500 U	2,500 U	500 U	250 U	100 U	100 U
Benzene	1	**1,900**	**355**	**990**	**540**	**930**	10 U	200 U	**150**	**130**	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Chlorobenzene	50	500 U	**5.3**	**18**	**17 J**	50 U	10 U	200 U	100 U	**15**	100 U	100 U	100 U	100 U	20 U	10 U	**12**	**12**
Chloroform	70	**10,000**	**606**	**1,000**	**220**	**180**	10 U	200 U	100 U	**1.6**	100 U	100 U	100 U	100 U	20 U	10 U	10 U	**20**
1,4-Dichlorobenzene	6	NA	2 U	**2**	NA	50 U	10 U	200 U	100 U	1 U	100 U	100 U	100 U	NA	20 U	NA	NA	NA
1,1-Dichloroethane	6	500 U	2 U	**4**	50 U	50 U	10 U	200 U	100 U	**1.7**	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
1,2-Dichloroethane	0.4	500 U	**130**	**320 J**	**250**	**380**	**190**	200 U	**110**	**120**	100 U	**150**	100 U	**160**	**34**	**16**	**35**	**17**
Cis-1,2-Dichloroethene	70	500 U	2 U	**5**	100 U	100 U[1]	10 U	200 U	100 U	**2.8**	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Trans-1,2-Dichloroethene	100	500 U	2 U	2 U	100 U	NA	10 U	200 U	100 U	**3.2**	100 U	100 U	100 U	100 U	NA	10 U	10 U	10 U
Diethyl ether	3,100*	**13,000**	**2,670**	**11,000**	**8,500**	**14,000**	**9,800 D**	**10,000**	**5,300**	**4,700 D**	**4,200**	**4,400**	**3,000**	**4,400**	**890**	**440**	**1,100**	**630**
Ethylbenzene	600	500 U	2 U	2 U	50 U	250 U	10 U	200 U	100 U	1 U	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	NA	200 U	100 U	100 U	100 U
Methylene chloride	5	**5,700**	**197**	**240**	**77 J**	50 U	50 U	1,000 U	500 U	5 U	100 U	500 U	500 U	500 U	100 U	50 U	50 U	50 U
1,1,2,2-Tetrachloroethane	0.2	500 U	2 U	2 U	50 U	50 U	10 U	200 U	100 U	1 U	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Tetrachloroethene	0.7	500 U	--	2 U	50 U	50 U	10 U	200 U	100 U	1 U	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Toluene	600	500 U	2 U	2 U	50 U	50 U	10 U	200 U	100 U	1 U	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Trichloroethene	3	500 U	**9.5**	**35**	**24 J**	50 U	**24**	200 U	100 U	**15**	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Trichlorflouromethane	2,000	NA	**68.9**	**94**	NA	50 U	10 U	200 U	100 U	1 U	100 U	100 U	100 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1,000 U	2 U	**4**	50 U	50 U	10 U	200 U	100 U	**2.7**	100 U	100 U	100 U	100 U	20 U	10 U	10 U	10 U
Xylenes, Total	500	500 U	2 U	2 U	100 U	100 U	20 U	400 U	200 U	2 U	200 U	200 U	200 U	200 U	40 U	20 U	20 U	10 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-16 05/14/98	MW-16 11/15/00	MW-16 10/29/02	MW-16 07/22/04	MW-16 10/02/07	MW-16 10/21/08	MW-16 11/05/09	MW-16 11/05/10	MW-16 11/16/11	MW-16 01/23/13	MW-16 11/06/13	MW-16 10/15/14	MW-16 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard													
Acetone	6,000	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**7.7**	2 U	**3.0**	**3.5**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	2 U	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-17 11/14/00	MW-17 10/29/02	MW-17 07/20/04	MW-17 10/02/07	MW-17 10/22/08	MW-17 11/02/09	MW-17 11/05/10	MW-17 11/16/11	MW-17 12/20/12	MW-17 11/06/13	MW-17 10/15/14	MW-17 12/09/15	MW-18 11/14/00	MW-18 10/31/02	MW-18 07/20/04
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard															
Acetone	6,000	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U	50 U	50 U	25 U
Benzene	1	2 U	2 U	1 U	1 U	**1.2**	**1.3**	**2.0**	**2.0**	**1.6**	**1.2**	**1.6**	**1.5**	2 U	2 U	1 U
Chlorobenzene	50	2 U	2 U	1 U	1 U	**1.3**	**1.7**	**2.0**	**2.7**	**2.7**	**3.2**	**3.5**	**3.6**	**3.5**	**3**	**4.4**
Chloroform	70	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
1,4-Dichlorobenzene	6	2 U	2 U	1 U	1 U	**2.6**	**3.3**	**3.0**	NA	**5**	NA	NA	NA	2 U	2 U	NA
1,1-Dichloroethane	6	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
1,2-Dichloroethane	0.4	2 U	2 U	1 U	1 U	**7.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Cis-1,2-Dichloroethene	70	**2.9**	**27**	**22[1]**	**8.8**	**7.3**	**5.9**	**6.0**	**6.3**	**5.5**	**5.8**	**4.7**	**3.9**	2 U	2 U	2 U
Trans-1,2-Dichloroethene	100	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	2 U	2 U	NA
Diethyl ether	3,100*	2 U	**77**	**110**	**39**	**43**	**37**	**46**	**50**	**42**	**57**	**47**	**35**	34 U	2 U	**49**
Ethylbenzene	600	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	NA	NA	NA
Methylene chloride	5	5 U	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Tetrachloroethene	0.7	--	2 U	1 U	**1.3**	**1.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Toluene	600	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Trichloroethene	3	2 U	2 U	**1.3**	**2.5**	**2.0**	**1.5**	**1.0**	**1.2**	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Trichlorflouromethane	2,000	2 U	2 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	2 U	2 U	NA
Vinyl chloride	0.03	2 U	**15**	**20**	**5.1**	**5.7**	**4.6**	**7.0**	**6.0**	**4.6**	**4.2**	**3.8**	**3.5**	2 U	2 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-19 07/25/95	MW-20 07/20/04	MW-21 05/13/98	MW-21 11/14/00	MW-21 10/30/02	MW-21 07/19/04	MW-21 11/05/09
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard							
Acetone	6,000	**16 J**	25 U	50 U	50 U	50 U	25 U	25 U
Benzene	1	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Chlorobenzene	50	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Chloroform	70	**12**	1 U	5 U	2 U	2 U	1 U	1 U
1,4-Dichlorobenzene	6	10 U	NA	NA	2 U	2 U	NA	1 U
1,1-Dichloroethane	6	5 U	1 U	5 U	2 U	2 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	5 U	2 U	2 U	2 U	1 U
Trans-1,2-Dichloroethene	100	5 U	NA	5 U	2 U	2 U	NA	1 U
Diethyl ether	3,100*	10 U	2 U	5 U	2 U	2 U	2 U	10 U
Ethylbenzene	600	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Tetrachloroethene	0.7	5 U	1 U	5 U	--	2 U	1 U	1 U
Toluene	600	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Trichloroethene	3	5 U	1 U	5 U	2 U	2 U	1 U	1 U
Trichlorflouromethane	2,000	NA	NA	NA	2 U	2 U	NA	1 U
Vinyl chloride	0.03	10 U	1 U	10 U	2 U	2 U	1 U	1 U
Xylenes, Total	500	10 U	2 U	5 U	2 U	2 U	2 U	2 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-22 05/14/98	MW-22 11/15/00	MW-22 10/29/02	MW-22 07/21/04	MW-22 10/02/07	MW-22 10/21/08	MW-22 11/03/09	MW-22 11/04/10	MW-22 11/16/11	MW-22 01/23/13	MW-22 11/06/13	MW-22 10/15/14	MW-22 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard													
Acetone	6,000	50 U	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	**160**	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	**13**	**12.1**	**10**	5 U	**3.3**	**11**	**4.6**	**3.4**	**6.6**	**1.6**	**10**	**4.2**	**2.4**
Chloroform	70	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	**3.5**	**3**	5 U	1 U	**2.8**	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	**18.3**	**2**	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**2,600**	**620**	**130**	5 U	**26**	**12**	10 U	10 U	**12**	10 U	10 U	5 U	5 U
Ethylbenzene	600	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	**8.9**	**2.2**	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	5 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-23 05/13/98	MW-23 10/30/02	MW-23 07/20/04	MW-23 10/01/07	MW-23 10/20/08	MW-23 11/02/09	MW-23 11/05/10	MW-23 11/15/11	MW-23 12/20/12	MW-23 11/05/13	MW-23 10/13/14	MW-23 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard												
Acetone	6,000	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	5 U	2 U	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	5 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	2 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-24 12/19/03	MW-24 07/22/04	MW-24 11/03/09	MW-25 05/13/98	MW-25 11/14/00	MW-25 10/30/02	MW-25 07/21/04	MW-25 01/10/07	MW-25 04/17/07	MW-25 07/12/07	MW-25 11/02/09	MW-25 11/03/10	MW-25 11/15/11	MW-25 12/20/12	MW-25 11/04/13	MW-25 10/13/14	MW-25 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																	
Acetone	6,000	25 U	25 U	25 U	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	1 U	**1.1**	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	1 U	1 U	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	1 U	1 U	5 U	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	2 U	1 U	1 U	5 U	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**4.8**	**6**	10 U	5 U	43 U	2 U	**45**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	1 U	1 U	1 U	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	1 U	1 U	1 U	5 U	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	1 U	1 U	1 U	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	1 U	1 U	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1 U	1 U	1 U	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-26 05/13/98	MW-26 11/15/00	MW-26 10/30/02	MW-26 07/22/04	MW-26 01/10/07	MW-26 04/17/07	MW-26 07/12/07	MW-26 10/02/07	MW-26 10/23/08	MW-26 11/02/09	MW-26 11/03/10	MW-26 11/15/11	MW-26 12/20/12	MW-26 11/04/13	MW-26 10/14/14	MW-26 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**5.2**	2 U	2 U	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	5 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	**1.1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-28 11/16/00	MW-28 10/31/02	MW-28 10/02/07	MW-28 10/22/08	MW-28 11/04/09	MW-28 11/04/10	MW-28 11/16/11	MW-28 12/19/12	MW-28 11/06/13	MW-28 10/15/14	MW-28 12/08/15	MW-29 11/15/00	MW-29 10/31/02	MW-29 07/21/04	MW-29 11/04/09
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard															
Acetone	6,000	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U	25 U	50 U	25 U	25 U
Benzene	1	2 U	**2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Chlorobenzene	50	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Chloroform	70	2 U	**2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**2**	1 U	1 U
1,4-Dichlorobenzene	6	2 U	2 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA	1 U	2 U	1 U	1 U
1,1-Dichloroethane	6	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
1,2-Dichloroethane	0.4	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U
Trans-1,2-Dichloroethene	100	2 U	2 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	2 U	NA	1 U
Diethyl ether	3,100*	2 U	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	10 U
Ethylbenzene	600	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	NA	NA	NA	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2.5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Tetrachloroethene	0.7	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	2 U	1 U	1 U
Toluene	600	2 U	2 U	1 U	1 U	1 U	1 U	**250 D**	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Trichloroethene	3	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Trichlorflouromethane	2,000	2 U	2 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	1 U	2 U	1 U	1 U
Vinyl chloride	0.03	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	1 U	2 U	2 U	2 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-30 11/14/00	MW-30 10/30/02	MW-30 07/20/04	MW-30 01/10/07	MW-30 04/17/07	MW-30 07/11/07	MW-30 10/01/07	MW-30 10/20/08	MW-30 11/03/09	MW-30 11/02/10	MW-30 11/14/11	MW-30 12/20/12	MW-30 11/04/13	MW-30 10/14/14	MW-30 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard															
Acetone	6,000	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	2 U	**2**	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-31 05/13/98	MW-31 11/14/00	MW-31 10/30/02	MW-31 07/20/04	MW-31 01/10/07	MW-31 04/17/07	MW-31 07/11/07	MW-31 10/01/07	MW-31 10/20/08	MW-31 11/03/09	MW-31 11/02/10	MW-31 11/14/11	MW-31 12/20/12	MW-31 11/04/13	MW-31 10/14/14	MW-31 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																
Acetone	6,000	250 U	50 U	50 U	25 U	25 U	250 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	25 U	2 U	2 U	**1.3**	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	25 U	2 U	**3**	**4.1**	**2.4**	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	25 U	2 U	**3**	**2.1**	**2.5**	10 U	2 U	**1.4**	**1.2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	25 U	2 U	2 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	25 U	**8.4**	**19**	**25**	**14**	10 U	**4.5**	**3.7**	**1.6**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	25 U	2 U	2 U	2.0 U[1]	**1.0**	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	25 U	2 U	2 U	NA	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**480**	**215**	**770**	**2,000**	**640 D**	**400**	**160**	**120 D**	**39**	**14**	**10**	**21**	10 U	10 U	**8**	5 U
Ethylbenzene	600	25 U	2 U	2 U	5 U	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	25 U	5 U	5 U	1 U	5 U	50 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	25 U	2 U	2 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	25 U	2 U	2 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	25 U	2 U	2 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	25 U	2 U	**4**	**5.0**	**3.0**	10 U	2 U	**1.3**	**1.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	1 U	1 U	10 U	2 U	1 U	**1.5**	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	50 U	2 U	**5**	**5.4**	**2.4**	10 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	25 U	2 U	2 U	2 U	2 U	20 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-32 05/13/98	MW-32 11/13/00	MW-32 10/30/02	MW-32 12/19/03	MW-32 07/20/04	MW-32 01/10/07	MW-32 04/17/07	MW-32 07/11/07	MW-32 10/01/07	MW-32 10/20/08	MW-32 11/04/09	MW-32 11/02/10	MW-32 11/14/11	MW-32 12/19/12	MW-32 11/04/13	MW-32 10/14/14	MW-32 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																	
Acetone	6,000	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	5 U	2 U	**15**	2 U	2 U	**2.4**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	5 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-33 05/13/98	MW-33 11/13/00	MW-33 10/30/02	MW-33 12/19/03	MW-33 07/20/04	MW-33 01/10/07	MW-33 04/17/07	MW-33 07/11/07	MW-33 10/01/07	MW-33 10/20/08	MW-33 11/04/09	MW-33 11/02/10	MW-33 11/14/11	MW-33 12/19/12	MW-33 11/04/13	MW-33 10/14/14	MW-33 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																	
Acetone	6,000	50 U	50 U	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5 U	2 U	2 U	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5 U	2 U	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	5 U	2 U	**13**	**18**	**30**	**28**	**16**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	5 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	2 U	2 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	10 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-34 07/20/04	MW-35 07/20/04	MW-35 10/01/07	MW-35 10/21/08	MW-35 11/04/09	MW-35 11/02/10	MW-35 11/16/11	MW-35 12/19/12	MW-35 11/05/13	MW-35 10/14/14	MW-35 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard											
Acetone	6,000	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	2 U	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-36 07/20/04	MW-36 10/01/07	MW-36 10/20/08	MW-36 11/03/09	MW-36 11/02/10	MW-36 11/14/11	MW-36 12/20/12	MW-36 11/05/13	MW-36 10/15/14	MW-36 12/08/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard										
Acetone	6,000	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2.0 U[1]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	2 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	600	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	**45**	**120**	**61**	NA	**30**	**49**	**450**	**41**
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.1**
Toluene	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	MW-37 07/20/04	MW-38 09/30/10	MW-38 10/04/10	MW-38 10/08/10	MW-38 10/18/10	MW-38 12/10/15	MW-39 09/30/10	MW-39 10/04/10	MW-39 10/08/10	MW-39 10/18/10	MW-39 12/10/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard											
Acetone	6,000	25 U	25 U	25 U	25 U	25 U	10 U	25 U	25 U	25 U	25 U	10 U
Benzene	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	1 U	1 U	**1.5**	**2.1**	1 U	**4.8**	1 U	1 U	1 U	1 U	1 U
Chloroform	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	NA
1,1-Dichloroethane	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	1 U	**14**	**8.7**	**21**	**22**	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl ether	3,100*	2 U	**220 E**	**140 E**	**390 E**	**49**	5 U	10 U	10 U	10 U	10 U	5 U
Ethylbenzene	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	0.03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	VER-1 05/05/06	VER-1 10/22/08	VER-1 11/03/09	VER-1 11/05/10	VER-1 11/15/11	VER-1 12/18/12	VER-1 11/06/13	VER-1 10/16/14	VER-1 12/10/15	VER-2 05/05/06	VER-2 10/22/08	VER-2 11/03/09	VER-2 11/05/10	VER-2 11/15/11	VER-2 12/18/12	VER-2 11/04/13	VER-2 10/16/15	VER-2 12/10/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																		
Acetone	6,000	12,000 U	1,200 U	25 U	630 U	630 U	500 U	130 U	50 U	10 U	50,000 U	50,000 U	2,500 U	25,000 U	13,000 U	5,000 U	2500 U	500 U	10 U
Benzene	1	**7,600**	**4,800**	1 U	**460**	25 U	20 U	5 U	5 U	**2.6**	**19,000**	**18,000**	**750**	**14,000**	**7,800**	**2,300**	**330**	**240**	1 U
Chlorobenzene	50	1,200 U	50 U	1 U	**54**	**28**	**69**	**38**	**83**	**62**	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	**1**
Chloroform	70	**30,000**	**180**	**2**	25 U	25 U	20 U	5 U	5 U	1 U	**95,000**	**41,000**	**3,700**	**21,000**	**3,900**	**1,200**	**230**	**140**	**13**
1,4-Dichlorobenzene	6	NA	50 U	1 U	25 U	NA	20 U	NA	NA	NA	NA	2,000 U	100 U	1,000 U	NA	200 U	NA	NA	NA
1,1-Dichloroethane	6	1,200 U	50 U	1 U	25 U	25 U	20 U	5 U	**10**	**7.4**	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	**2.4**
1,2-Dichloroethane	0.4	1,200 U	50 U	1 U	**150**	**94**	**82**	**47**	**69**	**48**	5,000 U	2,000 U	**250**	**1,700**	**960**	**430**	**260**	**230**	**3.8**
Cis-1,2-Dichloroethene	70	1,200 U	50 U	1 U	25 U	25 U	20 U	5 U	5 U	**3.8**	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	**1.2**
Trans-1,2-Dichloroethene	100	1,200 U	50 U	1 U	25 U	25 U	NA	5 U	5 U	**2.3**	5,000 U	2,000 U	100 U	1,000 U	500 U	NA	100 U	50 U	**2**
Diethyl ether	3,100*	**29,000**	**1,800**	10 U	**2,400**	**1,300**	**1,200**	**400**	**950**	**1000**	**110,000**	**77,000**	**3,500**	**43,000**	**23,000**	**13,000**	**5,000**	**5,000**	**39**
Ethylbenzene	600	1,200 U	50 U	1 U	**35**	25 U	20 U	5 U	5 U	1 U	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	1 U
Methyl tert-butyl ether	20	NA	500 U	10 U	250 U	NA	200 U	50 U	50 U	10 U	NA	20,000 U	1,000 U	10,000 U	NA	2000 U	1000 U	500 U	10 U
Methylene chloride	5	**15,000**	250 U	5 U	130 U	130 U	100 U	25 U	25 U	1 U	**57,000**	**27,000**	**1,500**	**12,000**	**2,700**	1,000 U	500 U	250 U	5 U
1,1,2,2-Tetrachloroethane	0.2	1,200 U	50 U	1 U	25 U	25 U	20 U	5 U	1 U	1 U	5,000 U	2,000 U	**110**	1,000 U	500 U	200 U	100 U	50 U	**11**
Tetrachloroethene	0.7	1,200 U	50 U	1 U	25 U	25 U	20 U	5 U	1 U	1 U	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	1 U
Toluene	600	1,200 U	50 U	1 U	25 U	25 U	20 U	5 U	1 U	1 U	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	1 U
Trichloroethene	3	1,200 U	50 U	1 U	25 U	25 U	20 U	**5.5**	**16**	**14**	5,000 U	2,000 U	**190**	1,000 U	500 U	**210**	**110**	**110**	**12**
Trichlorflouromethane	2,000	NA	50 U	1 U	25 U	NA	NA	NA	NA	NA	NA	2,000 U	100 U	1,000 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	1,200 U	50 U	1 U	25 U	25 U	20 U	5 U	5 U	1 U	5,000 U	2,000 U	100 U	1,000 U	500 U	200 U	100 U	50 U	1 U
Xylenes, Total	500	2,500 U	100 U	2 U	50 U	50 U	40 U	10 U	10 U	1 U	10,000 U	4,000 U	200 U	2,000 U	1,000 U	400 U	200 U	100 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	VER-3 05/05/06	VER-3 10/22/08	VER-3 11/03/09	VER-3 11/05/10	VER-3 11/15/11	VER-3 12/18/12	VER-3 11/04/13	VER-3 10/16/14	VER-3 12/10/15	VER-4 05/04/06	VER-4 10/22/08	VER-4 11/03/09	VER-4 11/05/10	VER-4 11/15/11	VER-4 12/18/12	VER-4 11/06/13	VER-4 10/16/14	VER-4 12/10/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																		
Acetone	6,000	20,000 U	25,000 U	6,200 U	6,300 U	1,300 U	1,300 U	630 U	20 U	10 U	10 U	500 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	**8,600**	**5,500**	**310**	**510**	**130**	50 U	25 U	**2.7**	1 U	1 U	**59**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	**4,800**	**11,000**	250 U	**250**	**100**	50 U	25 U	**2.2**	1 U	**5.5**	**46**	**1.8**	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	1,000 U	250 U	250 U	NA	50 U	NA	NA	NA	NA	20 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	**4.1**	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	**5.1**	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	2,000 U	1,000 U	250 U	250 U	50 U	NA	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**68,000**	**40,000**	**13,000**	**10,000**	**3,200**	**5,600**	**1,200**	**360**	**5 U**	**15**	**850**	10 U	10 U	10 U	10 U	10 U	10 U	5 U
Ethylbenzene	600	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	10,000 U	2,500 U	2,500 U	NA	500 U	250 U	20 U	10 U	NA	200 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	**5,500**	**13,000**	**1,500**	1,300 U	250 U	250 U	130 U	10 U	5 U	1 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	1,000 U	250 U	250 U	NA	NA	NA	NA	NA	NA	20 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	2,000 U	1,000 U	250 U	250 U	50 U	50 U	25 U	2 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	4,000 U	2,000 U	500 U	500 U	100 U	100 U	50 U	4 U	1 U	**2**	40 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	SRW-1 05/04/06	SRW-1 10/02/07	SRW-1 10/22/08	SRW-1 11/03/09	SRW-1 11/03/10	SRW-1 01/23/13	SRW-1 11/07/13	SRW-1 10/16/14	SRW-1 12/07/15	SRW-2 05/04/06	SRW-2 10/02/07	SRW-2 10/22/08	SRW-2 11/03/09	SRW-2 11/03/10	SRW-2 11/14/11	SRW-2 11/07/13	SRW-2 10/16/14
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard																	
Acetone	6,000	670 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U	2,900 U	25 U	1,200 U	250 U	500 U	1,300 U	50 U	20 U
Benzene	1	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	**2.8**	50 U	10 U	20 U	50 U	2 U	2 U
Chlorobenzene	50	67 U	**11**	**9.1**	**6.5**	**6.5**	**6.2**	**15**	**6.2**	**4.7**	290 U	**11**	50 U	10 U	20 U	50 U	**6.2**	**5.3**
Chloroform	70	67 U	1 U	1 U	1 U	1 U	**2.1**	**1**	1 U	1 U	290 U	**2.1**	50 U	10 U	20 U	50 U	2 U	2 U
1,4-Dichlorobenzene	6	NA	NA	**3**	**2**	**1.5**	**1.9**	NA	NA	NA	NA	NA	50 U	10 U	20 U	NA	NA	NA
1,1-Dichloroethane	6	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	**1.2**	50 U	10 U	20 U	50 U	2 U	2 U
1,2-Dichloroethane	0.4	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	**75**	**55**	**55**	**45**	**110**	**13**	**11**
Cis-1,2-Dichloroethene	70	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	**1.6**	50 U	10 U	20 U	50 U	2 U	2 U
Trans-1,2-Dichloroethene	100	67 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	290 U	1 U	50 U	10 U	20 U	50 U	2 U	2 U
Diethyl ether	3,100*	**1,900**	**74**	**53**	**31**	**50**	**27**	**26**	**17**	5 U	**8,200**	**2,400**	**1,800**	**1,600**	**1,000**	**4,000**	170 U	**250**
Ethylbenzene	600	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	1 U	50 U	10 U	20 U	50 U	2 U	2 U
Methyl tert-butyl ether	20	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	500 U	100 U	200 U	NA	20 U	20 U
Methylene chloride	5	67 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	290 U	5 U	250 U	50 U	100 U	250 U	10 U	10 U
1,1,2,2-Tetrachloroethane	0.2	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	1 U	50 U	10 U	20 U	50 U	2 U	2 U
Tetrachloroethene	0.7	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	1 U	50 U	10 U	20 U	50 U	2 U	2 U
Toluene	600	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	1 U	50 U	10 U	20 U	50 U	2 U	2 U
Trichloroethene	3	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	**8.4**	50 U	10 U	20 U	50 U	**5.1**	**3.5**
Trichlorflouromethane	2,000	NA	NA	1 U	1 U	1 U	NA	NA	NA	1 U	NA	NA	50 U	10 U	20 U	NA	NA	NA
Vinyl chloride	0.03	67 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	290 U	**1.1**	50 U	10 U	20 U	50 U	2 U	2 U
Xylenes, Total	500	130 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	590 U	2 U	100 U	20 U	40 U	100 U	4 U	4 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	SRW-3 05/03/06	SRW-3 10/02/07	SRW-3 10/22/08	SRW-3 11/03/09	SRW-3 11/03/10	SRW-3 11/14/11	SRW-3 01/23/13	SRW-3 11/07/13	SRW-3 10/16/14	SRW-3 12/09/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard										
Acetone	6,000	2,000 U	25 U	1,200 U	250 U	250 U	1,300 U	25 U	25 U	20 U	10 U
Benzene	1	200 U	**11**	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	200 U	9	50 U	10 U	10 U	50 U	**1.4**	1 U	1 U	4.7
Chloroform	70	200 U	1.5	50 U	10 U	10 U	50 U	**1.3**	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	NA	50 U	10 U	10 U	NA	1 U	1 U	1 U	NA
1,1-Dichloroethane	6	200 U	1 U	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	200 U	**63**	50 U	**13**	10 U	**110**	1 U	**1.2**	1 U	1 U
Cis-1,2-Dichloroethene	70	200 U	**3.9**	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	200 U	**4.9**	50 U	10 U	10 U	50 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**6,200**	**4,900**	**2,100**	**860**	**440**	**3,500**	10 U	**53**	**8**	5 U
Ethylbenzene	600	200 U	1 U	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	500 U	100 U	100 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	200 U	5 U	250 U	50 U	50 U	250 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	200 U	1 U	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	200 U	1 U	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Toluene	600	200 U	1 U	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Trichloroethene	3	200 U	**13**	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	NA	50 U	10 U	10 U	NA	NA	NA	NA	1 U
Vinyl chloride	0.03	200 U	**3.6**	50 U	10 U	10 U	50 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	400 U	2 U	100 U	20 U	20 U	100 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	DRW-1 05/03/06	DRW-1 10/02/07	DRW-1 10/22/08	DRW-1 11/03/09	DRW-1 11/03/10	DRW-1 11/14/11	DRW-1 01/23/13	DRW-1 11/07/13	DRW-1 10/16/14	DRW-1 12/07/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard										
Acetone	6,000	3,800 U	25 U	500 U	1,200 U	2,500 U	25 U	1300 U	630 U	250 U	250 U
Benzene	1	380 U	**160**	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Chlorobenzene	50	380 U	**15**	20 U	50 U	100 U	**1.6**	50 U	25 U	25 U	25 U
Chloroform	70	380 U	**1.4**	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
1,4-Dichlorobenzene	6	NA	NA	20 U	50 U	100 U	NA	50 U	NA	NA	NA
1,1-Dichloroethane	6	380 U	**1.6**	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
1,2-Dichloroethane	0.4	380 U	**120**	20 U	**120**	100 U	1 U	50 U	**44**	25 U	**29**
Cis-1,2-Dichloroethene	70	380 U	**3.3**	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene	100	380 U	**4**	20 U	50 U	100 U	1 U	NA	25 U	25 U	25 U
Diethyl ether	3,100*	**11,000**	**6,900**	**610**	**3,800**	**3,900**	**16**	**2,000**	**1,200**	**1,500**	**960**
Ethylbenzene	600	380 U	1 U	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Methyl tert-butyl ether	20	NA	NA	200 U	500 U	1,000 U	NA	500 U	250 U	250 U	250 U
Methylene chloride	5	380 U	5 U	20 U	250 U	500 U	5 U	250 U	130 U	130 U	130 U
1,1,2,2-Tetrachloroethane	0.2	380 U	1 U	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Tetrachloroethene	0.7	380 U	1 U	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Toluene	600	380 U	1 U	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Trichloroethene	3	380 U	**17**	20 U	50 U	100 U	**1**	50 U	25 U	25 U	25 U
Trichlorflouromethane	2,000	NA	NA	20 U	50 U	100 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	380 U	**3.5**	20 U	50 U	100 U	1 U	50 U	25 U	25 U	25 U
Xylenes, Total	500	770 U	2 U	40 U	100 U	200 U	2 U	100 U	50 U	50 U	25 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	DRW-2 05/03/06	DRW-2 10/02/07	DRW-2 10/22/08	DRW-2 11/03/09	DRW-2 11/03/10	DRW-2 11/14/11	DRW-2 01/23/13	DRW-2 11/07/13	DRW-2 10/16/14	DRW-2 12/07/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard										
Acetone	6,000	59 U	25 U	50 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	5.9 U	**1.3**	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	NA	2 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	5.9 U	**9.3**	**3.2**	**1.7**	1 U	**1**	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	5.9 U	1 U	2 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**200**	**470**	**87**	**59**	**40**	**57**	**34**	**14**	**16**	**11**
Ethylbenzene	600	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	20 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	5.9 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	5.9 U	**1.5**	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	NA	2 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	5.9 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	12 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

Table 9. Historical Groundwater Analytical Data, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: Date Sampled:	DRW-3 05/03/06	DRW-3 10/02/07	DRW-3 10/22/08	DRW-3 11/03/09	DRW-3 11/03/10	DRW-3 11/14/11	DRW-3 01/23/13	DRW-3 11/07/13	DRW-3 10/16/14	DRW-3 12/07/15
Volatile Organics (USEPA Method 8260) ug/L	NCAC 2L GW Standard										
Acetone	6,000	29 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	10 U
Benzene	1	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	6	NA	NA	1 U	1 U	1 U	NA	1 U	NA	NA	NA
1,1-Dichloroethane	6	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.4	2.9 U	**1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	70	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	100	2.9 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Diethyl ether	3,100*	**98**	**37**	10 U	**18**	10 U	10 U	10 U	10 U	5 U	5 U
Ethylbenzene	600	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	NA	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Methylene chloride	5	2.9 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	0.2	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	0.7	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	600	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	3	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorflouromethane	2,000	NA	NA	1 U	1 U	1 U	NA	NA	NA	NA	NA
Vinyl chloride	0.03	2.9 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	500	5.7 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U

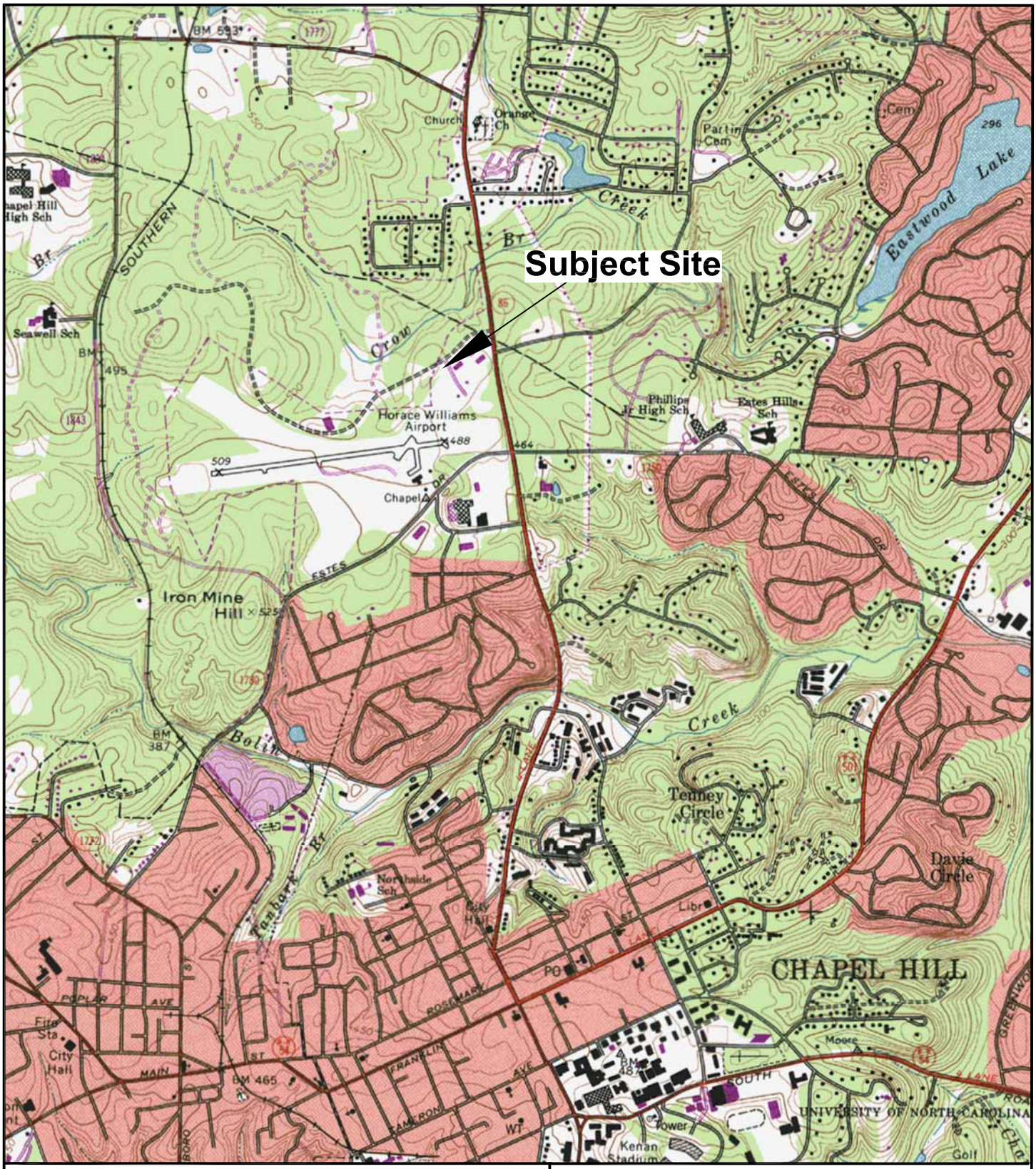
NCAC 2L North Carolina Administrative Code 2L Groundwater Standard
ug/L Micrograms per liter.
U Constituent was not detected above the reporting limit.
D Constituent concentration was quantitated using a secondary dilution.
NA Not analyzed.
* USEPA Risk-Based Concentration (RBC) for tap water (no NCAC 2L Groundwater Standard exists).
Indicates that the reported concentration exceeds the NCAC 2L Groundwater Standard or RBC.

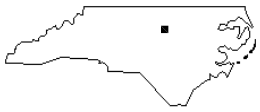
Table 10. Summary of Analytical Results for Surface Water Samples Collected in December 2015, UNC Airport Road Waste Disposal Area, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Constituent	Sample ID: / Date Sampled:	SW-1 12/07/15	SW-2 12/07/15	SW-3 12/07/15	SW-4 12/07/15	SW-5 12/07/15	SW-6 12/07/15
Volatile Organics (USEPA Method 8260) ug/L		ND	ND	ND	ND	ND	ND

ug/L Micrograms per liter.
ND Constituent was not detected above the reporting limit.

FIGURES





CONTOUR INTERVAL 10-FOOT DATUM IS MEAN SEA LEVEL
SOURCE: TOPOGRAPHY TAKEN FROM USGS 7.5 MINUTE QUADRANGLE
CHAPEL HILL 1967 (PHOTOREVISED 1988), NC MAP

0 2000' 4000' 6000'

SCALE IN FEET

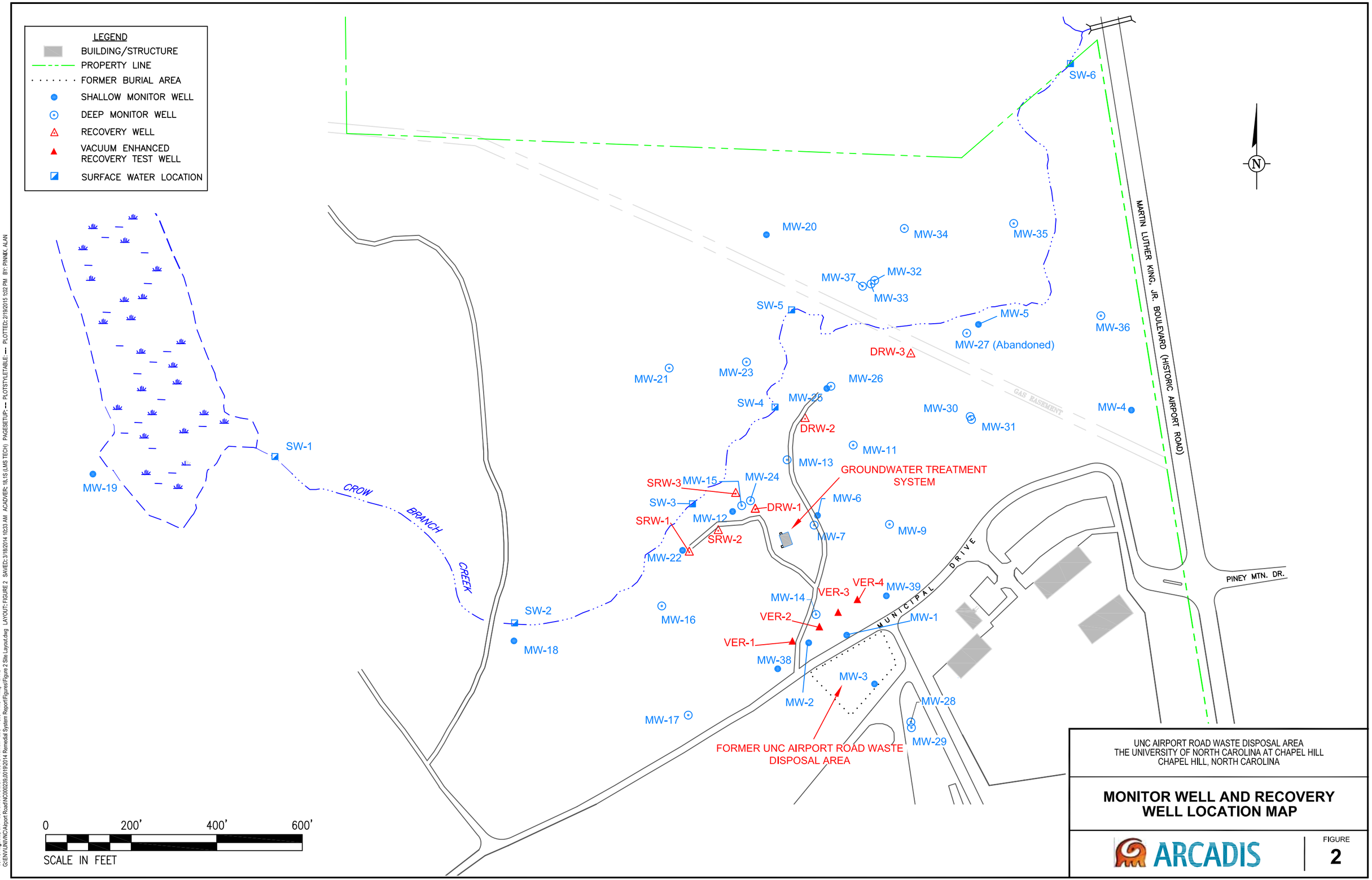
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

SITE LOCATION

ARCADIS

FIGURE
1

CITY: Raleigh, NC DIV/GROUP: ENV DB: LD: PIC: PM: TM: LYR:
G:\ENV\UNI\NC\Airport Road\NC000239.0019\2014 Remedial System Report\Figures\Figure 1 Topo Map.dwg LAYOUT: FIGURE 1 SAVED: 2/19/2015 12:58 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/19/2015 1:00 PM BY: PINNIX, ALAN



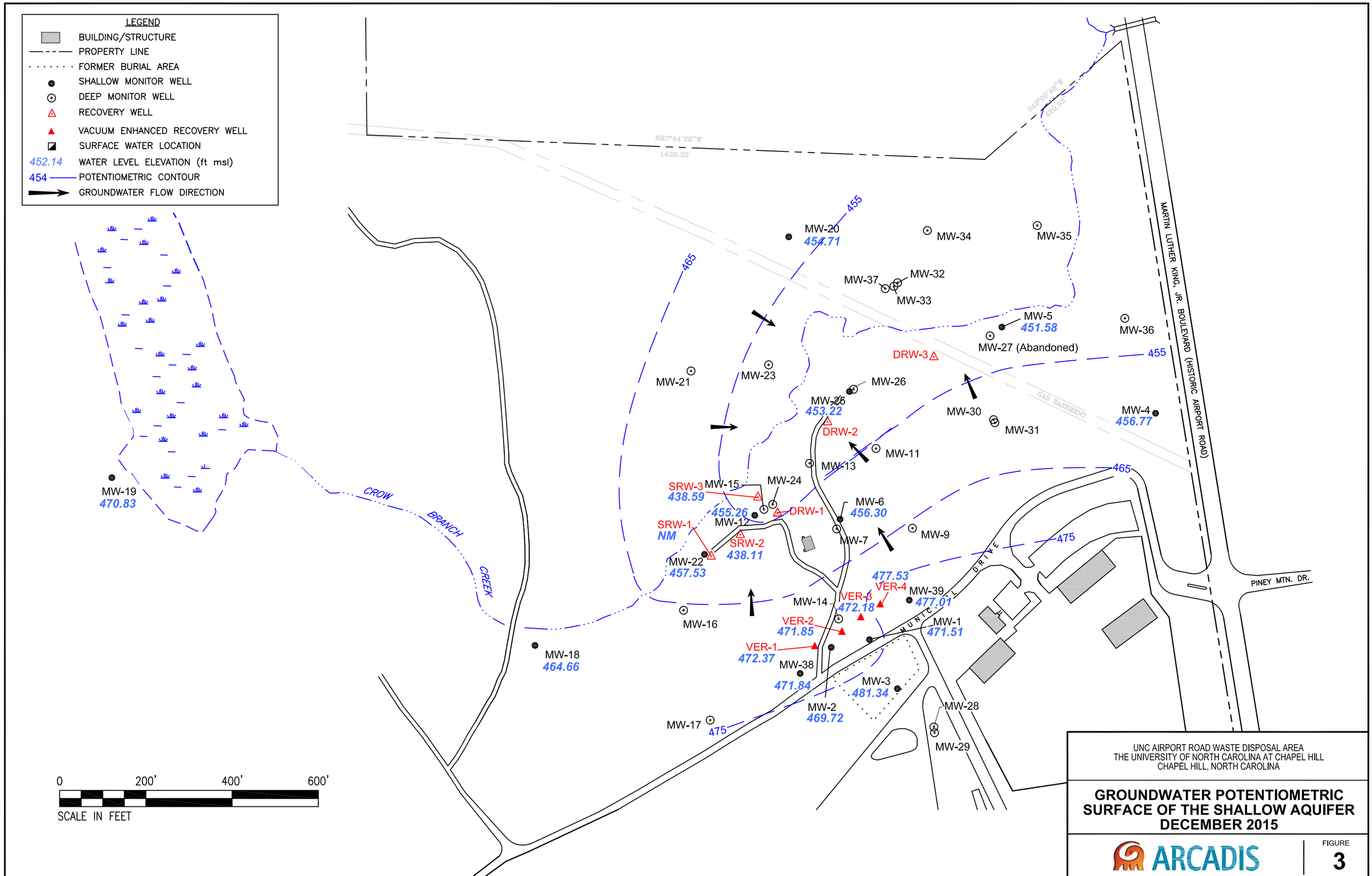
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

MONITOR WELL AND RECOVERY WELL LOCATION MAP

ARCADIS

FIGURE
2

CITY: Augusta, GA DIV/GROUP: ENV DB: A. Warren LD: PIC: PM: TM: LYR: G:\ENV\UNI\NC\Airport Road\NC000239.0019\2014 Remedial System Report\Figures\Figure 2 Site Layout.dwg LAYOUT: FIGURE 2 SAVED: 3/18/2014 10:33 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/19/2015 1:02 PM BY: PINNIX, ALAN

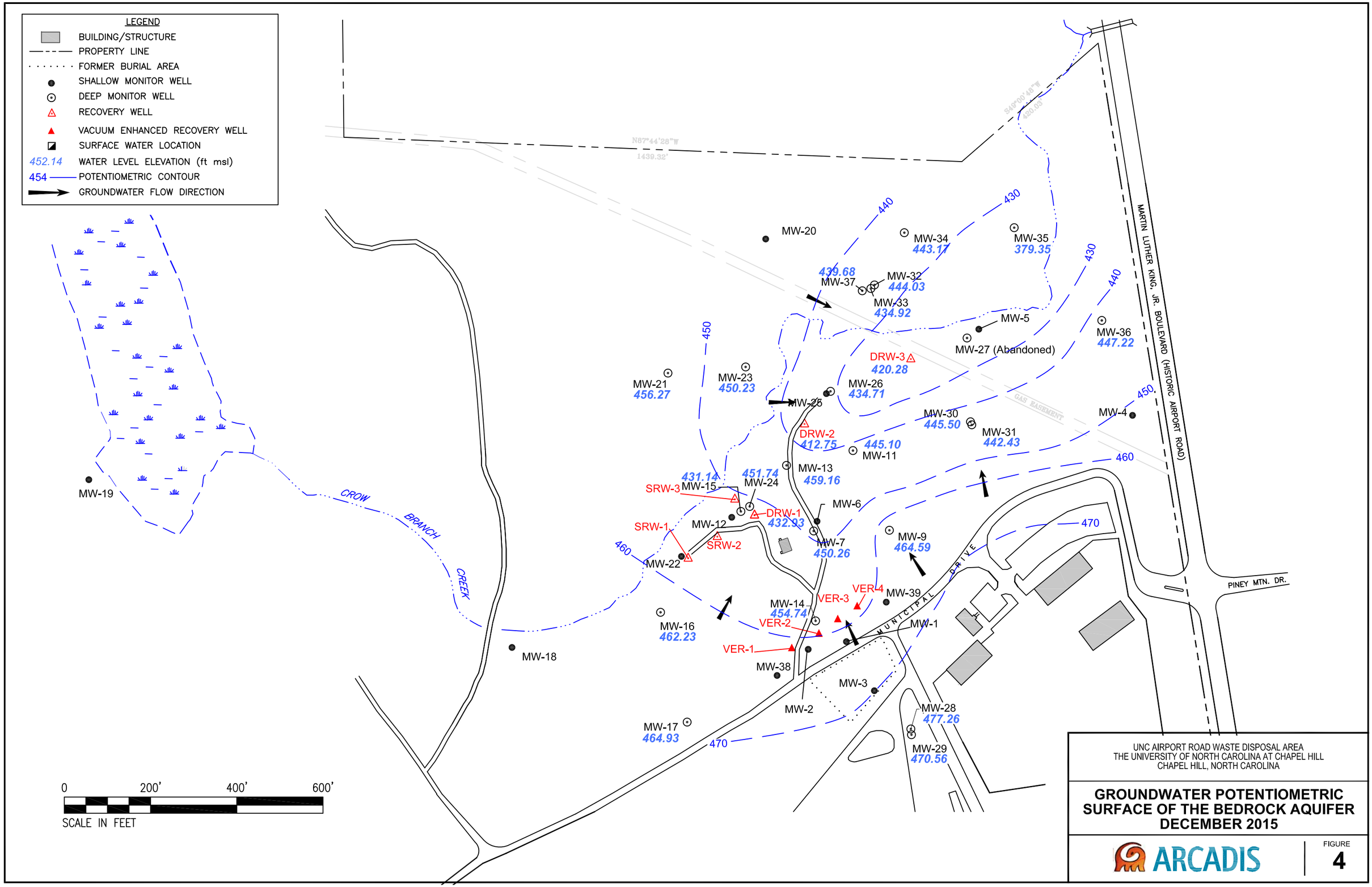


UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

GROUNDWATER POTENTIOMETRIC SURFACE OF THE SHALLOW AQUIFER DECEMBER 2015

ARCADIS

FIGURE 3

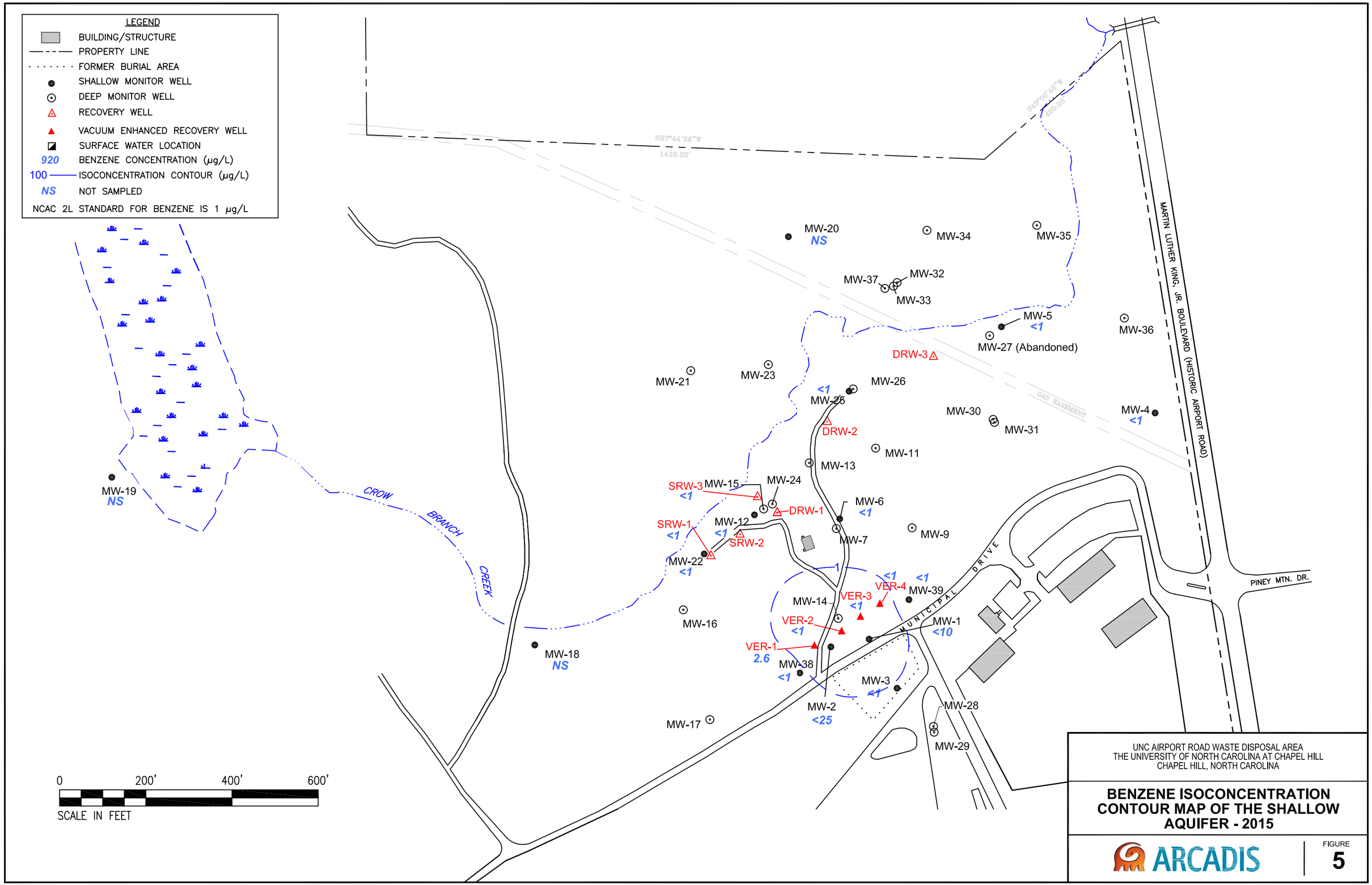


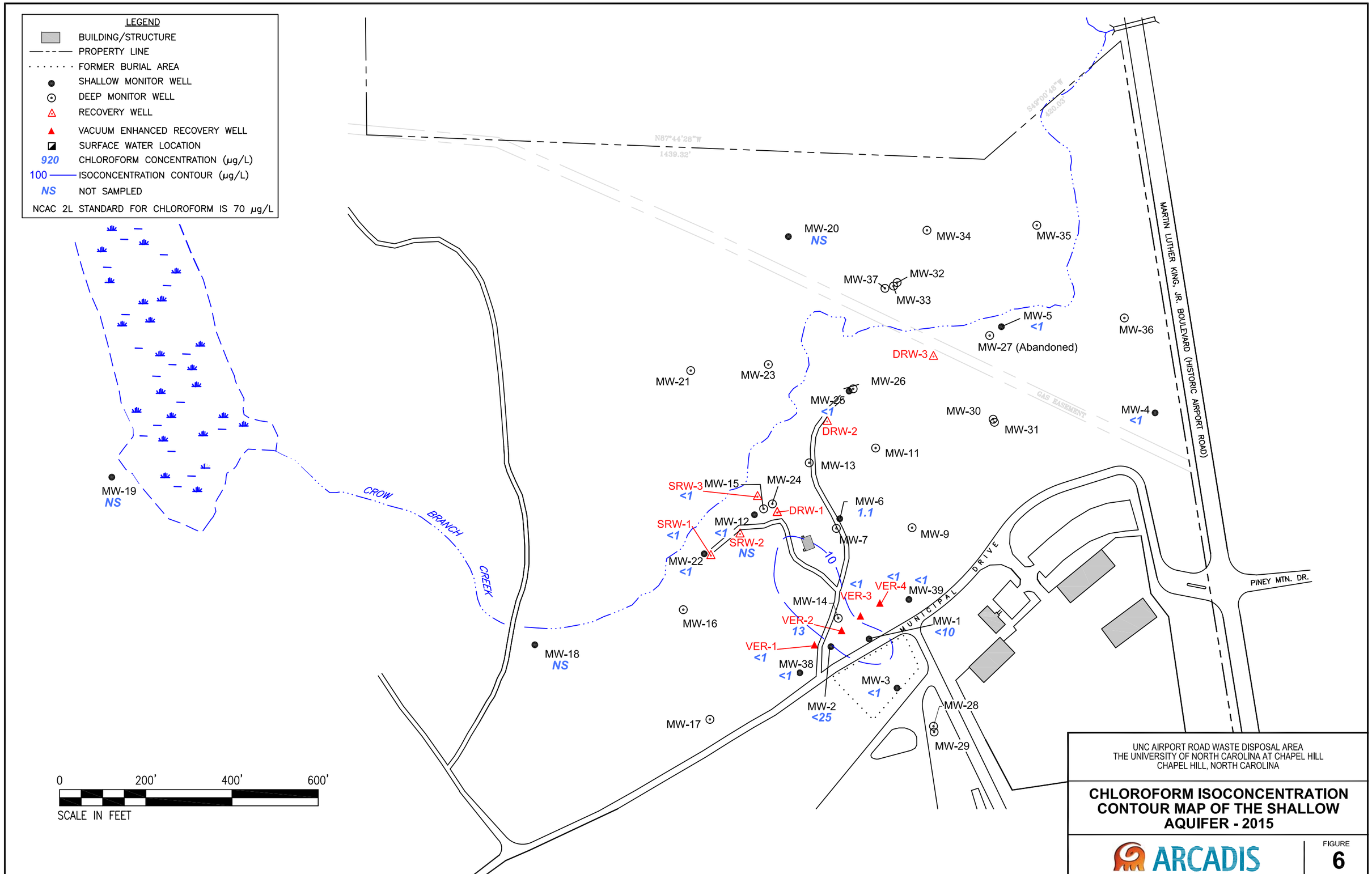
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

GROUNDWATER POTENTIOMETRIC SURFACE OF THE BEDROCK AQUIFER DECEMBER 2015

ARCADIS

FIGURE
4


LEGEND
BUILDING/STRUCTURE
PROPERTY LINE
FORMER BURIAL AREA
SHALLOW MONITOR WELL
DEEP MONITOR WELL
RECOVERY WELL
VACUUM ENHANCED RECOVERY WELL
SURFACE WATER LOCATION
920 BENZENE CONCENTRATION (µg/L)
100 ISOCONCENTRATION CONTOUR (µg/L)
NS NOT SAMPLED
NCAC 2L STANDARD FOR BENZENE IS 1 µg/L
N87°44'28"W
1439.32'
S49°00'48"W
820.05'
MARTIN LUTHER KING, JR. BOULEVARD (HISTORIC AIRPORT ROAD)
PINEY MTN. DR.
MUNICIPAL DRIVE
GAS EASEMENT
CROW BRANCH CREEK
MW-20 NS
MW-34
MW-35
MW-37
MW-32
MW-33
MW-5 <1
MW-27 (Abandoned)
MW-36
DRW-3
MW-21
MW-23
MW-26
<1 MW-25
DRW-2
MW-30
MW-31
MW-4 <1
MW-11
MW-13
SRW-3 <1
MW-15
MW-24
DRW-1
MW-6 <1
SRW-1 <1
MW-12 <1
SRW-2
MW-7
MW-9
MW-22 <1
<1
<1
VER-4
MW-39
MW-14
VER-3 <1
VER-2 <1
MW-1 <10
MW-16
VER-1 2.6
MW-18 NS
MW-38 <1
MW-3 <1
MW-2 <25
MW-28
MW-17
MW-29
MW-19 NS
0 200' 400' 600'
SCALE IN FEET
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA
BENZENE ISOCONCENTRATION CONTOUR MAP OF THE SHALLOW AQUIFER - 2015
ARCADIS
FIGURE
5

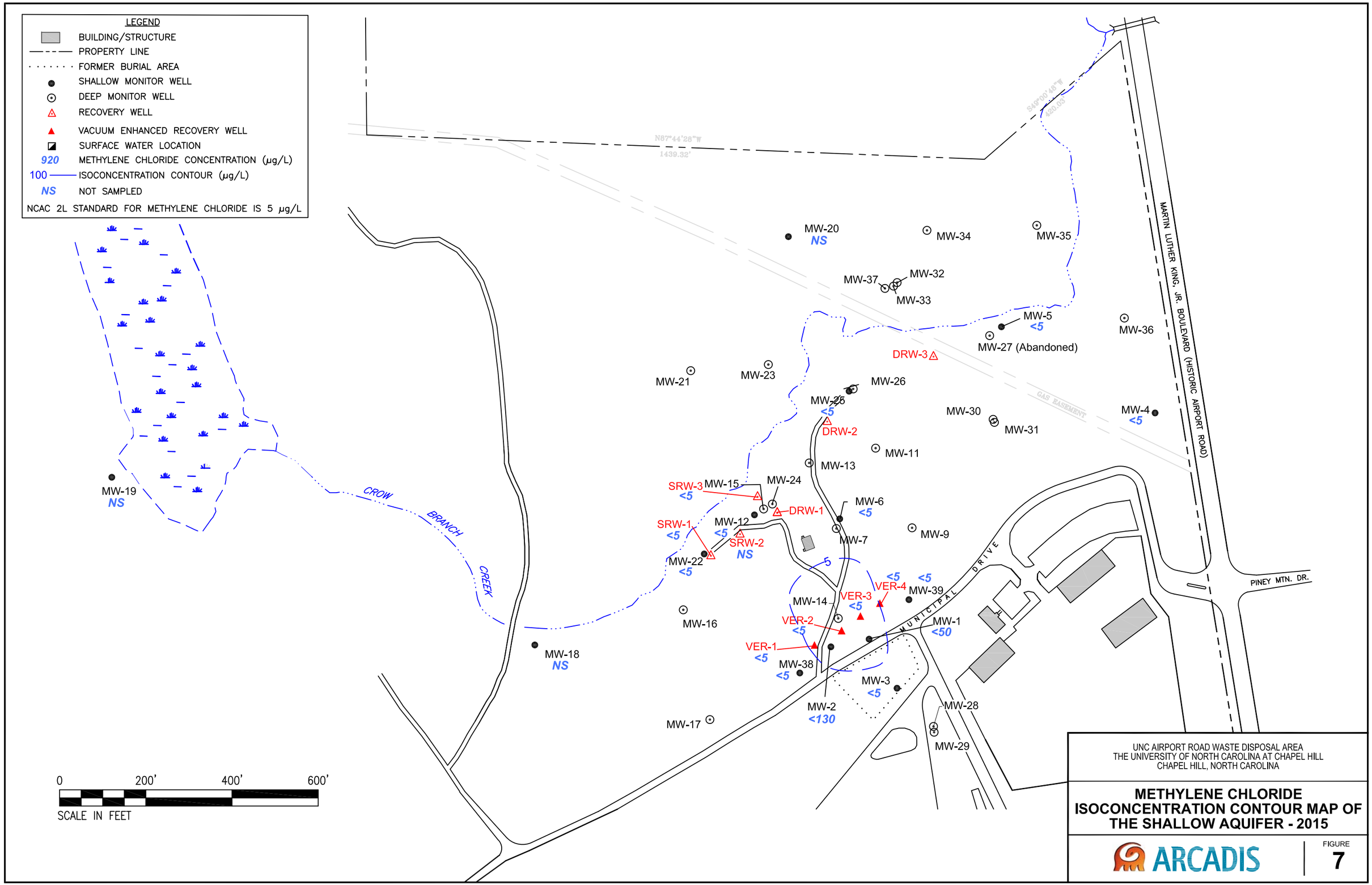


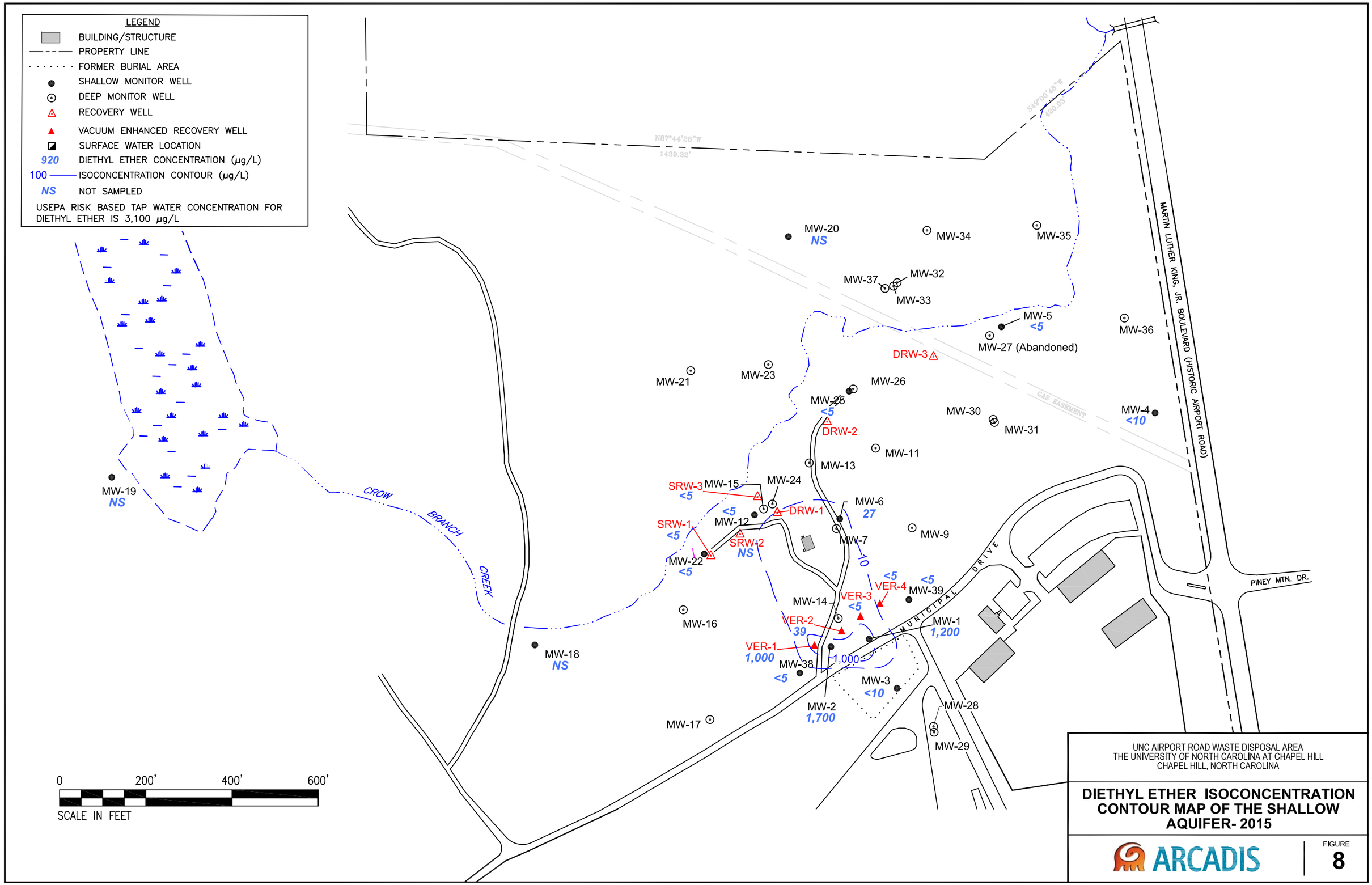
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

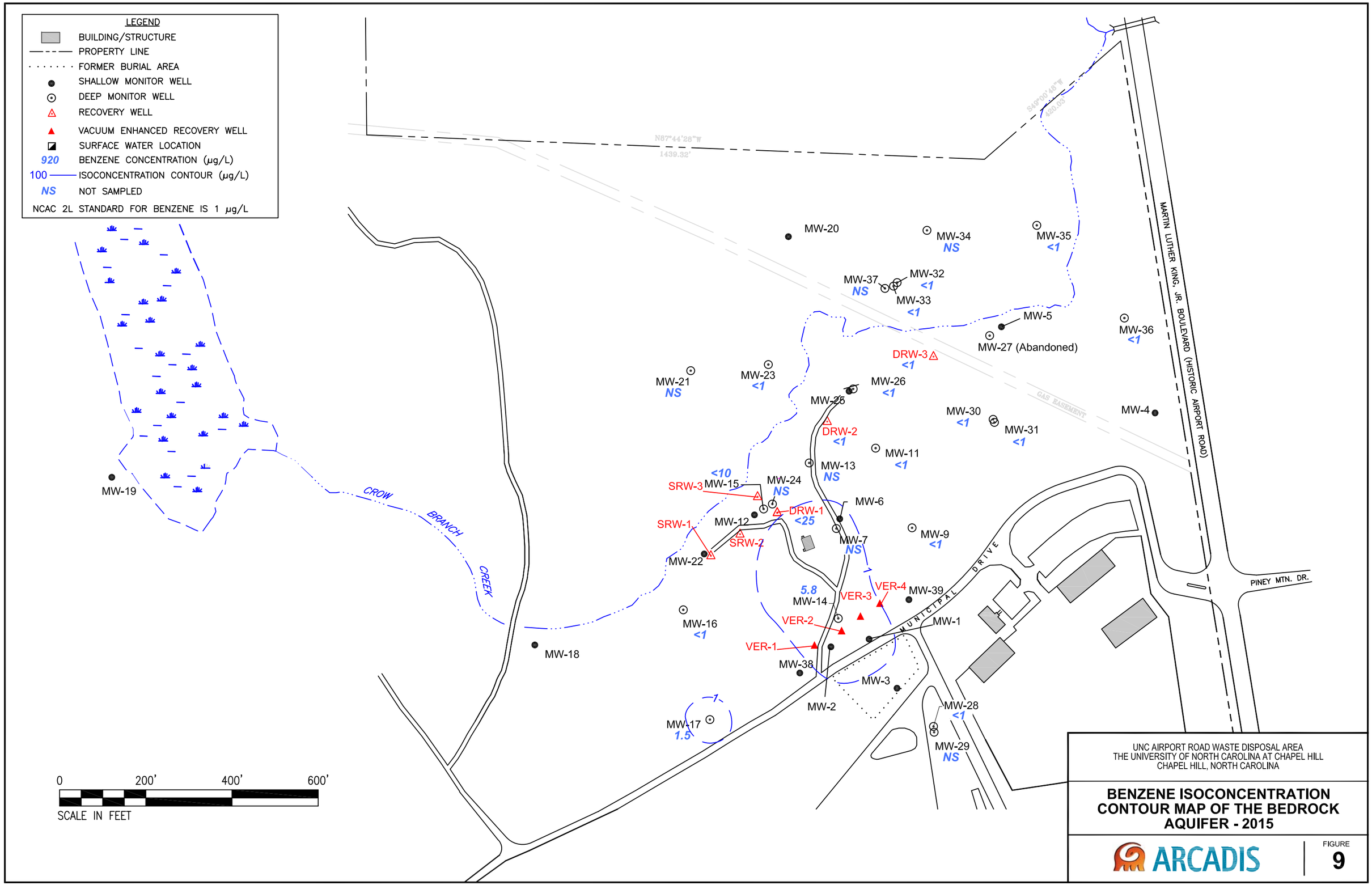
CHLOROFORM ISOCONCENTRATION CONTOUR MAP OF THE SHALLOW AQUIFER - 2015

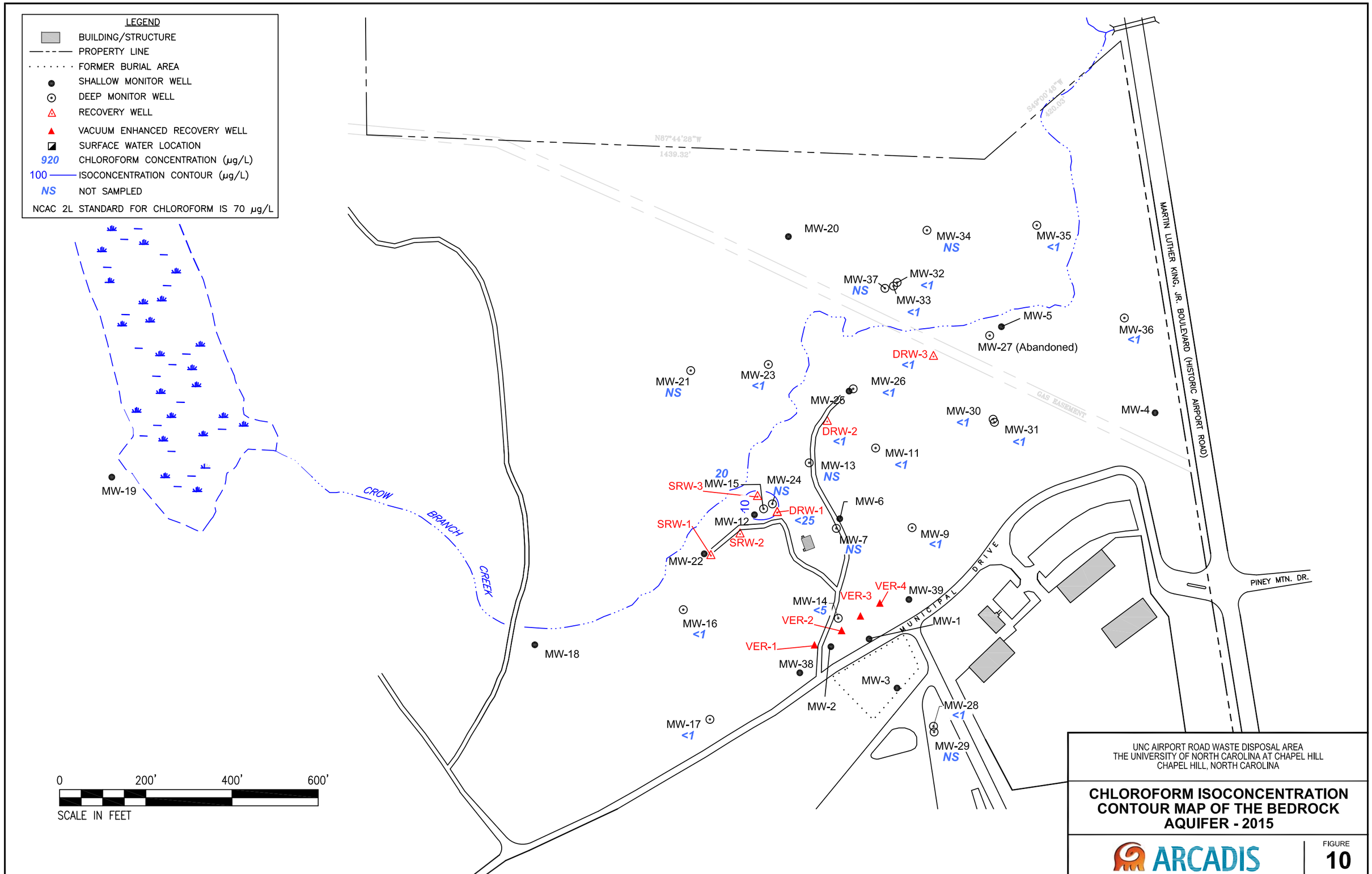
ARCADIS

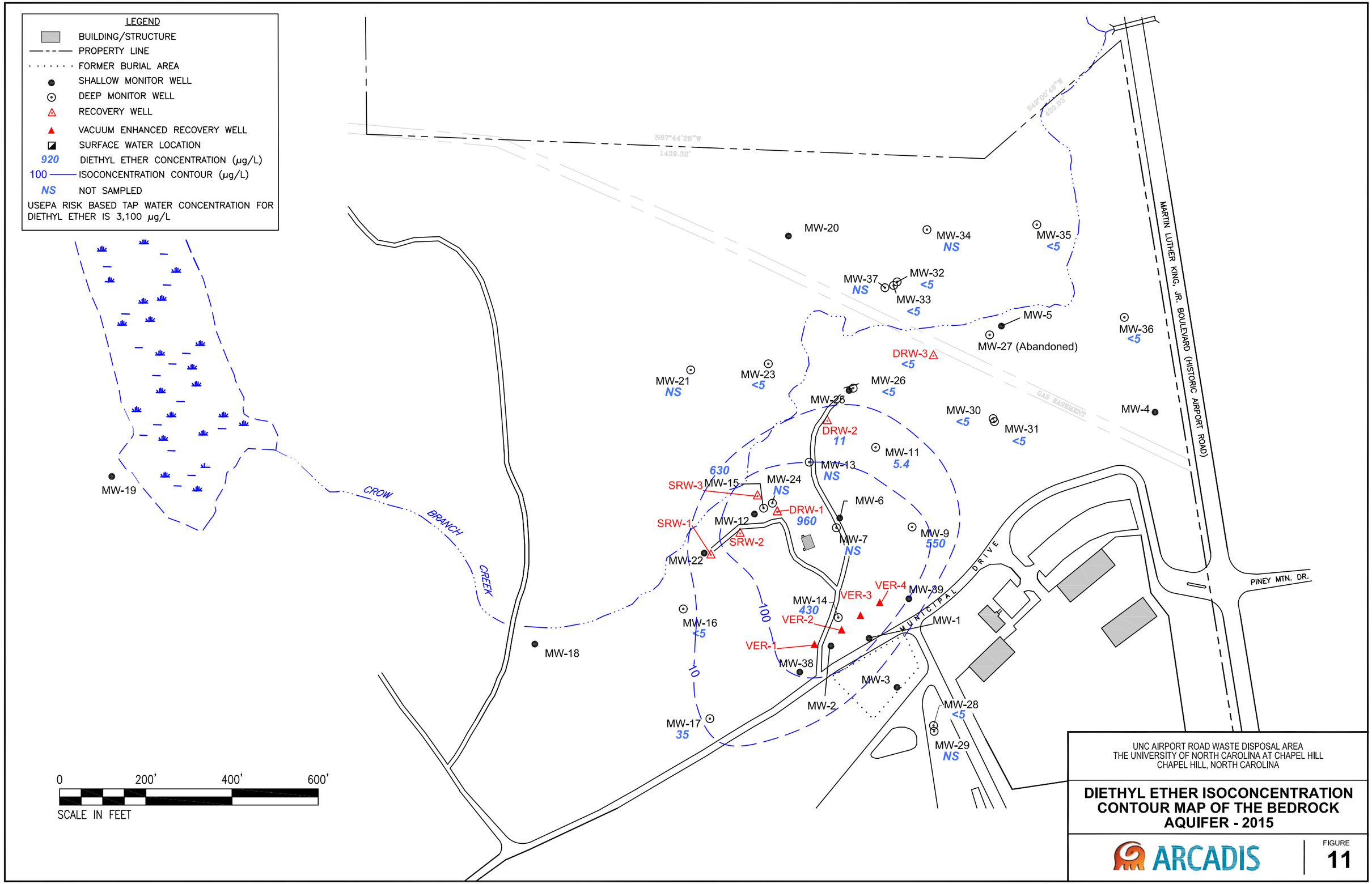
FIGURE 6


LEGEND
BUILDING/STRUCTURE
PROPERTY LINE
FORMER BURIAL AREA
SHALLOW MONITOR WELL
DEEP MONITOR WELL
RECOVERY WELL
VACUUM ENHANCED RECOVERY WELL
SURFACE WATER LOCATION
920 METHYLENE CHLORIDE CONCENTRATION (µg/L)
100 ISOCONCENTRATION CONTOUR (µg/L)
NS NOT SAMPLED
NCAC 2L STANDARD FOR METHYLENE CHLORIDE IS 5 µg/L
N87°44'28"W
1439.32'
S49°00'48"W
820.05'
MARTIN LUTHER KING, JR. BOULEVARD (HISTORIC AIRPORT ROAD)
PINEY MTN. DR.
MUNICIPAL DRIVE
GAS EASEMENT
CROW BRANCH CREEK
MW-20 NS
MW-34
MW-35
MW-37
MW-32
MW-33
MW-5 <5
MW-27 (Abandoned)
MW-36
DRW-3
MW-21
MW-23
MW-26
MW-25 <5
DRW-2
MW-30
MW-31
MW-4 <5
MW-11
MW-13
MW-19 NS
SRW-3 <5
MW-15
MW-24
DRW-1
MW-6 <5
SRW-1 <5
MW-12 <5
SRW-2 NS
MW-7
MW-9
MW-22 <5
5
<5
<5
VER-4
MW-39
MW-14
VER-3 <5
MW-16
VER-2 <5
MW-1 <50
VER-1 <5
MW-18 NS
MW-38 <5
MW-3 <5
MW-2 <130
MW-28
MW-17
MW-29
0
200'
400'
600'
SCALE IN FEET
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA
METHYLENE CHLORIDE
ISOCONCENTRATION CONTOUR MAP OF
THE SHALLOW AQUIFER - 2015
ARCADIS
FIGURE
7


LEGEND
BUILDING/STRUCTURE
PROPERTY LINE
FORMER BURIAL AREA
SHALLOW MONITOR WELL
DEEP MONITOR WELL
RECOVERY WELL
VACUUM ENHANCED RECOVERY WELL
SURFACE WATER LOCATION
920 DIETHYL ETHER CONCENTRATION (µg/L)
100 ISOCONCENTRATION CONTOUR (µg/L)
NS NOT SAMPLED
USEPA RISK BASED TAP WATER CONCENTRATION FOR DIETHYL ETHER IS 3,100 µg/L
N87°44'28"W
1439.32'
S49°00'48"W
320.05'
GAS EASEMENT
MARTIN LUTHER KING, JR. BOULEVARD (HISTORIC AIRPORT ROAD)
PINEY MTN. DR.
MUNICIPAL DRIVE
CROW BRANCH CREEK
MW-20 NS
MW-34
MW-35
MW-37
MW-32
MW-33
MW-5 <5
MW-27 (Abandoned)
MW-36
DRW-3
MW-21
MW-23
MW-26
MW-25 <5
DRW-2
MW-30
MW-31
MW-4 <10
MW-11
MW-13
MW-19 NS
SRW-3 <5
MW-15
MW-24
DRW-1
MW-6 27
SRW-1 <5
MW-12
SRW-2 NS
MW-7
MW-9
MW-22 <5
10
<5
VER-4
<5
MW-39
VER-3 <5
MW-14
MW-16
VER-2 39
MW-1 1,200
VER-1 1,000
MW-38 <5
1,000
MW-3 <10
MW-18 NS
MW-2 1,700
MW-28
MW-17
MW-29
0 200' 400' 600'
SCALE IN FEET
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA
DIETHYL ETHER ISOCONCENTRATION CONTOUR MAP OF THE SHALLOW AQUIFER- 2015
ARCADIS
FIGURE
8


LEGEND
BUILDING/STRUCTURE
PROPERTY LINE
FORMER BURIAL AREA
SHALLOW MONITOR WELL
DEEP MONITOR WELL
RECOVERY WELL
VACUUM ENHANCED RECOVERY WELL
SURFACE WATER LOCATION
920 BENZENE CONCENTRATION (µg/L)
100 ISOCONCENTRATION CONTOUR (µg/L)
NS NOT SAMPLED
NCAC 2L STANDARD FOR BENZENE IS 1 µg/L
N87°44'28"W
1439.32'
S49°00'48"W
320.05'
MARTIN LUTHER KING, JR. BOULEVARD (HISTORIC AIRPORT ROAD)
PINEY MTN. DR.
MUNICIPAL DRIVE
GAS EASEMENT
CROW BRANCH CREEK
MW-20
MW-34 NS
MW-35 <1
MW-37 NS
MW-32 <1
MW-33 <1
MW-5
MW-27 (Abandoned)
MW-36 <1
DRW-3 <1
MW-21 NS
MW-23 <1
MW-26 <1
MW-25
DRW-2 <1
MW-30 <1
MW-31 <1
MW-4
MW-11 <1
MW-13 NS
<10
SRW-3
MW-15
MW-24 NS
MW-6
DRW-1 <25
SRW-1
MW-12
SRW-2
MW-7 NS
MW-9 <1
MW-22
5.8
MW-14
VER-3
VER-4
MW-39
MW-16 <1
VER-2
MW-1
VER-1
MW-18
MW-38
MW-3
MW-2
MW-28 <1
MW-17 1.5
MW-29 NS
MW-19
0 200' 400' 600'
SCALE IN FEET
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA
BENZENE ISOCONCENTRATION CONTOUR MAP OF THE BEDROCK AQUIFER - 2015
ARCADIS
FIGURE
9


LEGEND
BUILDING/STRUCTURE
PROPERTY LINE
FORMER BURIAL AREA
SHALLOW MONITOR WELL
DEEP MONITOR WELL
RECOVERY WELL
VACUUM ENHANCED RECOVERY WELL
SURFACE WATER LOCATION
920 CHLOROFORM CONCENTRATION (µg/L)
100 ISOCONCENTRATION CONTOUR (µg/L)
NS NOT SAMPLED
NCAC 2L STANDARD FOR CHLOROFORM IS 70 µg/L
N87°44'28"W
1439.32'
S49°00'48"W
820.05'
MARTIN LUTHER KING, JR. BOULEVARD (HISTORIC AIRPORT ROAD)
PINEY MTN. DR.
MUNICIPAL DRIVE
GAS EASEMENT
CROW BRANCH CREEK
MW-20
MW-34 NS
MW-35 <1
MW-37 NS
MW-32 <1
MW-33 <1
MW-5
MW-27 (Abandoned)
MW-36 <1
DRW-3 <1
MW-21 NS
MW-23 <1
MW-26 <1
MW-25
DRW-2 <1
MW-30 <1
MW-31 <1
MW-4
MW-11 <1
MW-13 NS
MW-19
20
SRW-3
MW-15
MW-24 NS
10
DRW-1 <25
MW-6
SRW-1
MW-12
SRW-2
MW-7 NS
MW-9 <1
MW-22
VER-4
MW-39
VER-3
MW-14 <5
VER-2
MW-1
MW-16 <1
VER-1
MW-18
MW-38
MW-3
MW-2
MW-28 <1
MW-17 <1
MW-29 NS
0 200' 400' 600'
SCALE IN FEET
UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA
CHLOROFORM ISOCONCENTRATION CONTOUR MAP OF THE BEDROCK AQUIFER - 2015
ARCADIS
FIGURE
10

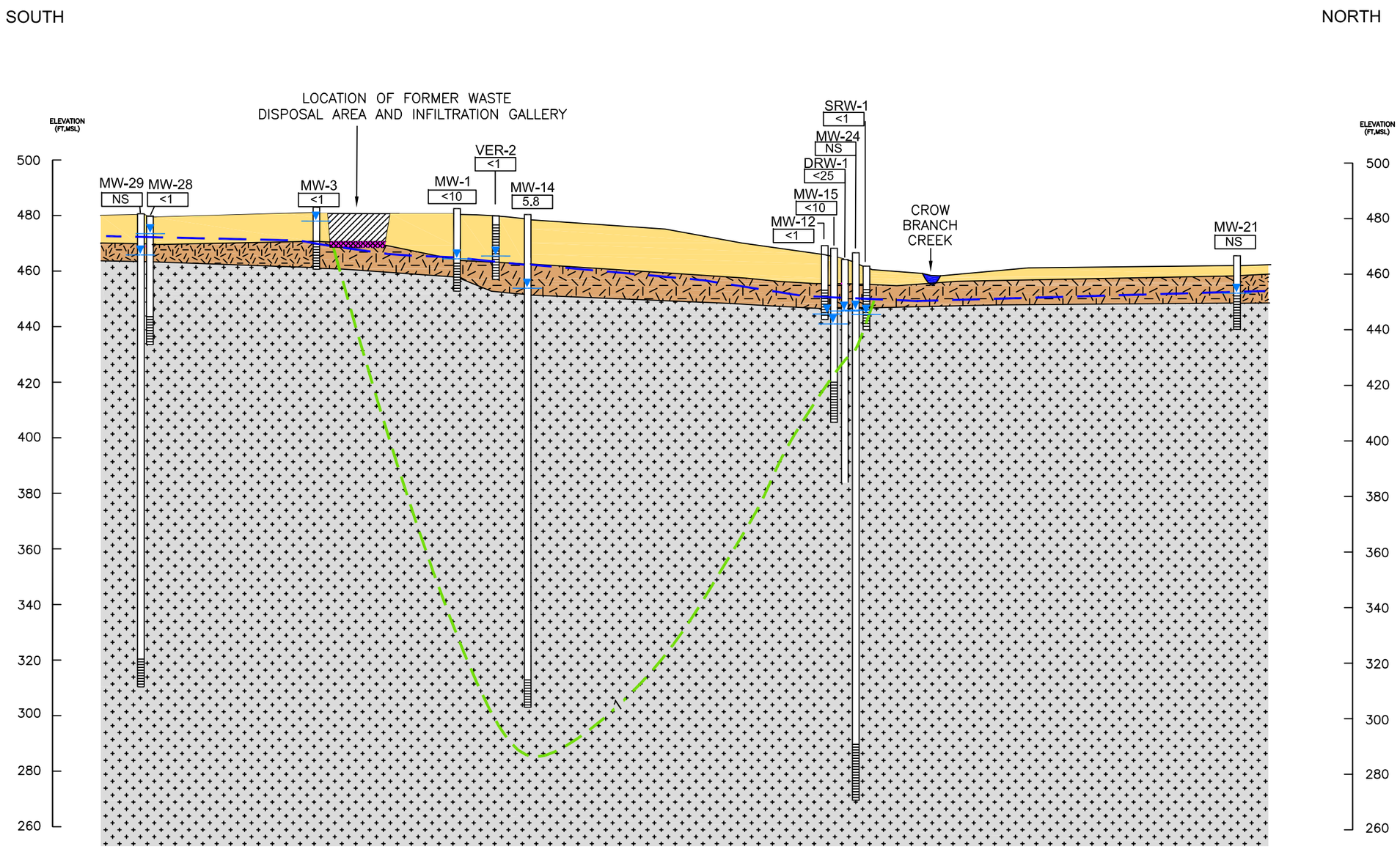


UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

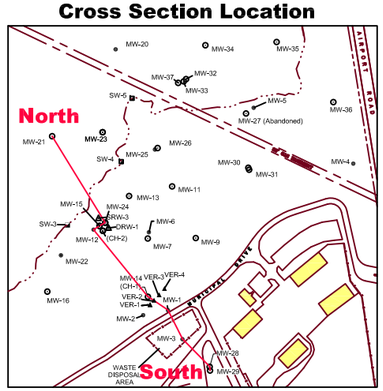
DIETHYL ETHER ISOCONCENTRATION CONTOUR MAP OF THE BEDROCK AQUIFER - 2015

ARCADIS

FIGURE 11



Cross Section Location



Not to Scale

CROSS SECTION HORIZONTAL SCALE IN FEET

0 100 200

VERTICAL SCALE IN FEET

0 40 80

LEGEND

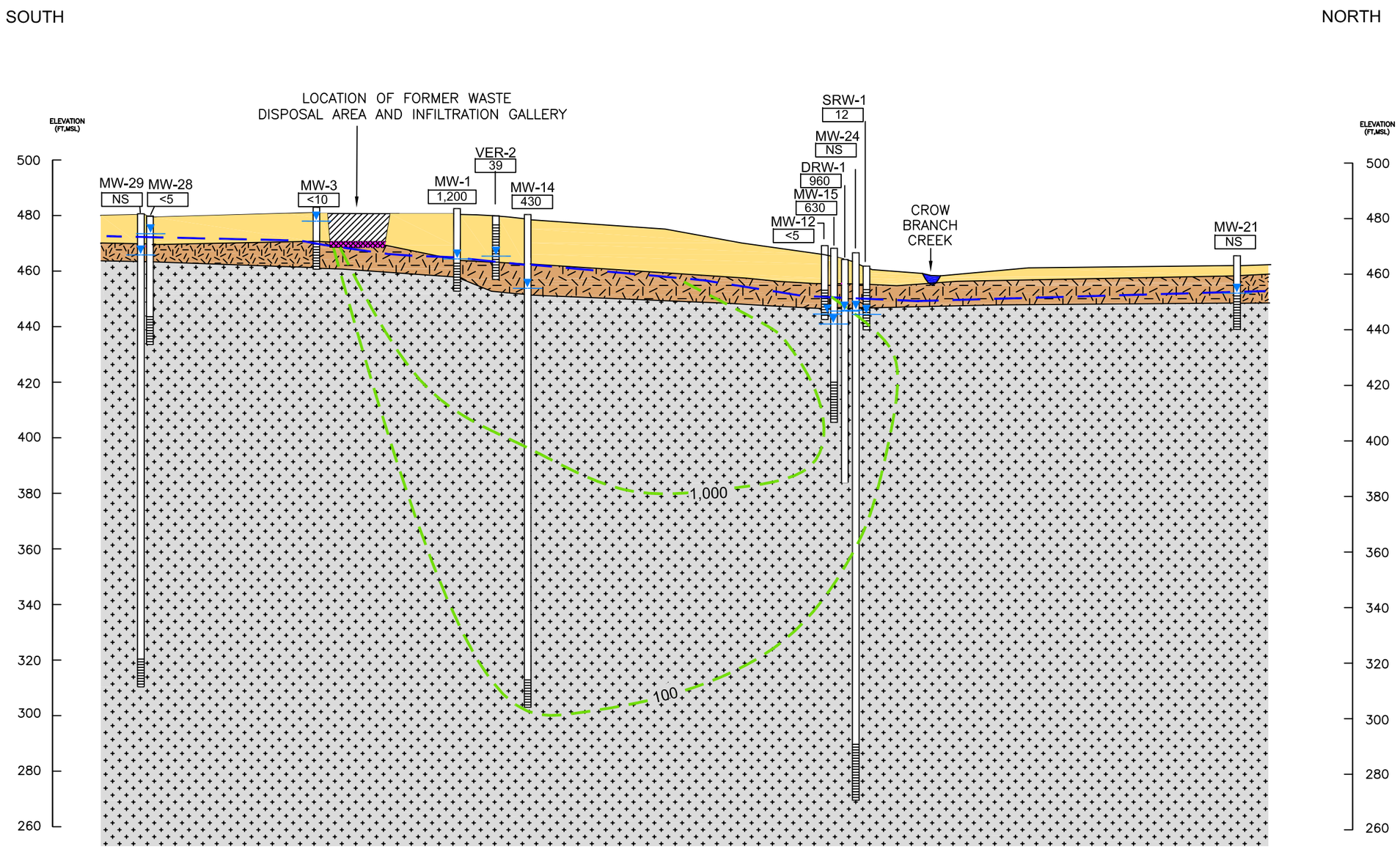
- SOIL: SILTY CLAY AND SANDY CLAY
- WEATHERED ROCK/ SAPROLITE
- COMPETENT ROCK (GRANODIORITE)
- BACKFILL
- INFILTRATION GALLERY
- WATER TABLE (SHALLOW AQUIFER)
- POTENTIOMETRIC SURFACE (BEDROCK AQUIFER)
- 190 BENZENE CONCENTRATION (µg/L)
- 100 BENZENE ISCONCENTRATION (µg/L)
- SCREENED INTERVAL
- OPEN BOREHOLE

UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

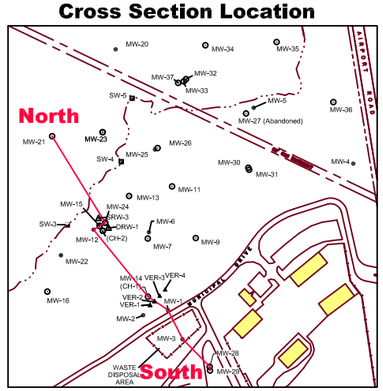
BENZENE ISOCONCENTRATION CROSS SECTION - 2015

ARCADIS

FIGURE 12



Cross Section Location



Not to Scale

CROSS SECTION HORIZONTAL SCALE IN FEET

0 100 200

VERTICAL SCALE IN FEET

0 40 80

LEGEND

- SOIL: SILTY CLAY AND SANDY CLAY
- WEATHERED ROCK/ SAPROLITE
- COMPETENT ROCK (GRANODIORITE)
- BACKFILL
- INFILTRATION GALLERY
- WATER TABLE (SHALLOW AQUIFER)
- POTENTIOMETRIC SURFACE (BEDROCK AQUIFER)
- 190 DIETHYL ETHER CONCENTRATION (µg/L)
- 100 DIETHYL ETHER ISCONCENTRATION (µg/L)
- SCREENED INTERVAL
- OPEN BOREHOLE

UNC AIRPORT ROAD WASTE DISPOSAL AREA
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

DIETHYL ETHER ISOCONCENTRATION CROSS SECTION - 2015

ARCADIS

FIGURE 13

APPENDIX A

Discharge Monitoring Reports

ARCADIS

Infrastructure · Water · Environment · Buildings

ARCADIS G&M of North Carolina, Inc.
801 Corporate Center Drive
Suite 300
Raleigh,
North Carolina 27607-5073
Tel 919 854 1282
Fax 919 854 5448
www.arcadis-us.com

ENVIRONMENTAL

Mr. J. Laurence Daw
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension
Campus Box 1650
Chapel Hill, NC 27599-1650

Subject:
Monthly Monitoring Report (January 2015 to March 2015)
OWASA Permit Number 0010
The University of North Carolina at Chapel Hill, Airport Road Waste Disposal Area, Chapel Hill, North Carolina

Date:
April 7, 2015

Contact:
Alan Pinnix

Phone:
919 415 2300

E-mail:
alan.pinnix@arcadis-us.com

Dear Mr. Daw:

ARCADIS has prepared the January 2015 to March 2015 monitoring report for the Airport Road Waste Disposal Area located in Chapel Hill, North Carolina. This report is prepared in accordance with permit requirements for the discharge of treated groundwater at the above referenced site. As shown on the attached report (Table 1), the discharge did not exceed any maximum daily concentrations for the samples collected on January 7, 2015, February 25, 2015 or March 24, 2015.

The average daily flow rate was below the permitted average daily maximum during the period. Please feel free to contact me at (919) 854-1282 if you have any questions regarding this work.

Sincerely,

ARCADIS G&M of North Carolina, Inc.

Daniel Rhodes, L.G.
Geologist

J. Alan Pinnix, L.G.
Principal Scientist

Table 1. Groundwater Discharge Monitoring Report for January-March 2015

The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension, CB #1650
Chapel Hill, North Carolina 27599-1650

OWASA Permit Number 0010

UNC Airport Road Waste Disposal Area
Chapel Hill, North Carolina

Discharge to Manhole # 47C4001

Parameter	Maximum Allowable Daily Value			
Date		1/7/2015	2/25/2015	3/24/2015
Average Flow (gallons per day)	43,200	9,837*	8,670**	5,563***
Temperature (degrees Celsius)	NA	NM	NM	NM
pH (Standard Units)	NA	NM	NM	NM
Benzene (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
Chloroform (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (micrograms per liter)	71	< 1.0	< 1.0	< 1.0
Methylene Chloride (micrograms per liter)	930	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane (micrograms per liter)	30	< 1.0	< 1.0	< 1.0
Arsenic (micrograms per liter)	16	< 20	< 20	< 20
Chromium (micrograms per liter)	50	< 10	< 10	< 10
Copper (micrograms per liter)	60	< 20	< 20	< 20
Lead (micrograms per liter)	49	< 10	< 10	< 10
Zinc (micrograms per liter)	535	< 20	61	< 20
Mercury (nanograms per liter)	50	< 0.50	0.75	1.90

NOTE : Discharge initiated on 10/05/2006
< 1.0 Not detected above reporting limit.
NA Not applicable to the permit conditions.
NM Not Measured
* Flow reading based upon data collected between 12/12/2014 and 1/7/2015.
** Flow reading based upon data collected between 1/8/2015 and 2/25/2015.
*** Flow reading based upon data collected between 2/26/2015 and 3/24/2015.

I hereby certify that I have examined and am familiar with the information submitted in this document and that the information is true, accurate and complete.
I am aware that there are significant penalties for submitting false information.

4/14/2015
Date

Signature of Official

ARCADIS

Infrastructure · Water · Environment · Buildings

ARCADIS G&M of North Carolina, Inc.
801 Corporate Center Drive
Suite 300
Raleigh,
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Tel 919 854 1282
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www.arcadis-us.com

ENVIRONMENTAL

Mr. J. Laurence Daw
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension
Campus Box 1650
Chapel Hill, NC 27599-1650

Subject:
Monthly Monitoring Report (April 2015 to June 2015)
OWASA Permit Number 0010
The University of North Carolina at Chapel Hill, Airport Road Waste Disposal Area, Chapel Hill, North Carolina

Date:
July 14, 2015

Contact:
Alan Pinnix

Phone:
919 415 2300

E-mail:
alan.pinnix@arcadis-us.com

Dear Mr. Daw:

ARCADIS has prepared the April 2015 to May 2015 monitoring report for the Airport Road Waste Disposal Area located in Chapel Hill, North Carolina. This report is prepared in accordance with permit requirements for the discharge of treated groundwater at the above referenced site. As shown on the attached report (Table 1), the discharge did not exceed any maximum daily concentrations for the samples collected on April 20, 2015, May 19, 2015 or June 28, 2015.

The average daily flow rate was below the permitted average daily maximum during the period. Please feel free to contact me at (919) 854-1282 if you have any questions regarding this work.

Sincerely,

ARCADIS G&M of North Carolina, Inc.

Daniel Rhodes, L.G.
Geologist

J. Alan Pinnix, L.G.
Principal Scientist

Table 1. Groundwater Discharge Monitoring Report for April-June 2015

The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension, CB #1650
Chapel Hill, North Carolina 27599-1650

OWASA Permit Number 0010

UNC Airport Road Waste Disposal Area
Chapel Hill, North Carolina

Discharge to Manhole # 47C4001

Parameter	Maximum Allowable Daily Value			
Date		4/20/2015	5/19/2015	6/28/2015
Average Flow (gallons per day)	43,200	14,695*	13,878**	14,592***
Temperature (degrees Celsius)	NA	NM	NM	NM
pH (Standard Units)	NA	NM	NM	NM
Benzene (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
Chloroform (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (micrograms per liter)	71	< 1.0	< 1.0	< 1.0
Methylene Chloride (micrograms per liter)	930	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane (micrograms per liter)	30	< 1.0	< 1.0	< 1.0
Arsenic (micrograms per liter)	16	< 20	< 20	< 20
Chromium (micrograms per liter)	50	< 10	< 10	< 10
Copper (micrograms per liter)	60	< 20	< 20	< 20
Lead (micrograms per liter)	49	< 10	< 10	< 10
Zinc (micrograms per liter)	535	27	<20	< 20
Mercury (nanograms per liter)	50	2.2	6.8	1.6

NOTE : Discharge initiated on 10/05/2006
< 1.0 Not detected above reporting limit.
NA Not applicable to the permit conditions.
NM Not Measured
* Flow reading based upon data collected between 3/24/2014 and 4/20/2015.
** Flow reading based upon data collected between 4/21/2015 and 5/19/2015.
*** Flow reading based upon data collected between 5/20/2015 and 6/28/2015.

I hereby certify that I have examined and am familiar with the information submitted in this document and that the information is true, accurate and complete.
I am aware that there are significant penalties for submitting false information.

7/14/2015
Date

Signature of Official

ARCADIS
Infrastructure · Water · Environment · Buildings

ARCADIS G&M of North Carolina, Inc.
801 Corporate Center Drive
Suite 300
Raleigh,
North Carolina 27607-5073
Tel 919 854 1282
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www.arcadis-us.com

ENVIRONMENTAL

Mr. J. Laurence Daw
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension
Campus Box 1650
Chapel Hill, NC 27599-1650

Subject:
Monthly Monitoring Report (July 2015 to September 2015)
OWASA Permit Number 0010
The University of North Carolina at Chapel Hill, Airport Road Waste Disposal Area, Chapel Hill, North Carolina

Date:
October 13, 2015

Contact:
Alan Pinnix

Phone:
919 415 2300

E-mail:
alan.pinnix@arcadis-us.com

Dear Mr. Daw:

ARCADIS has prepared the July 2015 to September 2015 monitoring report for the Airport Road Waste Disposal Area located in Chapel Hill, North Carolina. This report is prepared in accordance with permit requirements for the discharge of treated groundwater at the above referenced site. As shown on the attached report (Table 1), the discharge did not exceed any maximum daily concentrations for the samples collected on July 20, 2015, August 28, 2015 or September 30, 2015.

The average daily flow rate was below the permitted average daily maximum during the period. Please feel free to contact me at (919) 854-1282 if you have any questions regarding this work.

Sincerely,

ARCADIS G&M of North Carolina, Inc.

Daniel Rhodes, L.G.
Geologist

J. Alan Pinnix, L.G.
Principal Scientist

Table 1. Groundwater Discharge Monitoring Report for July-September 2015

The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension, CB #1650
Chapel Hill, North Carolina 27599-1650

OWASA Permit Number 0010

UNC Airport Road Waste Disposal Area
Chapel Hill, North Carolina

Discharge to Manhole # 47C4001

Parameter	Maximum Allowable Daily Value			
Date		7/20/2015	8/28/2015	9/30/2015
Average Flow (gallons per day)	43,200	12,940*	14,541**	11,134***
Temperature (degrees Celsius)	NA	NM	NM	NM
pH (Standard Units)	NA	NM	NM	NM
Benzene (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
Chloroform (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (micrograms per liter)	71	< 1.0	< 1.0	< 1.0
Methylene Chloride (micrograms per liter)	930	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane (micrograms per liter)	30	< 1.0	< 1.0	< 1.0
Arsenic (micrograms per liter)	16	< 20	< 20	< 20
Chromium (micrograms per liter)	50	< 10	< 10	< 10
Copper (micrograms per liter)	60	< 20	< 20	< 20
Lead (micrograms per liter)	49	< 10	< 10	< 10
Zinc (micrograms per liter)	535	< 20	<20	62
Mercury (nanograms per liter)	50	8.2	1.9	0.8

NOTE : Discharge initiated on 10/05/2006
< 1.0 Not detected above reporting limit.
NA Not applicable to the permit conditions.
NM Not Measured
* Flow reading based upon data collected between 6/28/2015 and 7/20/2015.
** Flow reading based upon data collected between 7/20/2015 and 8/28/2015.
*** Flow reading based upon data collected between 8/28/2015 and 9/30/2015.

I hereby certify that I have examined and am familiar with the information submitted in this document and that the information is true, accurate and complete.
I am aware that there are significant penalties for submitting false information.

10/13/2015
Date

Signature of Official

ARCADIS Design & Consultancy for natural and built assets

Mr. J. Laurence Daw
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension
Campus Box 1650
Chapel Hill, NC 27599-1650

Arcadis G&M of North Carolina, Inc.
801 Corporate Center Drive
Suite 300
Raleigh
North Carolina 27607
Tel 919 854 1282
Fax 919 854 5448
www.arcadis.com

ENVIRONMENTAL

Subject:
Monthly Monitoring Report (October 2015 to December 2015)
OWASA Permit Number 0010
The University of North Carolina at Chapel Hill, Airport Road Waste Disposal Area, Chapel Hill, North Carolina

Date:
January 11, 2016

Contact:
Alan Pinnix

Phone:
919 415 2300

Email:
alan.pinnix@arcadis.com

Our ref:
NC000239.0020

ARCADIS G&M of North Carolina, Inc.

NC Engineering License # C-1869
NC Surveying License # C-1869

Dear Mr. Daw:
ARCADIS has prepared the October 2015 to December 2015 monitoring report for the Airport Road Waste Disposal Area located in Chapel Hill, North Carolina. This report is prepared in accordance with permit requirements for the discharge of treated groundwater at the above referenced site. As shown on the attached report (Table 1), the discharge did not exceed any maximum daily concentrations for the samples collected on October 26, 2015, November 23, 2015 or December 7, 2015.

The average daily flow rate was below the permitted average daily maximum during the period. Please feel free to contact me at (919) 854-1282 if you have any questions regarding this work.

Sincerely,

Arcadis G&M of North Carolina, Inc.

Daniel Rhodes, L.G.
Geologist

J. Alan Pinnix, L.G.
Principal Scientist

Table 1. Groundwater Discharge Monitoring Report for October-December 2015

The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Extension, CB #1650
Chapel Hill, North Carolina 27599-1650

OWASA Permit Number 0010

UNC Airport Road Waste Disposal Area
Chapel Hill, North Carolina

Discharge to Manhole # 47C4001

Parameter	Maximum Allowable Daily Value			
Date		10/26/2015	11/23/2015	12/7/2015
Average Flow (gallons per day)	43,200	10,447*	10,042**	10,798***
Temperature (degrees Celsius)	NA	NM	NM	NM
pH (Standard Units)	NA	NM	NM	NM
Benzene (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
Chloroform (micrograms per liter)	100	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (micrograms per liter)	71	< 1.0	< 1.0	< 1.0
Methylene Chloride (micrograms per liter)	930	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane (micrograms per liter)	30	< 1.0	< 1.0	< 1.0
Arsenic (micrograms per liter)	16	< 20	< 20	< 20
Chromium (micrograms per liter)	50	< 10	< 10	< 10
Copper (micrograms per liter)	60	< 20	< 20	< 20
Lead (micrograms per liter)	49	< 10	< 10	< 10
Zinc (micrograms per liter)	535	< 20	<20	<20
Mercury (nanograms per liter)	50	<0.50	1.2	1.8

NOTE : Discharge initiated on 10/05/2006
< 1.0 Not detected above reporting limit.
NA Not applicable to the permit conditions.
NM Not Measured
* Flow reading based upon data collected between 9/28/2015 and 10/26/2015.
** Flow reading based upon data collected between 10/26/2015 and 11/23/2015.
*** Flow reading based upon data collected between 11/23/2015 and 12/07/2015.

I hereby certify that I have examined and am familiar with the information submitted in this document and that the information is true, accurate and complete.
I am aware that there are significant penalties for submitting false information.

1/12/2016
Date

Signature of Official

APPENDIX B

Laboratory Analytical Data Reports for Groundwater Samples

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-108903-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
1/19/2015 4:52:34 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-108903-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-108903-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 01/09/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.3 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample Effluent (680-108903-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/15/2015.

Bromoform exceeded the RPD limit for LCSD 680-367027/5. Refer to the QC report for details.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 367027.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)

Sample Effluent (680-108903-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 01/12/2015 and analyzed on 01/15/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-108903-1	Effluent	Water	01/07/15 18:00	01/09/15 09:42

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Client Sample ID: Effluent

Lab Sample ID: 680-108903-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	21		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Client Sample ID: Effluent

Lab Sample ID: 680-108903-1

Date Collected: 01/07/15 18:00

Matrix: Water

Date Received: 01/09/15 09:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			01/15/15 13:32	1
Benzene	1.0	U	1.0		ug/L			01/15/15 13:32	1
Bromoform	1.0	U *	1.0		ug/L			01/15/15 13:32	1
Bromomethane	5.0	U	5.0		ug/L			01/15/15 13:32	1
2-Butanone (MEK)	10	U	10		ug/L			01/15/15 13:32	1
Carbon disulfide	2.0	U	2.0		ug/L			01/15/15 13:32	1
Carbon tetrachloride	1.0	U	1.0		ug/L			01/15/15 13:32	1
Chlorobenzene	1.0	U	1.0		ug/L			01/15/15 13:32	1
Chlorodibromomethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
Chloroethane	5.0	U	5.0		ug/L			01/15/15 13:32	1
Chloroform	1.0	U	1.0		ug/L			01/15/15 13:32	1
Chloromethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			01/15/15 13:32	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			01/15/15 13:32	1
Dichlorobromomethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			01/15/15 13:32	1
Diethyl ether	**21**		5.0		ug/L			01/15/15 13:32	1
Ethylbenzene	1.0	U	1.0		ug/L			01/15/15 13:32	1
2-Hexanone	10	U	10		ug/L			01/15/15 13:32	1
Methylene Chloride	5.0	U	5.0		ug/L			01/15/15 13:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			01/15/15 13:32	1
Methyl tert-butyl ether	10	U	10		ug/L			01/15/15 13:32	1
Styrene	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
Tetrachloroethene	1.0	U	1.0		ug/L			01/15/15 13:32	1
Toluene	1.0	U	1.0		ug/L			01/15/15 13:32	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			01/15/15 13:32	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			01/15/15 13:32	1
Trichloroethene	1.0	U	1.0		ug/L			01/15/15 13:32	1
Vinyl chloride	1.0	U	1.0		ug/L			01/15/15 13:32	1
Xylenes, Total	1.0	U	1.0		ug/L			01/15/15 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*01/15/15 13:32*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*01/15/15 13:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*01/15/15 13:32*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*01/15/15 13:32*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		01/12/15 13:48	01/15/15 16:35	1
Chromium	10	U	10		ug/L		01/12/15 13:48	01/15/15 16:35	1
Copper	20	U	20		ug/L		01/12/15 13:48	01/15/15 16:35	1
Lead	10	U	10		ug/L		01/12/15 13:48	01/15/15 16:35	1
Zinc	20	U	20		ug/L		01/12/15 13:48	01/15/15 16:35	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
680-108903-1	Effluent	100	98	93	101
LCS 680-367027/4	Lab Control Sample	99	104	99	99
LCSD 680-367027/5	Lab Control Sample Dup	100	104	98	98
MB 680-367027/10	Method Blank	98	98	92	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-367027/10
Matrix: Water
Analysis Batch: 367027

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			01/15/15 10:54	1
Benzene	1.0	U	1.0		ug/L			01/15/15 10:54	1
Bromoform	1.0	U	1.0		ug/L			01/15/15 10:54	1
Bromomethane	5.0	U	5.0		ug/L			01/15/15 10:54	1
2-Butanone (MEK)	10	U	10		ug/L			01/15/15 10:54	1
Carbon disulfide	2.0	U	2.0		ug/L			01/15/15 10:54	1
Carbon tetrachloride	1.0	U	1.0		ug/L			01/15/15 10:54	1
Chlorobenzene	1.0	U	1.0		ug/L			01/15/15 10:54	1
Chlorodibromomethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
Chloroethane	5.0	U	5.0		ug/L			01/15/15 10:54	1
Chloroform	1.0	U	1.0		ug/L			01/15/15 10:54	1
Chloromethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			01/15/15 10:54	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			01/15/15 10:54	1
Dichlorobromomethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			01/15/15 10:54	1
Diethyl ether	5.0	U	5.0		ug/L			01/15/15 10:54	1
Ethylbenzene	1.0	U	1.0		ug/L			01/15/15 10:54	1
2-Hexanone	10	U	10		ug/L			01/15/15 10:54	1
Methylene Chloride	5.0	U	5.0		ug/L			01/15/15 10:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			01/15/15 10:54	1
Methyl tert-butyl ether	10	U	10		ug/L			01/15/15 10:54	1
Styrene	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
Tetrachloroethene	1.0	U	1.0		ug/L			01/15/15 10:54	1
Toluene	1.0	U	1.0		ug/L			01/15/15 10:54	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			01/15/15 10:54	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			01/15/15 10:54	1
Trichloroethene	1.0	U	1.0		ug/L			01/15/15 10:54	1
Vinyl chloride	1.0	U	1.0		ug/L			01/15/15 10:54	1
Xylenes, Total	1.0	U	1.0		ug/L			01/15/15 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*01/15/15 10:54*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*01/15/15 10:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*01/15/15 10:54*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*01/15/15 10:54*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-367027/4
Matrix: Water
Analysis Batch: 367027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	245		ug/L		98	60 - 154
Benzene	50.0	51.6		ug/L		103	73 - 131
Bromoform	50.0	56.3		ug/L		113	69 - 135
Bromomethane	50.0	56.7		ug/L		113	20 - 180
2-Butanone (MEK)	250	255		ug/L		102	75 - 133
Carbon disulfide	50.0	47.8		ug/L		96	73 - 127
Carbon tetrachloride	50.0	46.9		ug/L		94	75 - 130
Chlorobenzene	50.0	52.2		ug/L		104	80 - 120
Chlorodibromomethane	50.0	52.3		ug/L		105	71 - 136
Chloroethane	50.0	49.5		ug/L		99	50 - 151
Chloroform	50.0	51.9		ug/L		104	79 - 122
Chloromethane	50.0	48.5		ug/L		97	63 - 126
cis-1,2-Dichloroethene	50.0	52.2		ug/L		104	80 - 122
cis-1,3-Dichloropropene	50.0	53.9		ug/L		108	80 - 133
Dichlorobromomethane	50.0	52.1		ug/L		104	77 - 129
1,1-Dichloroethane	50.0	50.6		ug/L		101	80 - 120
1,2-Dichloroethane	50.0	51.0		ug/L		102	75 - 130
1,1-Dichloroethene	50.0	45.0		ug/L		90	74 - 125
1,2-Dichloropropane	50.0	52.2		ug/L		104	80 - 123
Diethyl ether	50.0	51.2		ug/L		102	74 - 134
Ethylbenzene	50.0	51.5		ug/L		103	80 - 120
2-Hexanone	250	258		ug/L		103	70 - 141
Methylene Chloride	50.0	51.7		ug/L		103	76 - 129
4-Methyl-2-pentanone (MIBK)	250	260		ug/L		104	75 - 135
Methyl tert-butyl ether	50.0	52.3		ug/L		105	74 - 135
Styrene	50.0	52.4		ug/L		105	80 - 122
1,1,2,2-Tetrachloroethane	50.0	52.3		ug/L		105	72 - 128
Tetrachloroethene	50.0	55.7		ug/L		111	77 - 123
Toluene	50.0	53.5		ug/L		107	80 - 122
trans-1,2-Dichloroethene	50.0	49.8		ug/L		100	78 - 123
trans-1,3-Dichloropropene	50.0	55.2		ug/L		110	74 - 140
1,1,1-Trichloroethane	50.0	49.7		ug/L		99	74 - 128
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	79 - 125
Trichloroethene	50.0	53.2		ug/L		106	80 - 123
Vinyl chloride	50.0	48.9		ug/L		98	68 - 132
Xylenes, Total	100	104		ug/L		104	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-367027/5
Matrix: Water
Analysis Batch: 367027

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	248		ug/L		99	60 - 154	1	40
Benzene	50.0	51.1		ug/L		102	73 - 131	1	30
Bromoform	50.0	39.8	*	ug/L		80	69 - 135	34	20
Bromomethane	50.0	60.8		ug/L		122	20 - 180	7	40
2-Butanone (MEK)	250	253		ug/L		101	75 - 133	1	30
Carbon disulfide	50.0	48.1		ug/L		96	73 - 127	1	20
Carbon tetrachloride	50.0	46.7		ug/L		93	75 - 130	1	20
Chlorobenzene	50.0	51.4		ug/L		103	80 - 120	2	20
Chlorodibromomethane	50.0	51.6		ug/L		103	71 - 136	1	20
Chloroethane	50.0	42.3		ug/L		85	50 - 151	16	30
Chloroform	50.0	51.6		ug/L		103	79 - 122	1	20
Chloromethane	50.0	47.2		ug/L		94	63 - 126	3	30
cis-1,2-Dichloroethene	50.0	52.2		ug/L		104	80 - 122	0	20
cis-1,3-Dichloropropene	50.0	54.5		ug/L		109	80 - 133	1	20
Dichlorobromomethane	50.0	52.1		ug/L		104	77 - 129	0	20
1,1-Dichloroethane	50.0	50.4		ug/L		101	80 - 120	0	20
1,2-Dichloroethane	50.0	50.9		ug/L		102	75 - 130	0	20
1,1-Dichloroethene	50.0	48.8		ug/L		98	74 - 125	8	20
1,2-Dichloropropane	50.0	52.3		ug/L		105	80 - 123	0	20
Diethyl ether	50.0	52.4		ug/L		105	74 - 134	2	50
Ethylbenzene	50.0	51.1		ug/L		102	80 - 120	1	20
2-Hexanone	250	260		ug/L		104	70 - 141	1	40
Methylene Chloride	50.0	51.6		ug/L		103	76 - 129	0	20
4-Methyl-2-pentanone (MIBK)	250	261		ug/L		104	75 - 135	0	30
Methyl tert-butyl ether	50.0	53.9		ug/L		108	74 - 135	3	20
Styrene	50.0	52.7		ug/L		105	80 - 122	0	20
1,1,2,2-Tetrachloroethane	50.0	51.8		ug/L		104	72 - 128	1	20
Tetrachloroethene	50.0	55.9		ug/L		112	77 - 123	0	20
Toluene	50.0	52.3		ug/L		105	80 - 122	2	20
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	78 - 123	1	20
trans-1,3-Dichloropropene	50.0	55.0		ug/L		110	74 - 140	0	20
1,1,1-Trichloroethane	50.0	49.8		ug/L		100	74 - 128	0	20
1,1,2-Trichloroethane	50.0	52.2		ug/L		104	79 - 125	1	20
Trichloroethene	50.0	52.4		ug/L		105	80 - 123	1	20
Vinyl chloride	50.0	48.5		ug/L		97	68 - 132	1	30
Xylenes, Total	100	103		ug/L		103	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-366650/1-A
Matrix: Water
Analysis Batch: 367214

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 366650

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		01/12/15 13:48	01/15/15 15:13	1
Chromium	10	U	10		ug/L		01/12/15 13:48	01/15/15 15:13	1
Copper	20	U	20		ug/L		01/12/15 13:48	01/15/15 15:13	1
Lead	10	U	10		ug/L		01/12/15 13:48	01/15/15 15:13	1
Zinc	20	U	20		ug/L		01/12/15 13:48	01/15/15 15:13	1

Lab Sample ID: LCS 680-366650/2-A
Matrix: Water
Analysis Batch: 367214

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 366650

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	109		ug/L		109	80 - 120
Chromium	100	103		ug/L		103	80 - 120
Copper	100	103		ug/L		103	80 - 120
Lead	500	512		ug/L		102	80 - 120
Zinc	100	104		ug/L		104	80 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

GC/MS VOA

Analysis Batch: 367027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-108903-1	Effluent	Total/NA	Water	8260B	
LCS 680-367027/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-367027/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-367027/10	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 366650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-108903-1	Effluent	Total Recoverable	Water	3005A	
LCS 680-366650/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-366650/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 367214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-108903-1	Effluent	Total Recoverable	Water	6010C	366650
LCS 680-366650/2-A	Lab Control Sample	Total Recoverable	Water	6010C	366650
MB 680-366650/1-A	Method Blank	Total Recoverable	Water	6010C	366650

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Client Sample ID: Effluent

Date Collected: 01/07/15 18:00
Date Received: 01/09/15 09:42

Lab Sample ID: 680-108903-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	367027	01/15/15 13:32	MMT	TAL SAV
	Instrument ID:	CMSO2								
Total Recoverable	Prep	3005A			50 mL	50 mL	366650	01/12/15 13:48	CRW	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	367214	01/15/15 16:35	BCB	TAL SAV
	Instrument ID:	ICPE								

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 1/7/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	1/7/2015	1800	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-108903 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dave Twamley	ARCADIS	1-8-15 / 1700	Bauda	TAS	01-09-15 0942
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			680-108903		2.6(CF) 23°

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-108903-1

Login Number: 108903
List Number: 1
Creator: Banda, Christy S

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-108903-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-100629-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
1/20/2015 7:57:17 AM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Detection Summary 4
Sample Summary 5
Client Sample Results 6
QC Association 7
QC Sample Results 8
Chronicle 9
Certification Summary 10
Method Summary 11
Chain of Custody 12
Receipt Checklists 13

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Client Sample ID: EFFLUENT **Lab Sample ID: 400-100629-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-100629-1	EFFLUENT	Water	01/07/15 18:00	01/09/15 09:30

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-100629-1

Date Collected: 01/07/15 18:00

Matrix: Water

Date Received: 01/09/15 09:30

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		01/09/15 10:30	01/19/15 13:17	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Metals

Prep Batch: 243509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-100629-1	EFFLUENT	Total/NA	Water	1631E	
660-64806-C-1-B MS	Matrix Spike	Total/NA	Water	1631E	
660-64806-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
LCS 400-243509/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-243509/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-243509/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 243568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-100629-1	EFFLUENT	Total/NA	Water	1631E	243509
660-64806-C-1-B MS	Matrix Spike	Total/NA	Water	1631E	243509
660-64806-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	243509
LCS 400-243509/2-A	Lab Control Sample	Total/NA	Water	1631E	243509
LCSD 400-243509/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	243509
MB 400-243509/1-A	Method Blank	Total/NA	Water	1631E	243509

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-243509/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 243568 — **Prep Batch: 243509**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		01/16/15 16:00	01/19/15 09:38	1

Lab Sample ID: LCS 400-243509/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 243568 — **Prep Batch: 243509**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.37		ng/L		87	79 - 121		

Lab Sample ID: LCSD 400-243509/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 243568 — **Prep Batch: 243509**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.23		ng/L		85	79 - 121	3	20

Lab Sample ID: 660-64806-C-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 243568 — **Prep Batch: 243509**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.53		2.50	2.89		ng/L		95	71 - 125		

Lab Sample ID: 660-64806-C-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 243568 — **Prep Batch: 243509**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.53		2.50	2.92		ng/L		96	71 - 125	1	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-100629-1

Date Collected: 01/07/15 18:00

Matrix: Water

Date Received: 01/09/15 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			243509	01/09/15 10:30	VLC	TAL PEN
Total/NA	Analysis	1631E		1	243568	01/19/15 13:17	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Laboratory: TestAmerica Pensacola

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-15
Arizona	State Program	9	AZ0710	01-11-16
Arkansas DEQ	State Program	6	88-0689	09-01-15
Florida	NELAP	4	E81010	06-30-15
Georgia	State Program	4	N/A	06-30-15
Illinois	NELAP	5	200041	10-09-15
Iowa	State Program	7	367	07-31-16
Kansas	NELAP	7	E-10253	03-31-15
Kentucky (UST)	State Program	4	53	06-30-15
Kentucky (WW)	State Program	4	98030	12-31-15
Louisiana	NELAP	6	30976	06-30-15
Maryland	State Program	3	233	09-30-15
Massachusetts	State Program	1	M-FL094	06-30-15
Michigan	State Program	5	9912	06-30-15
New Jersey	NELAP	2	FL006	06-30-15
North Carolina (WW/SW)	State Program	4	314	12-31-15
Oklahoma	State Program	6	9810	08-31-15
Pennsylvania	NELAP	3	68-00467	01-31-15
South Carolina	State Program	4	96026	06-30-15
Tennessee	State Program	4	TN02907	06-30-15
Texas	NELAP	6	T104704286-12-5	09-30-15
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-15
West Virginia DEP	State Program	3	136	06-30-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-100629-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 1/7/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

400-100629 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	1/7/2015	1800	Grab	W	3	N	3	
							1	

Page 12 of 13

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dwight Twamley	ARCADIS	1-8-15/1700	[signature]	TA-Ken	1-9-15 930
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

0.2°C

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-100629-1

Login Number: 100629
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Vials received labeled and unbagged. Did not follow clean hands/dirty hands.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-110190-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
3/6/2015 9:15:31 AM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-110190-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-110190-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 02/26/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.5 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-110190-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/05/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-110190-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 03/02/2015 and analyzed on 03/03/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-110190-1	Effluent	Water	02/25/15 15:30	02/26/15 09:23

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Client Sample ID: Effluent — Lab Sample ID: 680-110190-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	24		5.0		ug/L	1		8260B	Total/NA
Zinc	61		20		ug/L	1		6010C	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Client Sample ID: Effluent

Lab Sample ID: 680-110190-1

Date Collected: 02/25/15 15:30

Matrix: Water

Date Received: 02/26/15 09:23

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			03/05/15 17:15	1
Benzene	1.0	U	1.0		ug/L			03/05/15 17:15	1
Bromoform	1.0	U	1.0		ug/L			03/05/15 17:15	1
Bromomethane	5.0	U	5.0		ug/L			03/05/15 17:15	1
2-Butanone (MEK)	10	U	10		ug/L			03/05/15 17:15	1
Carbon disulfide	2.0	U	2.0		ug/L			03/05/15 17:15	1
Carbon tetrachloride	1.0	U	1.0		ug/L			03/05/15 17:15	1
Chlorobenzene	1.0	U	1.0		ug/L			03/05/15 17:15	1
Chlorodibromomethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
Chloroethane	5.0	U	5.0		ug/L			03/05/15 17:15	1
Chloroform	1.0	U	1.0		ug/L			03/05/15 17:15	1
Chloromethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/05/15 17:15	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/05/15 17:15	1
Dichlorobromomethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			03/05/15 17:15	1
Diethyl ether	**24**		5.0		ug/L			03/05/15 17:15	1
Ethylbenzene	1.0	U	1.0		ug/L			03/05/15 17:15	1
2-Hexanone	10	U	10		ug/L			03/05/15 17:15	1
Methylene Chloride	5.0	U	5.0		ug/L			03/05/15 17:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			03/05/15 17:15	1
Methyl tert-butyl ether	10	U	10		ug/L			03/05/15 17:15	1
Styrene	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
Tetrachloroethene	1.0	U	1.0		ug/L			03/05/15 17:15	1
Toluene	1.0	U	1.0		ug/L			03/05/15 17:15	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/05/15 17:15	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			03/05/15 17:15	1
Trichloroethene	1.0	U	1.0		ug/L			03/05/15 17:15	1
Vinyl chloride	1.0	U	1.0		ug/L			03/05/15 17:15	1
Xylenes, Total	1.0	U	1.0		ug/L			03/05/15 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*03/05/15 17:15*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*03/05/15 17:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 130*		*03/05/15 17:15*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*03/05/15 17:15*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		03/02/15 11:05	03/03/15 15:52	1
Chromium	10	U	10		ug/L		03/02/15 11:05	03/03/15 15:52	1
Copper	20	U	20		ug/L		03/02/15 11:05	03/03/15 15:52	1
Lead	10	U	10		ug/L		03/02/15 11:05	03/03/15 15:52	1
Zinc	**61**		20		ug/L		03/02/15 11:05	03/03/15 15:52	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
680-110190-1	Effluent	97	103	120	106
LCS 680-373364/4	Lab Control Sample	100	110	121	102
LCSD 680-373364/5	Lab Control Sample Dup	102	110	117	104
MB 680-373364/9	Method Blank	97	100	107	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-373364/9
Matrix: Water
Analysis Batch: 373364

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			03/05/15 11:51	1
Benzene	1.0	U	1.0		ug/L			03/05/15 11:51	1
Bromoform	1.0	U	1.0		ug/L			03/05/15 11:51	1
Bromomethane	5.0	U	5.0		ug/L			03/05/15 11:51	1
2-Butanone (MEK)	10	U	10		ug/L			03/05/15 11:51	1
Carbon disulfide	2.0	U	2.0		ug/L			03/05/15 11:51	1
Carbon tetrachloride	1.0	U	1.0		ug/L			03/05/15 11:51	1
Chlorobenzene	1.0	U	1.0		ug/L			03/05/15 11:51	1
Chlorodibromomethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
Chloroethane	5.0	U	5.0		ug/L			03/05/15 11:51	1
Chloroform	1.0	U	1.0		ug/L			03/05/15 11:51	1
Chloromethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/05/15 11:51	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/05/15 11:51	1
Dichlorobromomethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			03/05/15 11:51	1
Diethyl ether	5.0	U	5.0		ug/L			03/05/15 11:51	1
Ethylbenzene	1.0	U	1.0		ug/L			03/05/15 11:51	1
2-Hexanone	10	U	10		ug/L			03/05/15 11:51	1
Methylene Chloride	5.0	U	5.0		ug/L			03/05/15 11:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			03/05/15 11:51	1
Methyl tert-butyl ether	10	U	10		ug/L			03/05/15 11:51	1
Styrene	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
Tetrachloroethene	1.0	U	1.0		ug/L			03/05/15 11:51	1
Toluene	1.0	U	1.0		ug/L			03/05/15 11:51	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/05/15 11:51	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			03/05/15 11:51	1
Trichloroethene	1.0	U	1.0		ug/L			03/05/15 11:51	1
Vinyl chloride	1.0	U	1.0		ug/L			03/05/15 11:51	1
Xylenes, Total	1.0	U	1.0		ug/L			03/05/15 11:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*03/05/15 11:51*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*03/05/15 11:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*03/05/15 11:51*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*03/05/15 11:51*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-373364/4
Matrix: Water
Analysis Batch: 373364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	275		ug/L		110	60 - 154
Benzene	50.0	52.4		ug/L		105	73 - 131
Bromoform	50.0	50.3		ug/L		101	69 - 135
Bromomethane	50.0	61.8		ug/L		124	20 - 180
2-Butanone (MEK)	250	265		ug/L		106	75 - 133
Carbon disulfide	50.0	50.1		ug/L		100	73 - 127
Carbon tetrachloride	50.0	55.7		ug/L		111	75 - 130
Chlorobenzene	50.0	50.0		ug/L		100	80 - 120
Chlorodibromomethane	50.0	46.7		ug/L		93	71 - 136
Chloroethane	50.0	58.3		ug/L		117	50 - 151
Chloroform	50.0	57.8		ug/L		116	79 - 122
Chloromethane	50.0	51.7		ug/L		103	63 - 126
cis-1,2-Dichloroethene	50.0	55.6		ug/L		111	80 - 122
cis-1,3-Dichloropropene	50.0	52.2		ug/L		104	80 - 133
Dichlorobromomethane	50.0	62.6		ug/L		125	77 - 129
1,1-Dichloroethane	50.0	54.7		ug/L		109	80 - 120
1,2-Dichloroethane	50.0	58.2		ug/L		116	75 - 130
1,1-Dichloroethene	50.0	52.5		ug/L		105	74 - 125
1,2-Dichloropropane	50.0	55.6		ug/L		111	80 - 123
Diethyl ether	50.0	54.1		ug/L		108	74 - 134
Ethylbenzene	50.0	52.4		ug/L		105	80 - 120
2-Hexanone	250	277		ug/L		111	70 - 141
Methylene Chloride	50.0	52.2		ug/L		104	76 - 129
4-Methyl-2-pentanone (MIBK)	250	280		ug/L		112	75 - 135
Methyl tert-butyl ether	50.0	59.0		ug/L		118	74 - 135
Styrene	50.0	53.0		ug/L		106	80 - 122
1,1,2,2-Tetrachloroethane	50.0	55.6		ug/L		111	72 - 128
Tetrachloroethene	50.0	52.6		ug/L		105	77 - 123
Toluene	50.0	52.2		ug/L		104	80 - 122
trans-1,2-Dichloroethene	50.0	53.3		ug/L		107	78 - 123
trans-1,3-Dichloropropene	50.0	54.9		ug/L		110	74 - 140
1,1,1-Trichloroethane	50.0	60.4		ug/L		121	74 - 128
1,1,2-Trichloroethane	50.0	56.6		ug/L		113	79 - 125
Trichloroethene	50.0	54.4		ug/L		109	80 - 123
Vinyl chloride	50.0	51.4		ug/L		103	68 - 132
Xylenes, Total	100	106		ug/L		106	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*110*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*121*		*70 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-373364/5
Matrix: Water
Analysis Batch: 373364

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	285		ug/L		114	60 - 154	4	40
Benzene	50.0	53.7		ug/L		107	73 - 131	2	30
Bromoform	50.0	48.8		ug/L		98	69 - 135	3	20
Bromomethane	50.0	60.5		ug/L		121	20 - 180	2	40
2-Butanone (MEK)	250	260		ug/L		104	75 - 133	2	30
Carbon disulfide	50.0	50.1		ug/L		100	73 - 127	0	20
Carbon tetrachloride	50.0	55.3		ug/L		111	75 - 130	1	20
Chlorobenzene	50.0	49.1		ug/L		98	80 - 120	2	20
Chlorodibromomethane	50.0	46.6		ug/L		93	71 - 136	0	20
Chloroethane	50.0	59.3		ug/L		119	50 - 151	2	30
Chloroform	50.0	57.8		ug/L		116	79 - 122	0	20
Chloromethane	50.0	53.1		ug/L		106	63 - 126	3	30
cis-1,2-Dichloroethene	50.0	55.1		ug/L		110	80 - 122	1	20
cis-1,3-Dichloropropene	50.0	52.0		ug/L		104	80 - 133	0	20
Dichlorobromomethane	50.0	61.7		ug/L		123	77 - 129	2	20
1,1-Dichloroethane	50.0	54.3		ug/L		109	80 - 120	1	20
1,2-Dichloroethane	50.0	62.3		ug/L		125	75 - 130	7	20
1,1-Dichloroethene	50.0	54.2		ug/L		108	74 - 125	3	20
1,2-Dichloropropane	50.0	55.7		ug/L		111	80 - 123	0	20
Diethyl ether	50.0	53.5		ug/L		107	74 - 134	1	50
Ethylbenzene	50.0	51.5		ug/L		103	80 - 120	2	20
2-Hexanone	250	278		ug/L		111	70 - 141	0	40
Methylene Chloride	50.0	51.9		ug/L		104	76 - 129	1	20
4-Methyl-2-pentanone (MIBK)	250	282		ug/L		113	75 - 135	1	30
Methyl tert-butyl ether	50.0	58.1		ug/L		116	74 - 135	2	20
Styrene	50.0	52.5		ug/L		105	80 - 122	1	20
1,1,2,2-Tetrachloroethane	50.0	53.5		ug/L		107	72 - 128	4	20
Tetrachloroethene	50.0	53.4		ug/L		107	77 - 123	1	20
Toluene	50.0	52.4		ug/L		105	80 - 122	0	20
trans-1,2-Dichloroethene	50.0	54.3		ug/L		109	78 - 123	2	20
trans-1,3-Dichloropropene	50.0	54.1		ug/L		108	74 - 140	1	20
1,1,1-Trichloroethane	50.0	60.8		ug/L		122	74 - 128	1	20
1,1,2-Trichloroethane	50.0	55.4		ug/L		111	79 - 125	2	20
Trichloroethene	50.0	53.6		ug/L		107	80 - 123	1	20
Vinyl chloride	50.0	50.0		ug/L		100	68 - 132	3	30
Xylenes, Total	100	105		ug/L		105	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
Dibromofluoromethane (Surr)	*110*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-372890/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 373177 — **Prep Batch: 372890**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		03/02/15 11:05	03/03/15 15:29	1
Chromium	10	U	10		ug/L		03/02/15 11:05	03/03/15 15:29	1
Copper	20	U	20		ug/L		03/02/15 11:05	03/03/15 15:29	1
Lead	10	U	10		ug/L		03/02/15 11:05	03/03/15 15:29	1
Zinc	20	U	20		ug/L		03/02/15 11:05	03/03/15 15:29	1

Lab Sample ID: LCS 680-372890/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 373177 — **Prep Batch: 372890**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	102		ug/L		102	80 - 120
Chromium	100	103		ug/L		103	80 - 120
Copper	100	104		ug/L		104	80 - 120
Lead	500	505		ug/L		101	80 - 120
Zinc	100	102		ug/L		102	80 - 120

Lab Sample ID: 680-110190-1 MS — **Client Sample ID: Effluent**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 373177 — **Prep Batch: 372890**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20	U	100	107		ug/L		107	75 - 125
Chromium	10	U	100	104		ug/L		104	75 - 125
Copper	20	U	100	114		ug/L		107	75 - 125
Lead	10	U	500	513		ug/L		103	75 - 125
Zinc	61		100	166		ug/L		105	75 - 125

Lab Sample ID: 680-110190-1 MSD — **Client Sample ID: Effluent**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 373177 — **Prep Batch: 372890**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	20	U	100	109		ug/L		109	75 - 125	2	20
Chromium	10	U	100	103		ug/L		103	75 - 125	1	20
Copper	20	U	100	112		ug/L		106	75 - 125	1	20
Lead	10	U	500	501		ug/L		100	75 - 125	2	20
Zinc	61		100	162		ug/L		100	75 - 125	3	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

GC/MS VOA

Analysis Batch: 373364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-110190-1	Effluent	Total/NA	Water	8260B	
LCS 680-373364/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-373364/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-373364/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 372890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-110190-1	Effluent	Total Recoverable	Water	3005A	
680-110190-1 MS	Effluent	Total Recoverable	Water	3005A	
680-110190-1 MSD	Effluent	Total Recoverable	Water	3005A	
LCS 680-372890/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-372890/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 373177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-110190-1	Effluent	Total Recoverable	Water	6010C	372890
680-110190-1 MS	Effluent	Total Recoverable	Water	6010C	372890
680-110190-1 MSD	Effluent	Total Recoverable	Water	6010C	372890
LCS 680-372890/2-A	Lab Control Sample	Total Recoverable	Water	6010C	372890
MB 680-372890/1-A	Method Blank	Total Recoverable	Water	6010C	372890

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Client Sample ID: Effluent

Date Collected: 02/25/15 15:30
Date Received: 02/26/15 09:23

Lab Sample ID: 680-110190-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	373364	03/05/15 17:15	RWB	TAL SAV
	Instrument ID:	CMSAC								
Total Recoverable	Prep	3005A			50 mL	50 mL	372890	03/02/15 11:05	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	373177	03/03/15 15:52	BCB	TAL SAV
	Instrument ID:	ICPE								

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Alan Pinnix	Date: 2-25-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: ~~Kathy Smith~~ Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: **UNC - Airport Road**	☐ 1 week			
Site: **Chapel Hill, NC**	☐ 2 days			
P O # **NC000239.[redacted]**	☐ 1 day			

Sample Identification (.0019)	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	2/25/15	1530	Grab	W	4	N	3	1	*Please report: As, Cr, Cu, Pb, and Zn.

680-110190 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

680-110190

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	2-25-15/1700	[signature]	TASAV.	02-26-15 0923
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: 28(CF) 2.5°C	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-110190-1

Login Number: 110190
List Number: 1
Creator: Banda, Christy S

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110190-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-102406-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
3/10/2015 9:57:45 AM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Job ID: 400-102406-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-102406-1

Comments
No additional comments.

Receipt
The sample was received on 2/26/2015 9:14 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 3.1º C.

Metals
Method 1631E: The sample EFFLUENT (400-102406-1) was recieved with labels already on the vials.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-102406-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	0.75		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-102406-1	EFFLUENT	Water	02/25/15 15:30	02/26/15 09:14

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-102406-1

Date Collected: 02/25/15 15:30

Matrix: Water

Date Received: 02/26/15 09:14

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.75		0.50		ng/L		02/26/15 11:30	03/09/15 14:06	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Metals

Prep Batch: 249197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-102406-1	EFFLUENT	Total/NA	Water	1631E	
400-102406-1 MS	EFFLUENT	Total/NA	Water	1631E	
400-102406-1 MSD	EFFLUENT	Total/NA	Water	1631E	
LCS 400-249197/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-249197/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-249197/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 249283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-102406-1	EFFLUENT	Total/NA	Water	1631E	249197
400-102406-1 MS	EFFLUENT	Total/NA	Water	1631E	249197
400-102406-1 MSD	EFFLUENT	Total/NA	Water	1631E	249197
LCS 400-249197/2-A	Lab Control Sample	Total/NA	Water	1631E	249197
LCSD 400-249197/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	249197
MB 400-249197/1-A	Method Blank	Total/NA	Water	1631E	249197

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-249197/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 249283 — **Prep Batch: 249197**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		03/09/15 09:14	03/09/15 11:05	1

Lab Sample ID: LCS 400-249197/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 249283 — **Prep Batch: 249197**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	5.00		ng/L		100	79 - 121		

Lab Sample ID: LCSD 400-249197/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 249283 — **Prep Batch: 249197**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	5.10		ng/L		102	79 - 121	2	20

Lab Sample ID: 400-102406-1 MS — **Client Sample ID: EFFLUENT**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 249283 — **Prep Batch: 249197**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.75		2.50	3.13		ng/L		95	71 - 125		

Lab Sample ID: 400-102406-1 MSD — **Client Sample ID: EFFLUENT**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 249283 — **Prep Batch: 249197**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.75		2.50	3.33		ng/L		103	71 - 125	6	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-102406-1

Date Collected: 02/25/15 15:30

Matrix: Water

Date Received: 02/26/15 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			249197	02/26/15 11:30	VLC	TAL PEN
Total/NA	Analysis	1631E		1	249283	03/09/15 14:06	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Laboratory: TestAmerica Pensacola

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-15
Arizona	State Program	9	AZ0710	01-11-16
Arkansas DEQ	State Program	6	88-0689	09-01-15
Florida	NELAP	4	E81010	06-30-15
Georgia	State Program	4	N/A	06-30-15
Illinois	NELAP	5	200041	10-09-15
Iowa	State Program	7	367	07-31-16
Kansas	NELAP	7	E-10253	03-31-15
Kentucky (UST)	State Program	4	53	06-30-15
Kentucky (WW)	State Program	4	98030	12-31-15
Louisiana	NELAP	6	30976	06-30-15
Maryland	State Program	3	233	09-30-15
Michigan	State Program	5	9912	06-30-15
New Jersey	NELAP	2	FL006	06-30-15
North Carolina (WW/SW)	State Program	4	314	12-31-15
Oklahoma	State Program	6	9810	08-31-15
Pennsylvania	NELAP	3	68-00467	01-31-16
Rhode Island	State Program	1	LAO00307	12-30-15
South Carolina	State Program	4	96026	06-30-15
Tennessee	State Program	4	TN02907	06-30-15
Texas	NELAP	6	T104704286-12-5	09-30-15
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-15
West Virginia DEP	State Program	3	136	06-30-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-102406-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Alan Pinnix	Date: 2-25-14	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: **UNC - Airport Road**	☐ 1 week			
Site: **Chapel Hill, NC**	☐ 2 days			
P O # **NC000239.0019.0001A**	☐ 1 day			

400-102406 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	2/25/15	1530	Grab	W	3	N	3	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	2-25-15/1700	[signature]	TAPen	2-26-15 914
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

3.1°C IR-2

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-102406-1

Login Number: 102406

List Source: TestAmerica Pensacola

List Number: 1

Creator: Crawford, Lauren E

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-110977-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
3/31/2015 2:50:04 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-110977-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-110977-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 03/25/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.0 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-110977-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/31/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-110977-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 03/28/2015 and analyzed on 03/30/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-110977-1	Effluent	Water	03/24/15 10:40	03/25/15 09:31

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Client Sample ID: Effluent

Lab Sample ID: 680-110977-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	9.9		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Client Sample ID: Effluent

Lab Sample ID: 680-110977-1

Date Collected: 03/24/15 10:40

Matrix: Water

Date Received: 03/25/15 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			03/31/15 12:18	1
Benzene	1.0	U	1.0		ug/L			03/31/15 12:18	1
Bromoform	1.0	U	1.0		ug/L			03/31/15 12:18	1
Bromomethane	5.0	U	5.0		ug/L			03/31/15 12:18	1
2-Butanone (MEK)	10	U	10		ug/L			03/31/15 12:18	1
Carbon disulfide	2.0	U	2.0		ug/L			03/31/15 12:18	1
Carbon tetrachloride	1.0	U	1.0		ug/L			03/31/15 12:18	1
Chlorobenzene	1.0	U	1.0		ug/L			03/31/15 12:18	1
Chlorodibromomethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
Chloroethane	5.0	U	5.0		ug/L			03/31/15 12:18	1
Chloroform	1.0	U	1.0		ug/L			03/31/15 12:18	1
Chloromethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/31/15 12:18	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/31/15 12:18	1
Dichlorobromomethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			03/31/15 12:18	1
Diethyl ether	**9.9**		5.0		ug/L			03/31/15 12:18	1
Ethylbenzene	1.0	U	1.0		ug/L			03/31/15 12:18	1
2-Hexanone	10	U	10		ug/L			03/31/15 12:18	1
Methylene Chloride	5.0	U	5.0		ug/L			03/31/15 12:18	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			03/31/15 12:18	1
Methyl tert-butyl ether	10	U	10		ug/L			03/31/15 12:18	1
Styrene	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
Tetrachloroethene	1.0	U	1.0		ug/L			03/31/15 12:18	1
Toluene	1.0	U	1.0		ug/L			03/31/15 12:18	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/31/15 12:18	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			03/31/15 12:18	1
Trichloroethene	1.0	U	1.0		ug/L			03/31/15 12:18	1
Vinyl chloride	1.0	U	1.0		ug/L			03/31/15 12:18	1
Xylenes, Total	1.0	U	1.0		ug/L			03/31/15 12:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*03/31/15 12:18*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*03/31/15 12:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*03/31/15 12:18*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*03/31/15 12:18*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		03/28/15 09:16	03/30/15 17:08	1
Chromium	10	U	10		ug/L		03/28/15 09:16	03/30/15 17:08	1
Copper	20	U	20		ug/L		03/28/15 09:16	03/30/15 17:08	1
Lead	10	U	10		ug/L		03/28/15 09:16	03/30/15 17:08	1
Zinc	20	U	20		ug/L		03/28/15 09:16	03/30/15 17:08	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
680-110977-1	Effluent	95	98	94	100
LCS 680-376789/4	Lab Control Sample	94	102	103	97
LCSD 680-376789/5	Lab Control Sample Dup	91	101	98	97
MB 680-376789/9	Method Blank	93	98	94	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-376789/9
Matrix: Water
Analysis Batch: 376789

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			03/31/15 10:43	1
Benzene	1.0	U	1.0		ug/L			03/31/15 10:43	1
Bromoform	1.0	U	1.0		ug/L			03/31/15 10:43	1
Bromomethane	5.0	U	5.0		ug/L			03/31/15 10:43	1
2-Butanone (MEK)	10	U	10		ug/L			03/31/15 10:43	1
Carbon disulfide	2.0	U	2.0		ug/L			03/31/15 10:43	1
Carbon tetrachloride	1.0	U	1.0		ug/L			03/31/15 10:43	1
Chlorobenzene	1.0	U	1.0		ug/L			03/31/15 10:43	1
Chlorodibromomethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
Chloroethane	5.0	U	5.0		ug/L			03/31/15 10:43	1
Chloroform	1.0	U	1.0		ug/L			03/31/15 10:43	1
Chloromethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/31/15 10:43	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/31/15 10:43	1
Dichlorobromomethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			03/31/15 10:43	1
Diethyl ether	5.0	U	5.0		ug/L			03/31/15 10:43	1
Ethylbenzene	1.0	U	1.0		ug/L			03/31/15 10:43	1
2-Hexanone	10	U	10		ug/L			03/31/15 10:43	1
Methylene Chloride	5.0	U	5.0		ug/L			03/31/15 10:43	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			03/31/15 10:43	1
Methyl tert-butyl ether	10	U	10		ug/L			03/31/15 10:43	1
Styrene	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
Tetrachloroethene	1.0	U	1.0		ug/L			03/31/15 10:43	1
Toluene	1.0	U	1.0		ug/L			03/31/15 10:43	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			03/31/15 10:43	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			03/31/15 10:43	1
Trichloroethene	1.0	U	1.0		ug/L			03/31/15 10:43	1
Vinyl chloride	1.0	U	1.0		ug/L			03/31/15 10:43	1
Xylenes, Total	1.0	U	1.0		ug/L			03/31/15 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*03/31/15 10:43*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*03/31/15 10:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*03/31/15 10:43*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*03/31/15 10:43*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-376789/4
Matrix: Water
Analysis Batch: 376789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	241		ug/L		96	60 - 154
Benzene	50.0	50.4		ug/L		101	73 - 131
Bromoform	50.0	51.6		ug/L		103	69 - 135
Bromomethane	50.0	31.3		ug/L		63	20 - 180
2-Butanone (MEK)	250	259		ug/L		104	75 - 133
Carbon disulfide	50.0	46.4		ug/L		93	73 - 127
Carbon tetrachloride	50.0	46.3		ug/L		93	75 - 130
Chlorobenzene	50.0	48.8		ug/L		98	80 - 120
Chlorodibromomethane	50.0	51.1		ug/L		102	71 - 136
Chloroethane	50.0	46.6		ug/L		93	50 - 151
Chloroform	50.0	50.0		ug/L		100	79 - 122
Chloromethane	50.0	42.8		ug/L		86	63 - 126
cis-1,2-Dichloroethene	50.0	49.1		ug/L		98	80 - 122
cis-1,3-Dichloropropene	50.0	50.2		ug/L		100	80 - 133
Dichlorobromomethane	50.0	50.1		ug/L		100	77 - 129
1,1-Dichloroethane	50.0	49.2		ug/L		98	80 - 120
1,2-Dichloroethane	50.0	50.0		ug/L		100	75 - 130
1,1-Dichloroethene	50.0	42.3		ug/L		85	74 - 125
1,2-Dichloropropane	50.0	51.7		ug/L		103	80 - 123
Diethyl ether	50.0	54.3		ug/L		109	74 - 134
Ethylbenzene	50.0	47.2		ug/L		94	80 - 120
2-Hexanone	250	265		ug/L		106	70 - 141
Methylene Chloride	50.0	49.6		ug/L		99	76 - 129
4-Methyl-2-pentanone (MIBK)	250	276		ug/L		111	75 - 135
Methyl tert-butyl ether	50.0	52.3		ug/L		105	74 - 135
Styrene	50.0	50.9		ug/L		102	80 - 122
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	72 - 128
Tetrachloroethene	50.0	46.7		ug/L		93	77 - 123
Toluene	50.0	49.1		ug/L		98	80 - 122
trans-1,2-Dichloroethene	50.0	45.8		ug/L		92	78 - 123
trans-1,3-Dichloropropene	50.0	49.9		ug/L		100	74 - 140
1,1,1-Trichloroethane	50.0	46.2		ug/L		92	74 - 128
1,1,2-Trichloroethane	50.0	52.1		ug/L		104	79 - 125
Trichloroethene	50.0	46.3		ug/L		93	80 - 123
Vinyl chloride	50.0	50.0		ug/L		100	68 - 132
Xylenes, Total	100	95.3		ug/L		95	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-376789/5
Matrix: Water
Analysis Batch: 376789

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	234		ug/L		94	60 - 154	3	40
Benzene	50.0	50.2		ug/L		100	73 - 131	0	30
Bromoform	50.0	49.9		ug/L		100	69 - 135	3	20
Bromomethane	50.0	31.6		ug/L		63	20 - 180	1	40
2-Butanone (MEK)	250	247		ug/L		99	75 - 133	5	30
Carbon disulfide	50.0	48.5		ug/L		97	73 - 127	4	20
Carbon tetrachloride	50.0	47.2		ug/L		94	75 - 130	2	20
Chlorobenzene	50.0	48.1		ug/L		96	80 - 120	1	20
Chlorodibromomethane	50.0	49.3		ug/L		99	71 - 136	4	20
Chloroethane	50.0	37.7		ug/L		75	50 - 151	21	30
Chloroform	50.0	48.8		ug/L		98	79 - 122	3	20
Chloromethane	50.0	43.8		ug/L		88	63 - 126	2	30
cis-1,2-Dichloroethene	50.0	49.4		ug/L		99	80 - 122	0	20
cis-1,3-Dichloropropene	50.0	48.5		ug/L		97	80 - 133	3	20
Dichlorobromomethane	50.0	49.7		ug/L		99	77 - 129	1	20
1,1-Dichloroethane	50.0	50.0		ug/L		100	80 - 120	2	20
1,2-Dichloroethane	50.0	47.6		ug/L		95	75 - 130	5	20
1,1-Dichloroethene	50.0	46.6		ug/L		93	74 - 125	10	20
1,2-Dichloropropane	50.0	49.9		ug/L		100	80 - 123	4	20
Diethyl ether	50.0	50.0		ug/L		100	74 - 134	8	50
Ethylbenzene	50.0	47.7		ug/L		95	80 - 120	1	20
2-Hexanone	250	259		ug/L		104	70 - 141	2	40
Methylene Chloride	50.0	49.2		ug/L		98	76 - 129	1	20
4-Methyl-2-pentanone (MIBK)	250	266		ug/L		106	75 - 135	4	30
Methyl tert-butyl ether	50.0	51.0		ug/L		102	74 - 135	2	20
Styrene	50.0	49.9		ug/L		100	80 - 122	2	20
1,1,2,2-Tetrachloroethane	50.0	51.8		ug/L		104	72 - 128	4	20
Tetrachloroethene	50.0	48.3		ug/L		97	77 - 123	3	20
Toluene	50.0	48.8		ug/L		98	80 - 122	1	20
trans-1,2-Dichloroethene	50.0	47.6		ug/L		95	78 - 123	4	20
trans-1,3-Dichloropropene	50.0	48.0		ug/L		96	74 - 140	4	20
1,1,1-Trichloroethane	50.0	48.9		ug/L		98	74 - 128	6	20
1,1,2-Trichloroethane	50.0	50.4		ug/L		101	79 - 125	3	20
Trichloroethene	50.0	47.2		ug/L		94	80 - 123	2	20
Vinyl chloride	50.0	37.6		ug/L		75	68 - 132	28	30
Xylenes, Total	100	95.6		ug/L		96	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-376517/1-A
Matrix: Water
Analysis Batch: 376835

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 376517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		03/28/15 09:16	03/30/15 15:32	1
Chromium	10	U	10		ug/L		03/28/15 09:16	03/30/15 15:32	1
Copper	20	U	20		ug/L		03/28/15 09:16	03/30/15 15:32	1
Lead	10	U	10		ug/L		03/28/15 09:16	03/30/15 15:32	1
Zinc	20	U	20		ug/L		03/28/15 09:16	03/30/15 15:32	1

Lab Sample ID: LCS 680-376517/2-A
Matrix: Water
Analysis Batch: 376835

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 376517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	99.4		ug/L		99	80 - 120
Chromium	100	102		ug/L		102	80 - 120
Copper	100	102		ug/L		102	80 - 120
Lead	500	503		ug/L		101	80 - 120
Zinc	100	102		ug/L		102	80 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

GC/MS VOA

Analysis Batch: 376789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-110977-1	Effluent	Total/NA	Water	8260B	
LCS 680-376789/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-376789/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-376789/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 376517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-110977-1	Effluent	Total Recoverable	Water	3005A	
LCS 680-376517/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-376517/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 376835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-110977-1	Effluent	Total Recoverable	Water	6010C	376517
LCS 680-376517/2-A	Lab Control Sample	Total Recoverable	Water	6010C	376517
MB 680-376517/1-A	Method Blank	Total Recoverable	Water	6010C	376517

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Client Sample ID: Effluent

Date Collected: 03/24/15 10:40
Date Received: 03/25/15 09:31

Lab Sample ID: 680-110977-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	376789	03/31/15 12:18	MMT	TAL SAV
	Instrument ID:	CMSO2								
Total Recoverable	Prep	3005A			50 mL	50 mL	376517	03/28/15 09:16	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	376835	03/30/15 17:08	BCB	TAL SAV
	Instrument ID:	ICPE								

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 3-24-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	3/24/15	1040	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-110977 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

680-110977 2.6 (CF) 3.0°C

Relinquished by:	Company: ARCADIS	Date/Time: 3-24-15 1700	Received by:	Company: SAV.	Date/Time: 032515 0931
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-110977-1

Login Number: 110977

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-110977-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-103483-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
4/3/2015 4:49:21 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Job ID: 400-103483-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-103483-1

Comments
No additional comments.

Receipt
The sample was received on 3/25/2015 9:33 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 3.2º C.

Metals
Method 1631E: The sample EFFLUENT (400-103483-1) was received with labels already on the vials.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-103483-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	1.9		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-103483-1	EFFLUENT	Water	03/24/15 10:40	03/25/15 09:33

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-103483-1

Date Collected: 03/24/15 10:40

Matrix: Water

Date Received: 03/25/15 09:33

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.9		0.50		ng/L		03/25/15 11:20	04/03/15 10:15	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Metals

Prep Batch: 252120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-103483-1	EFFLUENT	Total/NA	Water	1631E	
600-108701-T-1-A MS	Matrix Spike	Total/NA	Water	1631E	
600-108701-U-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
LCS 400-252120/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-252120/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-252120/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 252175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-103483-1	EFFLUENT	Total/NA	Water	1631E	252120
600-108701-T-1-A MS	Matrix Spike	Total/NA	Water	1631E	252120
600-108701-U-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	252120
LCS 400-252120/2-A	Lab Control Sample	Total/NA	Water	1631E	252120
LCSD 400-252120/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	252120
MB 400-252120/1-A	Method Blank	Total/NA	Water	1631E	252120

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-252120/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252175 — **Prep Batch: 252120**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		04/02/15 09:02	04/03/15 09:21	1

Lab Sample ID: LCS 400-252120/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252175 — **Prep Batch: 252120**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	5.00		ng/L		100	79 - 121		

Lab Sample ID: LCSD 400-252120/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252175 — **Prep Batch: 252120**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.99		ng/L		100	79 - 121	0	20

Lab Sample ID: 600-108701-T-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252175 — **Prep Batch: 252120**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.87		2.50	3.87		ng/L		120	71 - 125		

Lab Sample ID: 600-108701-U-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252175 — **Prep Batch: 252120**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.87		2.50	3.82		ng/L		118	71 - 125	1	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-103483-1

Date Collected: 03/24/15 10:40

Matrix: Water

Date Received: 03/25/15 09:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			252120	03/25/15 11:20	VLC	TAL PEN
Total/NA	Analysis	1631E		1	252175	04/03/15 10:15	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-103483-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 3-24-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

400-103483 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	3/24/15	1040	Grab	W	3	N	3	
							1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dave Twamley	ARCADIS	3-24-15/1700		TA Pen	3-25-15 933

3.2°C IR-6

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-103483-1

Login Number: 103483

List Source: TestAmerica Pensacola

List Number: 1

Creator: Crawford, Lauren E

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2°C IR-6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-111817-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
4/28/2015 4:10:30 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 10
QC Sample Results 11
QC Association 15
Chronicle 16
Chain of Custody 17
Receipt Checklists 18
Certification Summary 19

Job ID: 680-111817-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-111817-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 04/21/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples Effluent (680-111817-1) and Trip Blank (680-111817-2) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/26/2015.

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch 380293 recovered outside control limits for the following analyte: Bromomethane . This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)

Sample Effluent (680-111817-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/25/2015 and analyzed on 04/27/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-111817-1	Effluent	Water	04/20/15 09:30	04/21/15 09:32
680-111817-2	Trip Blank	Water	04/20/15 00:00	04/21/15 09:32

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Client Sample ID: Effluent — Lab Sample ID: 680-111817-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	27		20		ug/L	1		6010C	Total Recoverable

Client Sample ID: Trip Blank — Lab Sample ID: 680-111817-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Client Sample ID: Effluent

Lab Sample ID: 680-111817-1

Date Collected: 04/20/15 09:30
Date Received: 04/21/15 09:32

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			04/26/15 15:05	1
Benzene	1.0	U	1.0		ug/L			04/26/15 15:05	1
Bromoform	1.0	U	1.0		ug/L			04/26/15 15:05	1
Bromomethane	5.0	U *	5.0		ug/L			04/26/15 15:05	1
2-Butanone (MEK)	10	U	10		ug/L			04/26/15 15:05	1
Carbon disulfide	2.0	U	2.0		ug/L			04/26/15 15:05	1
Carbon tetrachloride	1.0	U	1.0		ug/L			04/26/15 15:05	1
Chlorobenzene	1.0	U	1.0		ug/L			04/26/15 15:05	1
Chlorodibromomethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
Chloroethane	5.0	U	5.0		ug/L			04/26/15 15:05	1
Chloroform	1.0	U	1.0		ug/L			04/26/15 15:05	1
Chloromethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 15:05	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			04/26/15 15:05	1
Dichlorobromomethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			04/26/15 15:05	1
Diethyl ether	5.0	U	5.0		ug/L			04/26/15 15:05	1
Ethylbenzene	1.0	U	1.0		ug/L			04/26/15 15:05	1
2-Hexanone	10	U	10		ug/L			04/26/15 15:05	1
Methylene Chloride	5.0	U	5.0		ug/L			04/26/15 15:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			04/26/15 15:05	1
Methyl tert-butyl ether	10	U	10		ug/L			04/26/15 15:05	1
Styrene	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
Tetrachloroethene	1.0	U	1.0		ug/L			04/26/15 15:05	1
Toluene	1.0	U	1.0		ug/L			04/26/15 15:05	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 15:05	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			04/26/15 15:05	1
Trichloroethene	1.0	U	1.0		ug/L			04/26/15 15:05	1
Vinyl chloride	1.0	U	1.0		ug/L			04/26/15 15:05	1
Xylenes, Total	1.0	U	1.0		ug/L			04/26/15 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*04/26/15 15:05*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*04/26/15 15:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*04/26/15 15:05*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*04/26/15 15:05*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		04/25/15 13:42	04/27/15 17:23	1
Chromium	10	U	10		ug/L		04/25/15 13:42	04/27/15 17:23	1
Copper	20	U	20		ug/L		04/25/15 13:42	04/27/15 17:23	1
Lead	10	U	10		ug/L		04/25/15 13:42	04/27/15 17:23	1
Zinc	**27**		20		ug/L		04/25/15 13:42	04/27/15 17:23	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Client Sample ID: Trip Blank

Lab Sample ID: 680-111817-2

Date Collected: 04/20/15 00:00

Matrix: Water

Date Received: 04/21/15 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			04/26/15 14:20	1
Benzene	1.0	U	1.0		ug/L			04/26/15 14:20	1
Bromoform	1.0	U	1.0		ug/L			04/26/15 14:20	1
Bromomethane	5.0	U *	5.0		ug/L			04/26/15 14:20	1
2-Butanone (MEK)	10	U	10		ug/L			04/26/15 14:20	1
Carbon disulfide	2.0	U	2.0		ug/L			04/26/15 14:20	1
Carbon tetrachloride	1.0	U	1.0		ug/L			04/26/15 14:20	1
Chlorobenzene	1.0	U	1.0		ug/L			04/26/15 14:20	1
Chlorodibromomethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
Chloroethane	5.0	U	5.0		ug/L			04/26/15 14:20	1
Chloroform	1.0	U	1.0		ug/L			04/26/15 14:20	1
Chloromethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 14:20	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			04/26/15 14:20	1
Dichlorobromomethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			04/26/15 14:20	1
Diethyl ether	5.0	U	5.0		ug/L			04/26/15 14:20	1
Ethylbenzene	1.0	U	1.0		ug/L			04/26/15 14:20	1
2-Hexanone	10	U	10		ug/L			04/26/15 14:20	1
Methylene Chloride	5.0	U	5.0		ug/L			04/26/15 14:20	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			04/26/15 14:20	1
Methyl tert-butyl ether	10	U	10		ug/L			04/26/15 14:20	1
Styrene	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
Tetrachloroethene	1.0	U	1.0		ug/L			04/26/15 14:20	1
Toluene	1.0	U	1.0		ug/L			04/26/15 14:20	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 14:20	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			04/26/15 14:20	1
Trichloroethene	1.0	U	1.0		ug/L			04/26/15 14:20	1
Vinyl chloride	1.0	U	1.0		ug/L			04/26/15 14:20	1
Xylenes, Total	1.0	U	1.0		ug/L			04/26/15 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/26/15 14:20*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*04/26/15 14:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*04/26/15 14:20*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/26/15 14:20*	*1*

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
680-111817-1	Effluent	98	100	98	96
680-111817-2	Trip Blank	97	99	99	97
LCS 680-380293/4	Lab Control Sample	102	106	106	100
LCSD 680-380293/5	Lab Control Sample Dup	102	106	108	99
MB 680-380293/9	Method Blank	99	98	96	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-380293/9
Matrix: Water
Analysis Batch: 380293

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			04/26/15 11:18	1
Benzene	1.0	U	1.0		ug/L			04/26/15 11:18	1
Bromoform	1.0	U	1.0		ug/L			04/26/15 11:18	1
Bromomethane	5.0	U	5.0		ug/L			04/26/15 11:18	1
2-Butanone (MEK)	10	U	10		ug/L			04/26/15 11:18	1
Carbon disulfide	2.0	U	2.0		ug/L			04/26/15 11:18	1
Carbon tetrachloride	1.0	U	1.0		ug/L			04/26/15 11:18	1
Chlorobenzene	1.0	U	1.0		ug/L			04/26/15 11:18	1
Chlorodibromomethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
Chloroethane	5.0	U	5.0		ug/L			04/26/15 11:18	1
Chloroform	1.0	U	1.0		ug/L			04/26/15 11:18	1
Chloromethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 11:18	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			04/26/15 11:18	1
Dichlorobromomethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			04/26/15 11:18	1
Diethyl ether	5.0	U	5.0		ug/L			04/26/15 11:18	1
Ethylbenzene	1.0	U	1.0		ug/L			04/26/15 11:18	1
2-Hexanone	10	U	10		ug/L			04/26/15 11:18	1
Methylene Chloride	5.0	U	5.0		ug/L			04/26/15 11:18	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			04/26/15 11:18	1
Methyl tert-butyl ether	10	U	10		ug/L			04/26/15 11:18	1
Styrene	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
Tetrachloroethene	1.0	U	1.0		ug/L			04/26/15 11:18	1
Toluene	1.0	U	1.0		ug/L			04/26/15 11:18	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			04/26/15 11:18	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			04/26/15 11:18	1
Trichloroethene	1.0	U	1.0		ug/L			04/26/15 11:18	1
Vinyl chloride	1.0	U	1.0		ug/L			04/26/15 11:18	1
Xylenes, Total	1.0	U	1.0		ug/L			04/26/15 11:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/26/15 11:18*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*04/26/15 11:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*04/26/15 11:18*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*04/26/15 11:18*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-380293/4
Matrix: Water
Analysis Batch: 380293

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	227		ug/L		91	60 - 154
Benzene	50.0	49.4		ug/L		99	73 - 131
Bromoform	50.0	57.4		ug/L		115	69 - 135
Bromomethane	50.0	96.3	*	ug/L		193	20 - 180
2-Butanone (MEK)	250	254		ug/L		102	75 - 133
Carbon disulfide	50.0	51.4		ug/L		103	73 - 127
Carbon tetrachloride	50.0	50.5		ug/L		101	75 - 130
Chlorobenzene	50.0	51.4		ug/L		103	80 - 120
Chlorodibromomethane	50.0	53.5		ug/L		107	71 - 136
Chloroethane	50.0	54.6		ug/L		109	50 - 151
Chloroform	50.0	52.0		ug/L		104	79 - 122
Chloromethane	50.0	45.2		ug/L		90	63 - 126
cis-1,2-Dichloroethene	50.0	50.8		ug/L		102	80 - 122
cis-1,3-Dichloropropene	50.0	49.7		ug/L		99	80 - 133
Dichlorobromomethane	50.0	57.6		ug/L		115	77 - 129
1,1-Dichloroethane	50.0	49.6		ug/L		99	80 - 120
1,2-Dichloroethane	50.0	55.9		ug/L		112	75 - 130
1,1-Dichloroethene	50.0	51.0		ug/L		102	74 - 125
1,2-Dichloropropane	50.0	51.5		ug/L		103	80 - 123
Diethyl ether	50.0	51.5		ug/L		103	74 - 134
Ethylbenzene	50.0	51.6		ug/L		103	80 - 120
2-Hexanone	250	249		ug/L		100	70 - 141
Methylene Chloride	50.0	52.6		ug/L		105	76 - 129
4-Methyl-2-pentanone (MIBK)	250	239		ug/L		96	75 - 135
Methyl tert-butyl ether	50.0	60.8		ug/L		122	74 - 135
Styrene	50.0	52.4		ug/L		105	80 - 122
1,1,2,2-Tetrachloroethane	50.0	52.8		ug/L		106	72 - 128
Tetrachloroethene	50.0	52.6		ug/L		105	77 - 123
Toluene	50.0	50.5		ug/L		101	80 - 122
trans-1,2-Dichloroethene	50.0	51.9		ug/L		104	78 - 123
trans-1,3-Dichloropropene	50.0	51.2		ug/L		102	74 - 140
1,1,1-Trichloroethane	50.0	57.9		ug/L		116	74 - 128
1,1,2-Trichloroethane	50.0	47.5		ug/L		95	79 - 125
Trichloroethene	50.0	52.9		ug/L		106	80 - 123
Vinyl chloride	50.0	49.7		ug/L		99	68 - 132
Xylenes, Total	100	105		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-380293/5
Matrix: Water
Analysis Batch: 380293

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	230		ug/L		92	60 - 154	1	40
Benzene	50.0	49.3		ug/L		99	73 - 131	0	30
Bromoform	50.0	59.1		ug/L		118	69 - 135	3	20
Bromomethane	50.0	101	*	ug/L		203	20 - 180	5	40
2-Butanone (MEK)	250	271		ug/L		108	75 - 133	6	30
Carbon disulfide	50.0	50.5		ug/L		101	73 - 127	2	20
Carbon tetrachloride	50.0	51.3		ug/L		103	75 - 130	2	20
Chlorobenzene	50.0	52.2		ug/L		104	80 - 120	2	20
Chlorodibromomethane	50.0	53.3		ug/L		107	71 - 136	0	20
Chloroethane	50.0	55.9		ug/L		112	50 - 151	2	30
Chloroform	50.0	51.5		ug/L		103	79 - 122	1	20
Chloromethane	50.0	43.9		ug/L		88	63 - 126	3	30
cis-1,2-Dichloroethene	50.0	50.6		ug/L		101	80 - 122	0	20
cis-1,3-Dichloropropene	50.0	49.6		ug/L		99	80 - 133	0	20
Dichlorobromomethane	50.0	58.4		ug/L		117	77 - 129	1	20
1,1-Dichloroethane	50.0	49.5		ug/L		99	80 - 120	0	20
1,2-Dichloroethane	50.0	54.2		ug/L		108	75 - 130	3	20
1,1-Dichloroethene	50.0	50.0		ug/L		100	74 - 125	2	20
1,2-Dichloropropane	50.0	51.7		ug/L		103	80 - 123	0	20
Diethyl ether	50.0	52.4		ug/L		105	74 - 134	2	50
Ethylbenzene	50.0	52.8		ug/L		106	80 - 120	2	20
2-Hexanone	250	250		ug/L		100	70 - 141	1	40
Methylene Chloride	50.0	51.7		ug/L		103	76 - 129	2	20
4-Methyl-2-pentanone (MIBK)	250	246		ug/L		98	75 - 135	3	30
Methyl tert-butyl ether	50.0	62.4		ug/L		125	74 - 135	3	20
Styrene	50.0	53.4		ug/L		107	80 - 122	2	20
1,1,2,2-Tetrachloroethane	50.0	54.7		ug/L		109	72 - 128	4	20
Tetrachloroethene	50.0	52.3		ug/L		105	77 - 123	1	20
Toluene	50.0	50.0		ug/L		100	80 - 122	1	20
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	78 - 123	1	20
trans-1,3-Dichloropropene	50.0	51.6		ug/L		103	74 - 140	1	20
1,1,1-Trichloroethane	50.0	58.4		ug/L		117	74 - 128	1	20
1,1,2-Trichloroethane	50.0	48.5		ug/L		97	79 - 125	2	20
Trichloroethene	50.0	52.6		ug/L		105	80 - 123	0	20
Vinyl chloride	50.0	50.2		ug/L		100	68 - 132	1	30
Xylenes, Total	100	106		ug/L		106	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-380258/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 380507 — **Prep Batch: 380258**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		04/25/15 13:42	04/27/15 16:57	1
Chromium	10	U	10		ug/L		04/25/15 13:42	04/27/15 16:57	1
Copper	20	U	20		ug/L		04/25/15 13:42	04/27/15 16:57	1
Lead	10	U	10		ug/L		04/25/15 13:42	04/27/15 16:57	1
Zinc	20	U	20		ug/L		04/25/15 13:42	04/27/15 16:57	1

Lab Sample ID: LCS 680-380258/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 380507 — **Prep Batch: 380258**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	98.3		ug/L		98	80 - 120
Chromium	100	105		ug/L		105	80 - 120
Copper	100	108		ug/L		108	80 - 120
Lead	500	505		ug/L		101	80 - 120
Zinc	100	102		ug/L		102	80 - 120

Lab Sample ID: 680-111817-1 MS — **Client Sample ID: Effluent**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 380507 — **Prep Batch: 380258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20	U	100	104		ug/L		104	75 - 125
Chromium	10	U	100	103		ug/L		103	75 - 125
Copper	20	U	100	121		ug/L		106	75 - 125
Lead	10	U	500	495		ug/L		99	75 - 125
Zinc	27		100	126		ug/L		99	75 - 125

Lab Sample ID: 680-111817-1 MSD — **Client Sample ID: Effluent**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 380507 — **Prep Batch: 380258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	20	U	100	102		ug/L		102	75 - 125	2	20
Chromium	10	U	100	105		ug/L		105	75 - 125	2	20
Copper	20	U	100	122		ug/L		107	75 - 125	1	20
Lead	10	U	500	503		ug/L		101	75 - 125	2	20
Zinc	27		100	126		ug/L		98	75 - 125	0	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

GC/MS VOA

Analysis Batch: 380293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-111817-1	Effluent	Total/NA	Water	8260B	
680-111817-2	Trip Blank	Total/NA	Water	8260B	
LCS 680-380293/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-380293/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-380293/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 380258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-111817-1	Effluent	Total Recoverable	Water	3005A	
680-111817-1 MS	Effluent	Total Recoverable	Water	3005A	
680-111817-1 MSD	Effluent	Total Recoverable	Water	3005A	
LCS 680-380258/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-380258/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 380507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-111817-1	Effluent	Total Recoverable	Water	6010C	380258
680-111817-1 MS	Effluent	Total Recoverable	Water	6010C	380258
680-111817-1 MSD	Effluent	Total Recoverable	Water	6010C	380258
LCS 680-380258/2-A	Lab Control Sample	Total Recoverable	Water	6010C	380258
MB 680-380258/1-A	Method Blank	Total Recoverable	Water	6010C	380258

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Client Sample ID: Effluent

Lab Sample ID: 680-111817-1

Date Collected: 04/20/15 09:30

Matrix: Water

Date Received: 04/21/15 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	380293	04/26/15 15:05	DJK	TAL SAV
	Instrument ID: CMSAC									
Total Recoverable	Prep	3005A			50 mL	50 mL	380258	04/25/15 13:42	CRW	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	380507	04/27/15 17:23	BCB	TAL SAV
	Instrument ID: ICPE									

Client Sample ID: Trip Blank

Lab Sample ID: 680-111817-2

Date Collected: 04/20/15 00:00

Matrix: Water

Date Received: 04/21/15 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	380293	04/26/15 14:20	DJK	TAL SAV
	Instrument ID: CMSAC									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 4/20/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	4/20/15	0930	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-111817 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

680-111817

04-21-15 0932

Relinquished by:	Company: ARCADIS	Date/Time: 4-20-15/1700	Received by:	Company: SAV.	Date/Time: ~~04-22-15 0830~~
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-111817-1

Login Number: 111817
List Number: 1
Creator: Banda, Christy S

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-111817-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-104630-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
4/27/2015 4:56:09 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Job ID: 400-104630-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-104630-1

Comments
No additional comments.

Receipt
The sample was received on 4/21/2015 10:03 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 0.8º C.

Metals
Method 1631E: The sample was received with labels already on the vials: EFFLUENT (400-104630-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-104630-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	2.2		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-104630-1	EFFLUENT	Water	04/20/15 09:30	04/21/15 10:03

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-104630-1

Date Collected: 04/20/15 09:30

Matrix: Water

Date Received: 04/21/15 10:03

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.2		0.50		ng/L		04/22/15 14:30	04/27/15 11:54	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Metals

Prep Batch: 254898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-104630-1	EFFLUENT	Total/NA	Water	1631E	
550-43589-A-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
550-43589-B-1-A MS	Matrix Spike	Total/NA	Water	1631E	
LCS 400-254898/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-254898/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-254898/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 254987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-104630-1	EFFLUENT	Total/NA	Water	1631E	254898
550-43589-A-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	254898
550-43589-B-1-A MS	Matrix Spike	Total/NA	Water	1631E	254898
LCS 400-254898/2-A	Lab Control Sample	Total/NA	Water	1631E	254898
LCSD 400-254898/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	254898
MB 400-254898/1-A	Method Blank	Total/NA	Water	1631E	254898

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-254898/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254987 — **Prep Batch: 254898**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		04/27/15 08:49	04/27/15 09:54	1

Lab Sample ID: LCS 400-254898/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254987 — **Prep Batch: 254898**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.13		ng/L		83	79 - 121		

Lab Sample ID: LCSD 400-254898/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254987 — **Prep Batch: 254898**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.19		ng/L		84	79 - 121	1	20

Lab Sample ID: 550-43589-A-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254987 — **Prep Batch: 254898**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	2.9		5.00	7.98		ng/L		102	71 - 125	2	24

Lab Sample ID: 550-43589-B-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254987 — **Prep Batch: 254898**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	2.9		5.00	7.79		ng/L		98	71 - 125		

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-104630-1

Date Collected: 04/20/15 09:30

Matrix: Water

Date Received: 04/21/15 10:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			254898	04/22/15 14:30	VLC	TAL PEN
Total/NA	Analysis	1631E		1	254987	04/27/15 11:54	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-104630-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 4/20/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			SDG No.
919-854-5448	■ 2 weeks			
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	4/20/15	0930	Grab	W	3	N	3	
							1	

100-104630 COC

Page 13 of 14

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	4-20-15/1700	[signature]		4/21/15 10:03

0.8°C IR5

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-104630-1

Login Number: 104630

List Source: TestAmerica Pensacola

List Number: 1

Creator: Crawford, Lauren E

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8°C IR-5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	Sample was not double-bagged, and had labels on the vials.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-112733-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
5/28/2015 4:47:02 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-112733-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-112733-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 05/20/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.8 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-112733-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/26/2015.

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for 384600 recovered outside control limits for the following analytes: bromoform and bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 384600.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-112733-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/27/2015 and analyzed on 05/28/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-112733-1	Effluent	Water	05/19/15 15:00	05/20/15 09:29

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Client Sample ID: Effluent — Lab Sample ID: 680-112733-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	17		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Client Sample ID: Effluent

Date Collected: 05/19/15 15:00
Date Received: 05/20/15 09:29

Lab Sample ID: 680-112733-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			05/26/15 14:47	1
Benzene	1.0	U	1.0		ug/L			05/26/15 14:47	1
Bromoform	1.0	U *	1.0		ug/L			05/26/15 14:47	1
Bromomethane	5.0	U *	5.0		ug/L			05/26/15 14:47	1
2-Butanone (MEK)	10	U	10		ug/L			05/26/15 14:47	1
Carbon disulfide	2.0	U	2.0		ug/L			05/26/15 14:47	1
Carbon tetrachloride	1.0	U	1.0		ug/L			05/26/15 14:47	1
Chlorobenzene	1.0	U	1.0		ug/L			05/26/15 14:47	1
Chlorodibromomethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
Chloroethane	5.0	U	5.0		ug/L			05/26/15 14:47	1
Chloroform	1.0	U	1.0		ug/L			05/26/15 14:47	1
Chloromethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			05/26/15 14:47	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			05/26/15 14:47	1
Dichlorobromomethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			05/26/15 14:47	1
Diethyl ether	**17**		5.0		ug/L			05/26/15 14:47	1
Ethylbenzene	1.0	U	1.0		ug/L			05/26/15 14:47	1
2-Hexanone	10	U	10		ug/L			05/26/15 14:47	1
Methylene Chloride	5.0	U	5.0		ug/L			05/26/15 14:47	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			05/26/15 14:47	1
Methyl tert-butyl ether	10	U	10		ug/L			05/26/15 14:47	1
Styrene	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
Tetrachloroethene	1.0	U	1.0		ug/L			05/26/15 14:47	1
Toluene	1.0	U	1.0		ug/L			05/26/15 14:47	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			05/26/15 14:47	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			05/26/15 14:47	1
Trichloroethene	1.0	U	1.0		ug/L			05/26/15 14:47	1
Vinyl chloride	1.0	U	1.0		ug/L			05/26/15 14:47	1
Xylenes, Total	1.0	U	1.0		ug/L			05/26/15 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*05/26/15 14:47*	*1*
Dibromofluoromethane (Surr)	*110*		*70 - 130*		*05/26/15 14:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*05/26/15 14:47*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*05/26/15 14:47*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		05/27/15 10:47	05/28/15 09:36	1
Chromium	10	U	10		ug/L		05/27/15 10:47	05/28/15 09:36	1
Copper	20	U	20		ug/L		05/27/15 10:47	05/28/15 09:36	1
Lead	10	U	10		ug/L		05/27/15 10:47	05/28/15 09:36	1
Zinc	20	U	20		ug/L		05/27/15 10:47	05/28/15 09:36	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-112733-1	Effluent	96	110	115	98
LCS 680-384600/4	Lab Control Sample	97	111	118	100
LCSD 680-384600/5	Lab Control Sample Dup	99	109	115	98
MB 680-384600/9	Method Blank	94	103	109	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-384600/9
Matrix: Water
Analysis Batch: 384600

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			05/26/15 10:20	1
Benzene	1.0	U	1.0		ug/L			05/26/15 10:20	1
Bromoform	1.0	U	1.0		ug/L			05/26/15 10:20	1
Bromomethane	5.0	U	5.0		ug/L			05/26/15 10:20	1
2-Butanone (MEK)	10	U	10		ug/L			05/26/15 10:20	1
Carbon disulfide	2.0	U	2.0		ug/L			05/26/15 10:20	1
Carbon tetrachloride	1.0	U	1.0		ug/L			05/26/15 10:20	1
Chlorobenzene	1.0	U	1.0		ug/L			05/26/15 10:20	1
Chlorodibromomethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
Chloroethane	5.0	U	5.0		ug/L			05/26/15 10:20	1
Chloroform	1.0	U	1.0		ug/L			05/26/15 10:20	1
Chloromethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			05/26/15 10:20	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			05/26/15 10:20	1
Dichlorobromomethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			05/26/15 10:20	1
Diethyl ether	5.0	U	5.0		ug/L			05/26/15 10:20	1
Ethylbenzene	1.0	U	1.0		ug/L			05/26/15 10:20	1
2-Hexanone	10	U	10		ug/L			05/26/15 10:20	1
Methylene Chloride	5.0	U	5.0		ug/L			05/26/15 10:20	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			05/26/15 10:20	1
Methyl tert-butyl ether	10	U	10		ug/L			05/26/15 10:20	1
Styrene	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
Tetrachloroethene	1.0	U	1.0		ug/L			05/26/15 10:20	1
Toluene	1.0	U	1.0		ug/L			05/26/15 10:20	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			05/26/15 10:20	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			05/26/15 10:20	1
Trichloroethene	1.0	U	1.0		ug/L			05/26/15 10:20	1
Vinyl chloride	1.0	U	1.0		ug/L			05/26/15 10:20	1
Xylenes, Total	1.0	U	1.0		ug/L			05/26/15 10:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*05/26/15 10:20*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*05/26/15 10:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*05/26/15 10:20*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*05/26/15 10:20*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-384600/4
Matrix: Water
Analysis Batch: 384600

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	221		ug/L		88	60 - 154
Benzene	50.0	45.9		ug/L		92	73 - 131
Bromoform	50.0	74.4	*	ug/L		149	69 - 135
Bromomethane	50.0	156	*	ug/L		311	20 - 180
2-Butanone (MEK)	250	246		ug/L		98	75 - 133
Carbon disulfide	50.0	52.0		ug/L		104	73 - 127
Carbon tetrachloride	50.0	57.8		ug/L		116	75 - 130
Chlorobenzene	50.0	51.6		ug/L		103	80 - 120
Chlorodibromomethane	50.0	59.3		ug/L		119	71 - 136
Chloroethane	50.0	54.2		ug/L		108	50 - 151
Chloroform	50.0	56.0		ug/L		112	79 - 122
Chloromethane	50.0	46.3		ug/L		93	63 - 126
cis-1,2-Dichloroethene	50.0	51.8		ug/L		104	80 - 122
cis-1,3-Dichloropropene	50.0	51.1		ug/L		102	80 - 133
Dichlorobromomethane	50.0	63.1		ug/L		126	77 - 129
1,1-Dichloroethane	50.0	46.3		ug/L		93	80 - 120
1,2-Dichloroethane	50.0	59.7		ug/L		119	75 - 130
1,1-Dichloroethene	50.0	49.2		ug/L		98	74 - 125
1,2-Dichloropropane	50.0	47.7		ug/L		95	80 - 123
Diethyl ether	50.0	47.6		ug/L		95	74 - 134
Ethylbenzene	50.0	51.1		ug/L		102	80 - 120
2-Hexanone	250	225		ug/L		90	70 - 141
Methylene Chloride	50.0	53.0		ug/L		106	76 - 129
4-Methyl-2-pentanone (MIBK)	250	206		ug/L		82	75 - 135
Methyl tert-butyl ether	50.0	64.0		ug/L		128	74 - 135
Styrene	50.0	55.5		ug/L		111	80 - 122
1,1,2,2-Tetrachloroethane	50.0	54.2		ug/L		108	72 - 128
Tetrachloroethene	50.0	53.1		ug/L		106	77 - 123
Toluene	50.0	49.4		ug/L		99	80 - 122
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	78 - 123
trans-1,3-Dichloropropene	50.0	52.9		ug/L		106	74 - 140
1,1,1-Trichloroethane	50.0	61.1		ug/L		122	74 - 128
1,1,2-Trichloroethane	50.0	45.3		ug/L		91	79 - 125
Trichloroethene	50.0	52.9		ug/L		106	80 - 123
Vinyl chloride	50.0	46.6		ug/L		93	68 - 132
Xylenes, Total	100	108		ug/L		108	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*111*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-384600/5
Matrix: Water
Analysis Batch: 384600

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	210		ug/L		84	60 - 154	5	40
Benzene	50.0	45.5		ug/L		91	73 - 131	1	30
Bromoform	50.0	71.6	*	ug/L		143	69 - 135	4	20
Bromomethane	50.0	169	*	ug/L		339	20 - 180	9	40
2-Butanone (MEK)	250	242		ug/L		97	75 - 133	2	30
Carbon disulfide	50.0	51.7		ug/L		103	73 - 127	1	20
Carbon tetrachloride	50.0	56.9		ug/L		114	75 - 130	2	20
Chlorobenzene	50.0	51.7		ug/L		103	80 - 120	0	20
Chlorodibromomethane	50.0	56.0		ug/L		112	71 - 136	6	20
Chloroethane	50.0	52.9		ug/L		106	50 - 151	2	30
Chloroform	50.0	55.0		ug/L		110	79 - 122	2	20
Chloromethane	50.0	46.1		ug/L		92	63 - 126	0	30
cis-1,2-Dichloroethene	50.0	50.0		ug/L		100	80 - 122	4	20
cis-1,3-Dichloropropene	50.0	50.1		ug/L		100	80 - 133	2	20
Dichlorobromomethane	50.0	61.5		ug/L		123	77 - 129	3	20
1,1-Dichloroethane	50.0	46.1		ug/L		92	80 - 120	0	20
1,2-Dichloroethane	50.0	58.2		ug/L		116	75 - 130	3	20
1,1-Dichloroethene	50.0	49.5		ug/L		99	74 - 125	1	20
1,2-Dichloropropane	50.0	46.9		ug/L		94	80 - 123	2	20
Diethyl ether	50.0	47.2		ug/L		94	74 - 134	1	50
Ethylbenzene	50.0	51.3		ug/L		103	80 - 120	0	20
2-Hexanone	250	215		ug/L		86	70 - 141	4	40
Methylene Chloride	50.0	50.2		ug/L		100	76 - 129	6	20
4-Methyl-2-pentanone (MIBK)	250	201		ug/L		80	75 - 135	2	30
Methyl tert-butyl ether	50.0	62.2		ug/L		124	74 - 135	3	20
Styrene	50.0	54.6		ug/L		109	80 - 122	2	20
1,1,2,2-Tetrachloroethane	50.0	52.0		ug/L		104	72 - 128	4	20
Tetrachloroethene	50.0	53.4		ug/L		107	77 - 123	1	20
Toluene	50.0	49.2		ug/L		98	80 - 122	0	20
trans-1,2-Dichloroethene	50.0	51.6		ug/L		103	78 - 123	0	20
trans-1,3-Dichloropropene	50.0	51.5		ug/L		103	74 - 140	3	20
1,1,1-Trichloroethane	50.0	63.2		ug/L		126	74 - 128	3	20
1,1,2-Trichloroethane	50.0	44.8		ug/L		90	79 - 125	1	20
Trichloroethene	50.0	52.6		ug/L		105	80 - 123	1	20
Vinyl chloride	50.0	48.4		ug/L		97	68 - 132	4	30
Xylenes, Total	100	107		ug/L		107	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*109*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-384813/1-A
Matrix: Water
Analysis Batch: 385042

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 384813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		05/27/15 10:47	05/28/15 09:04	1
Chromium	10	U	10		ug/L		05/27/15 10:47	05/28/15 09:04	1
Copper	20	U	20		ug/L		05/27/15 10:47	05/28/15 09:04	1
Lead	10	U	10		ug/L		05/27/15 10:47	05/28/15 09:04	1
Zinc	20	U	20		ug/L		05/27/15 10:47	05/28/15 09:04	1

Lab Sample ID: LCS 680-384813/2-A
Matrix: Water
Analysis Batch: 385042

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 384813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	101		ug/L		101	80 - 120
Chromium	100	102		ug/L		102	80 - 120
Copper	100	99.7		ug/L		100	80 - 120
Lead	500	494		ug/L		99	80 - 120
Zinc	100	99.5		ug/L		99	80 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

GC/MS VOA

Analysis Batch: 384600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-112733-1	Effluent	Total/NA	Water	8260B	
LCS 680-384600/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-384600/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-384600/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 384813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-112733-1	Effluent	Total Recoverable	Water	3005A	
LCS 680-384813/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-384813/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 385042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-112733-1	Effluent	Total Recoverable	Water	6010C	384813
LCS 680-384813/2-A	Lab Control Sample	Total Recoverable	Water	6010C	384813
MB 680-384813/1-A	Method Blank	Total Recoverable	Water	6010C	384813

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Client Sample ID: Effluent

Date Collected: 05/19/15 15:00
Date Received: 05/20/15 09:29

Lab Sample ID: 680-112733-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	384600	05/26/15 14:47	JD1	TAL SAV
	Instrument ID: CMSAC									
Total Recoverable	Prep	3005A			50 mL	50 mL	384813	05/27/15 10:47	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	385042	05/28/15 09:36	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 5-19-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W)			
919-854-1282	TAT if different from Below			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	5/19/15	1500	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-112733 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

680-112733

2.4°C / 2.8°C

Relinquished by:	Company: ARCADIS	Date/Time: 5-19-15/1700	Received by:	Company: TA	Date/Time: 5/20/15 09:29
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-112733-1

Login Number: 112733
List Number: 1
Creator: Kicklighter, Marilyn D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-112733-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-105852-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
5/29/2015 3:50:11 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Job ID: 400-105852-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-105852-1

Comments
No additional comments.

Receipt
The sample was received on 5/20/2015 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º C.

Sample was received unbagged with client labels on vials.

Metals
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-105852-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	6.8		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-105852-1	EFFLUENT	Water	05/19/15 15:00	05/20/15 09:30

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-105852-1

Date Collected: 05/19/15 15:00

Matrix: Water

Date Received: 05/20/15 09:30

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	6.8		0.50		ng/L		05/20/15 12:00	05/29/15 12:53	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Metals

Prep Batch: 258995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-105852-1	EFFLUENT	Total/NA	Water	1631E	
400-106095-C-1-B MS	Matrix Spike	Total/NA	Water	1631E	
400-106095-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
LCS 400-258995/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-258995/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-258995/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 259095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-105852-1	EFFLUENT	Total/NA	Water	1631E	258995
400-106095-C-1-B MS	Matrix Spike	Total/NA	Water	1631E	258995
400-106095-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	258995
LCS 400-258995/2-A	Lab Control Sample	Total/NA	Water	1631E	258995
LCSD 400-258995/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	258995
MB 400-258995/1-A	Method Blank	Total/NA	Water	1631E	258995

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-258995/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259095 — **Prep Batch: 258995**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.50		ng/L		05/29/15 09:17	05/29/15 09:46	1

Lab Sample ID: LCS 400-258995/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259095 — **Prep Batch: 258995**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	5.46		ng/L		109	79 - 121		

Lab Sample ID: LCSD 400-258995/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259095 — **Prep Batch: 258995**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	5.48		ng/L		110	79 - 121	0	20

Lab Sample ID: 400-106095-C-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259095 — **Prep Batch: 258995**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	590		250	865		ng/L		110	71 - 125		

Lab Sample ID: 400-106095-C-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259095 — **Prep Batch: 258995**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	590		250	880		ng/L		116	71 - 125	2	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-105852-1

Date Collected: 05/19/15 15:00

Matrix: Water

Date Received: 05/20/15 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			258995	05/20/15 12:00	VLC	TAL PEN
Total/NA	Analysis	1631E		1	259095	05/29/15 12:53	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-105852-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 5/19/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			SDG No.
919-854-5448	■ 2 weeks			
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	5/19/15	1500	Grab	W	3	N	3	
							1	

00-105852 COC

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	5-19-15 1700	[signature]	TA	5/20/15 930

4.6°c JR-2

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-105852-1

Login Number: 105852
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Sample was not double-bagged and has labels on the vials.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-114045-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Kathryn Smith

Authorized for release by:
7/10/2015 9:51:56 AM
Kathryn Smith, Project Manager II
(912)354-7858
kathy.smith@testamericainc.com

Designee for

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-114045-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-114045-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 06/30/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-114045-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/06/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-390300.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-114045-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 07/06/2015 and analyzed on 07/07/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-114045-1	Effluent	Water	06/28/15 14:00	06/30/15 10:09

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Client Sample ID: Effluent — Lab Sample ID: 680-114045-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	14		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Client Sample ID: Effluent

Date Collected: 06/28/15 14:00
Date Received: 06/30/15 10:09

Lab Sample ID: 680-114045-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			07/06/15 18:04	1
Benzene	1.0	U	1.0		ug/L			07/06/15 18:04	1
Bromoform	1.0	U	1.0		ug/L			07/06/15 18:04	1
Bromomethane	5.0	U	5.0		ug/L			07/06/15 18:04	1
2-Butanone (MEK)	10	U	10		ug/L			07/06/15 18:04	1
Carbon disulfide	2.0	U	2.0		ug/L			07/06/15 18:04	1
Carbon tetrachloride	1.0	U	1.0		ug/L			07/06/15 18:04	1
Chlorobenzene	1.0	U	1.0		ug/L			07/06/15 18:04	1
Chlorodibromomethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
Chloroethane	5.0	U	5.0		ug/L			07/06/15 18:04	1
Chloroform	1.0	U	1.0		ug/L			07/06/15 18:04	1
Chloromethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/06/15 18:04	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/06/15 18:04	1
Dichlorobromomethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			07/06/15 18:04	1
Diethyl ether	**14**		5.0		ug/L			07/06/15 18:04	1
Ethylbenzene	1.0	U	1.0		ug/L			07/06/15 18:04	1
2-Hexanone	10	U	10		ug/L			07/06/15 18:04	1
Methylene Chloride	5.0	U	5.0		ug/L			07/06/15 18:04	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			07/06/15 18:04	1
Methyl tert-butyl ether	10	U	10		ug/L			07/06/15 18:04	1
Styrene	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
Tetrachloroethene	1.0	U	1.0		ug/L			07/06/15 18:04	1
Toluene	1.0	U	1.0		ug/L			07/06/15 18:04	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/06/15 18:04	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			07/06/15 18:04	1
Trichloroethene	1.0	U	1.0		ug/L			07/06/15 18:04	1
Vinyl chloride	1.0	U	1.0		ug/L			07/06/15 18:04	1
Xylenes, Total	1.0	U	1.0		ug/L			07/06/15 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*07/06/15 18:04*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*07/06/15 18:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*07/06/15 18:04*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*07/06/15 18:04*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		07/06/15 11:06	07/07/15 19:53	1
Chromium	10	U	10		ug/L		07/06/15 11:06	07/07/15 19:53	1
Copper	20	U	20		ug/L		07/06/15 11:06	07/07/15 19:53	1
Lead	10	U	10		ug/L		07/06/15 11:06	07/07/15 19:53	1
Zinc	20	U	20		ug/L		07/06/15 11:06	07/07/15 19:53	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-114045-1	Effluent	103	104	99	103
LCS 680-390300/4	Lab Control Sample	104	108	102	108
LCSD 680-390300/5	Lab Control Sample Dup	103	105	99	106
MB 680-390300/9	Method Blank	102	99	96	105

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-390300/9
Matrix: Water
Analysis Batch: 390300

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			07/06/15 10:40	1
Benzene	1.0	U	1.0		ug/L			07/06/15 10:40	1
Bromoform	1.0	U	1.0		ug/L			07/06/15 10:40	1
Bromomethane	5.0	U	5.0		ug/L			07/06/15 10:40	1
2-Butanone (MEK)	10	U	10		ug/L			07/06/15 10:40	1
Carbon disulfide	2.0	U	2.0		ug/L			07/06/15 10:40	1
Carbon tetrachloride	1.0	U	1.0		ug/L			07/06/15 10:40	1
Chlorobenzene	1.0	U	1.0		ug/L			07/06/15 10:40	1
Chlorodibromomethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
Chloroethane	5.0	U	5.0		ug/L			07/06/15 10:40	1
Chloroform	1.0	U	1.0		ug/L			07/06/15 10:40	1
Chloromethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/06/15 10:40	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/06/15 10:40	1
Dichlorobromomethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			07/06/15 10:40	1
Diethyl ether	5.0	U	5.0		ug/L			07/06/15 10:40	1
Ethylbenzene	1.0	U	1.0		ug/L			07/06/15 10:40	1
2-Hexanone	10	U	10		ug/L			07/06/15 10:40	1
Methylene Chloride	5.0	U	5.0		ug/L			07/06/15 10:40	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			07/06/15 10:40	1
Methyl tert-butyl ether	10	U	10		ug/L			07/06/15 10:40	1
Styrene	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
Tetrachloroethene	1.0	U	1.0		ug/L			07/06/15 10:40	1
Toluene	1.0	U	1.0		ug/L			07/06/15 10:40	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/06/15 10:40	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			07/06/15 10:40	1
Trichloroethene	1.0	U	1.0		ug/L			07/06/15 10:40	1
Vinyl chloride	1.0	U	1.0		ug/L			07/06/15 10:40	1
Xylenes, Total	1.0	U	1.0		ug/L			07/06/15 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*07/06/15 10:40*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*07/06/15 10:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*07/06/15 10:40*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*07/06/15 10:40*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-390300/4
Matrix: Water
Analysis Batch: 390300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	255		ug/L		102	60 - 154
Benzene	50.0	51.5		ug/L		103	73 - 131
Bromoform	50.0	62.8		ug/L		126	69 - 135
Bromomethane	50.0	70.1		ug/L		140	20 - 180
2-Butanone (MEK)	250	267		ug/L		107	75 - 133
Carbon disulfide	50.0	50.4		ug/L		101	73 - 127
Carbon tetrachloride	50.0	64.0		ug/L		128	75 - 130
Chlorobenzene	50.0	52.7		ug/L		105	80 - 120
Chlorodibromomethane	50.0	51.8		ug/L		104	71 - 136
Chloroethane	50.0	54.2		ug/L		108	50 - 151
Chloroform	50.0	52.7		ug/L		105	79 - 122
Chloromethane	50.0	51.9		ug/L		104	63 - 126
cis-1,2-Dichloroethene	50.0	47.3		ug/L		95	80 - 122
cis-1,3-Dichloropropene	50.0	56.9		ug/L		114	80 - 133
Dichlorobromomethane	50.0	57.1		ug/L		114	77 - 129
1,1-Dichloroethane	50.0	51.4		ug/L		103	80 - 120
1,2-Dichloroethane	50.0	50.1		ug/L		100	75 - 130
1,1-Dichloroethene	50.0	52.4		ug/L		105	74 - 125
1,2-Dichloropropane	50.0	52.4		ug/L		105	80 - 123
Diethyl ether	50.0	53.0		ug/L		106	74 - 134
Ethylbenzene	50.0	53.3		ug/L		107	80 - 120
2-Hexanone	250	255		ug/L		102	70 - 141
Methylene Chloride	50.0	51.1		ug/L		102	76 - 129
4-Methyl-2-pentanone (MIBK)	250	261		ug/L		105	75 - 135
Methyl tert-butyl ether	50.0	52.0		ug/L		104	74 - 135
Styrene	50.0	54.2		ug/L		108	80 - 122
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	72 - 128
Tetrachloroethene	50.0	52.8		ug/L		106	77 - 123
Toluene	50.0	52.2		ug/L		104	80 - 122
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	78 - 123
trans-1,3-Dichloropropene	50.0	57.8		ug/L		116	74 - 140
1,1,1-Trichloroethane	50.0	55.6		ug/L		111	74 - 128
1,1,2-Trichloroethane	50.0	52.0		ug/L		104	79 - 125
Trichloroethene	50.0	52.2		ug/L		104	80 - 123
Vinyl chloride	50.0	51.1		ug/L		102	68 - 132
Xylenes, Total	100	108		ug/L		108	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
Dibromofluoromethane (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*108*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-390300/5
Matrix: Water
Analysis Batch: 390300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	247		ug/L		99	60 - 154	3	40
Benzene	50.0	50.0		ug/L		100	73 - 131	3	30
Bromoform	50.0	61.1		ug/L		122	69 - 135	3	20
Bromomethane	50.0	71.1		ug/L		142	20 - 180	1	40
2-Butanone (MEK)	250	259		ug/L		104	75 - 133	3	30
Carbon disulfide	50.0	49.8		ug/L		100	73 - 127	1	20
Carbon tetrachloride	50.0	63.3		ug/L		127	75 - 130	1	20
Chlorobenzene	50.0	51.0		ug/L		102	80 - 120	3	20
Chlorodibromomethane	50.0	49.9		ug/L		100	71 - 136	4	20
Chloroethane	50.0	53.4		ug/L		107	50 - 151	1	30
Chloroform	50.0	51.4		ug/L		103	79 - 122	3	20
Chloromethane	50.0	51.4		ug/L		103	63 - 126	1	30
cis-1,2-Dichloroethene	50.0	46.1		ug/L		92	80 - 122	3	20
cis-1,3-Dichloropropene	50.0	55.5		ug/L		111	80 - 133	3	20
Dichlorobromomethane	50.0	55.6		ug/L		111	77 - 129	3	20
1,1-Dichloroethane	50.0	50.1		ug/L		100	80 - 120	2	20
1,2-Dichloroethane	50.0	49.9		ug/L		100	75 - 130	0	20
1,1-Dichloroethene	50.0	51.8		ug/L		104	74 - 125	1	20
1,2-Dichloropropane	50.0	51.3		ug/L		103	80 - 123	2	20
Diethyl ether	50.0	52.2		ug/L		104	74 - 134	2	50
Ethylbenzene	50.0	52.1		ug/L		104	80 - 120	2	20
2-Hexanone	250	250		ug/L		100	70 - 141	2	40
Methylene Chloride	50.0	49.3		ug/L		99	76 - 129	4	20
4-Methyl-2-pentanone (MIBK)	250	254		ug/L		102	75 - 135	3	30
Methyl tert-butyl ether	50.0	50.8		ug/L		102	74 - 135	2	20
Styrene	50.0	52.8		ug/L		106	80 - 122	3	20
1,1,2,2-Tetrachloroethane	50.0	52.3		ug/L		105	72 - 128	3	20
Tetrachloroethene	50.0	51.2		ug/L		102	77 - 123	3	20
Toluene	50.0	50.1		ug/L		100	80 - 122	4	20
trans-1,2-Dichloroethene	50.0	50.8		ug/L		102	78 - 123	0	20
trans-1,3-Dichloropropene	50.0	55.8		ug/L		112	74 - 140	4	20
1,1,1-Trichloroethane	50.0	55.3		ug/L		111	74 - 128	1	20
1,1,2-Trichloroethane	50.0	50.8		ug/L		102	79 - 125	2	20
Trichloroethene	50.0	50.9		ug/L		102	80 - 123	2	20
Vinyl chloride	50.0	50.1		ug/L		100	68 - 132	2	30
Xylenes, Total	100	104		ug/L		104	80 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
Dibromofluoromethane (Surr)	*105*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-390350/1-A
Matrix: Water
Analysis Batch: 390668

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 390350

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		07/06/15 11:06	07/07/15 19:16	1
Chromium	10	U	10		ug/L		07/06/15 11:06	07/07/15 19:16	1
Copper	20	U	20		ug/L		07/06/15 11:06	07/07/15 19:16	1
Lead	10	U	10		ug/L		07/06/15 11:06	07/07/15 19:16	1
Zinc	20	U	20		ug/L		07/06/15 11:06	07/07/15 19:16	1

Lab Sample ID: LCS 680-390350/2-A
Matrix: Water
Analysis Batch: 390668

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 390350

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	80 - 120
Chromium	100	104		ug/L		104	80 - 120
Copper	100	103		ug/L		103	80 - 120
Lead	500	506		ug/L		101	80 - 120
Zinc	100	105		ug/L		105	80 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

GC/MS VOA

Analysis Batch: 390300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-114045-1	Effluent	Total/NA	Water	8260B	
LCS 680-390300/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-390300/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-390300/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 390350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-114045-1	Effluent	Total Recoverable	Water	3005A	
LCS 680-390350/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-390350/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 390668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-114045-1	Effluent	Total Recoverable	Water	6010C	390350
LCS 680-390350/2-A	Lab Control Sample	Total Recoverable	Water	6010C	390350
MB 680-390350/1-A	Method Blank	Total Recoverable	Water	6010C	390350

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Client Sample ID: Effluent

Date Collected: 06/28/15 14:00
Date Received: 06/30/15 10:09

Lab Sample ID: 680-114045-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	390300	07/06/15 18:04	JLK	TAL SAV
	Instrument ID: CMSP2									
Total Recoverable	Prep	3005A			50 mL	50 mL	390350	07/06/15 11:06	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	390668	07/07/15 19:53	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 6-28-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	6/28/15	1400	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may b
☐ *Return To Client* ☐ *Months*

680-114045 Chain of Custody

Special Instructions/QC Requirements & Comments:

680-114045

2.4 / 2.9 ac

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	6-29-15/1730	[signature]	TA	6/30/15 10:09
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-114045-1

Login Number: 114045
List Number: 1
Creator: Kicklighter, Marilyn D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114045-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-107652-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
7/6/2015 12:55:32 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Job ID: 400-107652-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-107652-1

Comments
No additional comments.

Receipt
The sample was received on 6/30/2015 10:04 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

Metals
Method 1631E: The following sample was received with labels already on the vials: EFFLUENT (400-107652-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-107652-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	1.6		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-107652-1	EFFLUENT	Water	06/28/15 14:00	06/30/15 10:04

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-107652-1

Date Collected: 06/28/15 14:00

Matrix: Water

Date Received: 06/30/15 10:04

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.6		0.50		ng/L		06/30/15 15:25	07/02/15 09:59	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Metals

Prep Batch: 263394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-107460-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
400-107460-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	
400-107652-1	EFFLUENT	Total/NA	Water	1631E	
LCS 400-263394/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-263394/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-263394/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 263458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-107460-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	263394
400-107460-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	263394
400-107652-1	EFFLUENT	Total/NA	Water	1631E	263394
LCS 400-263394/2-A	Lab Control Sample	Total/NA	Water	1631E	263394
LCSD 400-263394/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	263394
MB 400-263394/1-A	Method Blank	Total/NA	Water	1631E	263394

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-263394/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263458 — **Prep Batch: 263394**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		07/02/15 08:46	07/02/15 09:07	1

Lab Sample ID: LCS 400-263394/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263458 — **Prep Batch: 263394**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.55		ng/L		91	79 - 121		

Lab Sample ID: LCSD 400-263394/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263458 — **Prep Batch: 263394**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.91		ng/L		98	79 - 121	8	20

Lab Sample ID: 400-107460-D-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263458 — **Prep Batch: 263394**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.77		2.50	3.11		ng/L		94	71 - 125	8	24

Lab Sample ID: 400-107460-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263458 — **Prep Batch: 263394**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.77		2.50	2.88		ng/L		84	71 - 125		

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Client Sample ID: EFFLUENT

Date Collected: 06/28/15 14:00
Date Received: 06/30/15 10:04

Lab Sample ID: 400-107652-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			263394	06/30/15 15:25	VLC	TAL PEN
Total/NA	Analysis	1631E		1	263458	07/02/15 09:59	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-107652-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 6-28-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

400-107652 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	6/28/15	1400	Grab	W	3	N	3	
							1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

2.0°C 1R-2

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
April Twamley	ARCADIS	6-29-15/1730	[illegible]	TA	6/30/15 @ 10:04
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-107652-1

Login Number: 107652
List Number: 1
Creator: Benforado, Jessica L

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-114721-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
7/27/2015 5:45:56 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-114721-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-114721-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 07/21/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.5 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-114721-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/27/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-114721-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 07/23/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-114721-1	Effluent	Water	07/20/15 15:00	07/21/15 09:21

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Client Sample ID: Effluent — Lab Sample ID: 680-114721-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	20		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Client Sample ID: Effluent

Date Collected: 07/20/15 15:00
Date Received: 07/21/15 09:21

Lab Sample ID: 680-114721-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			07/27/15 16:14	1
Benzene	1.0	U	1.0		ug/L			07/27/15 16:14	1
Bromoform	1.0	U	1.0		ug/L			07/27/15 16:14	1
Bromomethane	5.0	U	5.0		ug/L			07/27/15 16:14	1
2-Butanone (MEK)	10	U	10		ug/L			07/27/15 16:14	1
Carbon disulfide	2.0	U	2.0		ug/L			07/27/15 16:14	1
Carbon tetrachloride	1.0	U	1.0		ug/L			07/27/15 16:14	1
Chlorobenzene	1.0	U	1.0		ug/L			07/27/15 16:14	1
Chlorodibromomethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
Chloroethane	5.0	U	5.0		ug/L			07/27/15 16:14	1
Chloroform	1.0	U	1.0		ug/L			07/27/15 16:14	1
Chloromethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/27/15 16:14	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/27/15 16:14	1
Dichlorobromomethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			07/27/15 16:14	1
Diethyl ether	**20**		5.0		ug/L			07/27/15 16:14	1
Ethylbenzene	1.0	U	1.0		ug/L			07/27/15 16:14	1
2-Hexanone	10	U	10		ug/L			07/27/15 16:14	1
Methylene Chloride	5.0	U	5.0		ug/L			07/27/15 16:14	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			07/27/15 16:14	1
Methyl tert-butyl ether	10	U	10		ug/L			07/27/15 16:14	1
Styrene	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
Tetrachloroethene	1.0	U	1.0		ug/L			07/27/15 16:14	1
Toluene	1.0	U	1.0		ug/L			07/27/15 16:14	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/27/15 16:14	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			07/27/15 16:14	1
Trichloroethene	1.0	U	1.0		ug/L			07/27/15 16:14	1
Vinyl chloride	1.0	U	1.0		ug/L			07/27/15 16:14	1
Xylenes, Total	1.0	U	1.0		ug/L			07/27/15 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/27/15 16:14*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*07/27/15 16:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*07/27/15 16:14*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*07/27/15 16:14*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		07/23/15 09:03	07/23/15 18:09	1
Chromium	10	U	10		ug/L		07/23/15 09:03	07/23/15 18:09	1
Copper	20	U	20		ug/L		07/23/15 09:03	07/23/15 18:09	1
Lead	10	U	10		ug/L		07/23/15 09:03	07/23/15 18:09	1
Zinc	20	U	20		ug/L		07/23/15 09:03	07/23/15 18:09	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-114721-1	Effluent	99	102	99	102
LCS 680-393238/4	Lab Control Sample	103	108	108	103
LCSD 680-393238/5	Lab Control Sample Dup	98	101	101	98
MB 680-393238/9	Method Blank	99	99	99	103

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-393238/9
Matrix: Water
Analysis Batch: 393238

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			07/27/15 10:54	1
Benzene	1.0	U	1.0		ug/L			07/27/15 10:54	1
Bromoform	1.0	U	1.0		ug/L			07/27/15 10:54	1
Bromomethane	5.0	U	5.0		ug/L			07/27/15 10:54	1
2-Butanone (MEK)	10	U	10		ug/L			07/27/15 10:54	1
Carbon disulfide	2.0	U	2.0		ug/L			07/27/15 10:54	1
Carbon tetrachloride	1.0	U	1.0		ug/L			07/27/15 10:54	1
Chlorobenzene	1.0	U	1.0		ug/L			07/27/15 10:54	1
Chlorodibromomethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
Chloroethane	5.0	U	5.0		ug/L			07/27/15 10:54	1
Chloroform	1.0	U	1.0		ug/L			07/27/15 10:54	1
Chloromethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/27/15 10:54	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/27/15 10:54	1
Dichlorobromomethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			07/27/15 10:54	1
Diethyl ether	5.0	U	5.0		ug/L			07/27/15 10:54	1
Ethylbenzene	1.0	U	1.0		ug/L			07/27/15 10:54	1
2-Hexanone	10	U	10		ug/L			07/27/15 10:54	1
Methylene Chloride	5.0	U	5.0		ug/L			07/27/15 10:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			07/27/15 10:54	1
Methyl tert-butyl ether	10	U	10		ug/L			07/27/15 10:54	1
Styrene	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
Tetrachloroethene	1.0	U	1.0		ug/L			07/27/15 10:54	1
Toluene	1.0	U	1.0		ug/L			07/27/15 10:54	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			07/27/15 10:54	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			07/27/15 10:54	1
Trichloroethene	1.0	U	1.0		ug/L			07/27/15 10:54	1
Vinyl chloride	1.0	U	1.0		ug/L			07/27/15 10:54	1
Xylenes, Total	1.0	U	1.0		ug/L			07/27/15 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/27/15 10:54*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*07/27/15 10:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*07/27/15 10:54*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*07/27/15 10:54*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-393238/4
Matrix: Water
Analysis Batch: 393238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	250		ug/L		100	60 - 154
Benzene	50.0	52.4		ug/L		105	73 - 131
Bromoform	50.0	60.0		ug/L		120	69 - 135
Bromomethane	50.0	61.3		ug/L		123	20 - 180
2-Butanone (MEK)	250	283		ug/L		113	75 - 133
Carbon disulfide	50.0	45.9		ug/L		92	73 - 127
Carbon tetrachloride	50.0	53.3		ug/L		107	75 - 130
Chlorobenzene	50.0	51.6		ug/L		103	80 - 120
Chlorodibromomethane	50.0	54.7		ug/L		109	71 - 136
Chloroethane	50.0	46.5		ug/L		93	50 - 151
Chloroform	50.0	53.4		ug/L		107	79 - 122
Chloromethane	50.0	52.1		ug/L		104	63 - 126
cis-1,2-Dichloroethene	50.0	54.0		ug/L		108	80 - 122
cis-1,3-Dichloropropene	50.0	56.3		ug/L		113	80 - 133
Dichlorobromomethane	50.0	55.9		ug/L		112	77 - 129
1,1-Dichloroethane	50.0	52.4		ug/L		105	80 - 120
1,2-Dichloroethane	50.0	54.5		ug/L		109	75 - 130
1,1-Dichloroethene	50.0	46.4		ug/L		93	74 - 125
1,2-Dichloropropane	50.0	53.2		ug/L		106	80 - 123
Diethyl ether	50.0	51.6		ug/L		103	74 - 134
Ethylbenzene	50.0	51.9		ug/L		104	80 - 120
2-Hexanone	250	282		ug/L		113	70 - 141
Methylene Chloride	50.0	57.2		ug/L		114	76 - 129
4-Methyl-2-pentanone (MIBK)	250	278		ug/L		111	75 - 135
Methyl tert-butyl ether	50.0	54.7		ug/L		109	74 - 135
Styrene	50.0	53.7		ug/L		107	80 - 122
1,1,2,2-Tetrachloroethane	50.0	54.4		ug/L		109	72 - 128
Tetrachloroethene	50.0	51.6		ug/L		103	77 - 123
Toluene	50.0	52.4		ug/L		105	80 - 122
trans-1,2-Dichloroethene	50.0	53.7		ug/L		107	78 - 123
trans-1,3-Dichloropropene	50.0	56.7		ug/L		113	74 - 140
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	74 - 128
1,1,2-Trichloroethane	50.0	53.4		ug/L		107	79 - 125
Trichloroethene	50.0	52.3		ug/L		105	80 - 123
Vinyl chloride	50.0	50.4		ug/L		101	68 - 132
Xylenes, Total	100	105		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
Dibromofluoromethane (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-393238/5
Matrix: Water
Analysis Batch: 393238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	246		ug/L		99	60 - 154	2	40
Benzene	50.0	49.6		ug/L		99	73 - 131	5	30
Bromoform	50.0	55.5		ug/L		111	69 - 135	8	20
Bromomethane	50.0	60.2		ug/L		120	20 - 180	2	40
2-Butanone (MEK)	250	262		ug/L		105	75 - 133	8	30
Carbon disulfide	50.0	47.2		ug/L		94	73 - 127	3	20
Carbon tetrachloride	50.0	52.5		ug/L		105	75 - 130	2	20
Chlorobenzene	50.0	48.4		ug/L		97	80 - 120	6	20
Chlorodibromomethane	50.0	51.1		ug/L		102	71 - 136	7	20
Chloroethane	50.0	50.2		ug/L		100	50 - 151	8	30
Chloroform	50.0	50.6		ug/L		101	79 - 122	5	20
Chloromethane	50.0	50.4		ug/L		101	63 - 126	3	30
cis-1,2-Dichloroethene	50.0	51.3		ug/L		103	80 - 122	5	20
cis-1,3-Dichloropropene	50.0	53.7		ug/L		107	80 - 133	5	20
Dichlorobromomethane	50.0	52.2		ug/L		104	77 - 129	7	20
1,1-Dichloroethane	50.0	49.7		ug/L		99	80 - 120	5	20
1,2-Dichloroethane	50.0	50.9		ug/L		102	75 - 130	7	20
1,1-Dichloroethene	50.0	47.2		ug/L		94	74 - 125	2	20
1,2-Dichloropropane	50.0	50.9		ug/L		102	80 - 123	4	20
Diethyl ether	50.0	49.4		ug/L		99	74 - 134	4	50
Ethylbenzene	50.0	49.5		ug/L		99	80 - 120	5	20
2-Hexanone	250	264		ug/L		106	70 - 141	7	40
Methylene Chloride	50.0	55.3		ug/L		111	76 - 129	3	20
4-Methyl-2-pentanone (MIBK)	250	258		ug/L		103	75 - 135	7	30
Methyl tert-butyl ether	50.0	51.7		ug/L		103	74 - 135	6	20
Styrene	50.0	50.2		ug/L		100	80 - 122	7	20
1,1,2,2-Tetrachloroethane	50.0	50.4		ug/L		101	72 - 128	8	20
Tetrachloroethene	50.0	50.1		ug/L		100	77 - 123	3	20
Toluene	50.0	50.1		ug/L		100	80 - 122	5	20
trans-1,2-Dichloroethene	50.0	51.6		ug/L		103	78 - 123	4	20
trans-1,3-Dichloropropene	50.0	52.7		ug/L		105	74 - 140	7	20
1,1,1-Trichloroethane	50.0	50.9		ug/L		102	74 - 128	2	20
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	79 - 125	7	20
Trichloroethene	50.0	50.3		ug/L		101	80 - 123	4	20
Vinyl chloride	50.0	46.7		ug/L		93	68 - 132	8	30
Xylenes, Total	100	101		ug/L		101	80 - 120	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-392765/1-A
Matrix: Water
Analysis Batch: 393072

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		07/23/15 09:03	07/23/15 16:56	1
Chromium	10	U	10		ug/L		07/23/15 09:03	07/23/15 16:56	1
Copper	20	U	20		ug/L		07/23/15 09:03	07/23/15 16:56	1
Lead	10	U	10		ug/L		07/23/15 09:03	07/23/15 16:56	1
Zinc	20	U	20		ug/L		07/23/15 09:03	07/23/15 16:56	1

Lab Sample ID: LCS 680-392765/2-A
Matrix: Water
Analysis Batch: 393072

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	108		ug/L		108	80 - 120
Chromium	100	110		ug/L		110	80 - 120
Copper	100	108		ug/L		108	80 - 120
Lead	500	519		ug/L		104	80 - 120
Zinc	100	106		ug/L		106	80 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

GC/MS VOA

Analysis Batch: 393238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-114721-1	Effluent	Total/NA	Water	8260B	
LCS 680-393238/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-393238/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-393238/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 392765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-114721-1	Effluent	Total Recoverable	Water	3005A	
LCS 680-392765/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-392765/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 393072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-114721-1	Effluent	Total Recoverable	Water	6010C	392765
LCS 680-392765/2-A	Lab Control Sample	Total Recoverable	Water	6010C	392765
MB 680-392765/1-A	Method Blank	Total Recoverable	Water	6010C	392765

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Client Sample ID: Effluent

Date Collected: 07/20/15 15:00
Date Received: 07/21/15 09:21

Lab Sample ID: 680-114721-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393238	07/27/15 16:14	CEJ	TAL SAV
	Instrument ID: CMSO2									
Total Recoverable	Prep	3005A			50 mL	50 mL	392765	07/23/15 09:03	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	393072	07/23/15 18:09	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 7/20/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	7/20/15	1500	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-114721 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

20/25°C 680-114721

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	7-20-15 1700	[signature]	TA	7/21/15 09:21

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-114721-1

Login Number: 114721
List Number: 1
Creator: Kicklighter, Marilyn D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-114721-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-108515-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
7/30/2015 4:41:02 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Job ID: 400-108515-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-108515-1

Comments
No additional comments.

Receipt
The sample was received on 7/21/2015 9:53 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0º C.

Receipt Exceptions

The sample EFFLUENT (400-108515-1) was received in a bubble bag only. Placed in a ziploc bag upon receipt.

Metals
Method 1631E: The matrix spike (MS) recoveries for 400-267452 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample and duplicate(LCS/LCSD) recoveries was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-108515-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	8.2		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-108515-1	EFFLUENT	Water	07/20/15 15:00	07/21/15 09:53

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-108515-1

Date Collected: 07/20/15 15:00

Matrix: Water

Date Received: 07/21/15 09:53

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	8.2		0.50		ng/L		07/21/15 10:55	07/30/15 12:58	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Metals

Prep Batch: 267452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-108515-1	EFFLUENT	Total/NA	Water	1631E	
550-47845-H-1-B MS	Matrix Spike	Total/NA	Water	1631E	
550-47845-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
660-68188-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
660-68188-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	
LCS 400-267452/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-267452/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-267452/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 267548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-108515-1	EFFLUENT	Total/NA	Water	1631E	267452
550-47845-H-1-B MS	Matrix Spike	Total/NA	Water	1631E	267452
550-47845-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	267452
660-68188-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	267452
660-68188-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	267452
LCS 400-267452/2-A	Lab Control Sample	Total/NA	Water	1631E	267452
LCSD 400-267452/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	267452
MB 400-267452/1-A	Method Blank	Total/NA	Water	1631E	267452

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-267452/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		07/30/15 08:37	07/30/15 09:00	1

Lab Sample ID: LCS 400-267452/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.61		ng/L		92	79 - 121		

Lab Sample ID: LCSD 400-267452/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.18		ng/L		84	79 - 121	10	20

Lab Sample ID: 550-47845-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	7.1		50.0	46.4		ng/L		79	71 - 125		

Lab Sample ID: 550-47845-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	7.1		50.0	49.7		ng/L		85	71 - 125	7	24

Lab Sample ID: 660-68188-D-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.58	F1	2.50	2.64		ng/L		82	71 - 125	13	24

Lab Sample ID: 660-68188-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 267548 — **Prep Batch: 267452**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.58	F1	2.50	2.32	F1	ng/L		69	71 - 125		

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-108515-1

Date Collected: 07/20/15 15:00

Matrix: Water

Date Received: 07/21/15 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			267452	07/21/15 10:55	VLC	TAL PEN
Total/NA	Analysis	1631E		1	267548	07/30/15 12:58	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-108515-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: David Twamley	Lab PM: Swafford, Mark H	Carrier Tracking No(s):	COC No: 400-39776-17852.1
Client Contact: Mr. Alan Pinnix	Phone: 919-915-2294	E-Mail: mark.swafford@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.				Job #:
Address: 801 Corporate Center Drive Suite 300	Due Date Requested:			
City: Raleigh	TAT Requested (days): Std.			
State, Zip: NC, 27607-5073				
Phone: 919-622-8313(Tel)	PO #: NC000239.0019.0001B			
Email: apinnix@arcadis-us.com	WO #:			
Project Name: UNC Airport Rd.	Project #: 40001211			
Site:	SSOW#:			

Analysis Requested

400-108515 COC

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS / MSD (Yes or No)	1631E - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Effluent	7-20-15	1500	G	Water	N	N	X		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
David Twamley	7-20-15 1700			7/21/15 @ 0953	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.0°C IR-2

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-108515-1

Login Number: 108515
List Number: 1
Creator: Benforado, Jessica L

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	Vials were received labeled by client.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-116188-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
9/11/2015 9:08:43 AM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

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Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-116188-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-116188-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 08/29/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-116188-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/10/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-116188-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 09/03/2015 and analyzed on 09/09/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-116188-1	Effluent	Water	08/28/15 13:45	08/29/15 10:25

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Client Sample ID: Effluent

Lab Sample ID: 680-116188-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Client Sample ID: Effluent

Date Collected: 08/28/15 13:45
Date Received: 08/29/15 10:25

Lab Sample ID: 680-116188-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			09/10/15 16:22	1
Benzene	1.0	U	1.0		ug/L			09/10/15 16:22	1
Bromoform	1.0	U	1.0		ug/L			09/10/15 16:22	1
Bromomethane	5.0	U	5.0		ug/L			09/10/15 16:22	1
2-Butanone (MEK)	10	U	10		ug/L			09/10/15 16:22	1
Carbon disulfide	2.0	U	2.0		ug/L			09/10/15 16:22	1
Carbon tetrachloride	1.0	U	1.0		ug/L			09/10/15 16:22	1
Chlorobenzene	1.0	U	1.0		ug/L			09/10/15 16:22	1
Chlorodibromomethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
Chloroethane	5.0	U	5.0		ug/L			09/10/15 16:22	1
Chloroform	1.0	U	1.0		ug/L			09/10/15 16:22	1
Chloromethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			09/10/15 16:22	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			09/10/15 16:22	1
Dichlorobromomethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			09/10/15 16:22	1
Diethyl ether	5.0	U	5.0		ug/L			09/10/15 16:22	1
Ethylbenzene	1.0	U	1.0		ug/L			09/10/15 16:22	1
2-Hexanone	10	U	10		ug/L			09/10/15 16:22	1
Methylene Chloride	5.0	U	5.0		ug/L			09/10/15 16:22	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			09/10/15 16:22	1
Methyl tert-butyl ether	10	U	10		ug/L			09/10/15 16:22	1
Styrene	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
Tetrachloroethene	1.0	U	1.0		ug/L			09/10/15 16:22	1
Toluene	1.0	U	1.0		ug/L			09/10/15 16:22	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			09/10/15 16:22	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			09/10/15 16:22	1
Trichloroethene	1.0	U	1.0		ug/L			09/10/15 16:22	1
Vinyl chloride	1.0	U	1.0		ug/L			09/10/15 16:22	1
Xylenes, Total	1.0	U	1.0		ug/L			09/10/15 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*09/10/15 16:22*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*09/10/15 16:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*09/10/15 16:22*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/10/15 16:22*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		09/03/15 23:13	09/09/15 13:22	1
Chromium	10	U	10		ug/L		09/03/15 23:13	09/09/15 13:22	1
Copper	20	U	20		ug/L		09/03/15 23:13	09/09/15 13:22	1
Lead	10	U	10		ug/L		09/03/15 23:13	09/09/15 13:22	1
Zinc	20	U	20		ug/L		09/03/15 23:13	09/09/15 13:22	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-116188-1	Effluent	102	96	94	98
LCS 680-400272/4	Lab Control Sample	85	91	90	101
LCSD 680-400272/5	Lab Control Sample Dup	85	97	95	102
MB 680-400272/9	Method Blank	101	97	91	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-400272/9
Matrix: Water
Analysis Batch: 400272

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			09/10/15 09:13	1
Benzene	1.0	U	1.0		ug/L			09/10/15 09:13	1
Bromoform	1.0	U	1.0		ug/L			09/10/15 09:13	1
Bromomethane	5.0	U	5.0		ug/L			09/10/15 09:13	1
2-Butanone (MEK)	10	U	10		ug/L			09/10/15 09:13	1
Carbon disulfide	2.0	U	2.0		ug/L			09/10/15 09:13	1
Carbon tetrachloride	1.0	U	1.0		ug/L			09/10/15 09:13	1
Chlorobenzene	1.0	U	1.0		ug/L			09/10/15 09:13	1
Chlorodibromomethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
Chloroethane	5.0	U	5.0		ug/L			09/10/15 09:13	1
Chloroform	1.0	U	1.0		ug/L			09/10/15 09:13	1
Chloromethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			09/10/15 09:13	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			09/10/15 09:13	1
Dichlorobromomethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			09/10/15 09:13	1
Diethyl ether	5.0	U	5.0		ug/L			09/10/15 09:13	1
Ethylbenzene	1.0	U	1.0		ug/L			09/10/15 09:13	1
2-Hexanone	10	U	10		ug/L			09/10/15 09:13	1
Methylene Chloride	5.0	U	5.0		ug/L			09/10/15 09:13	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			09/10/15 09:13	1
Methyl tert-butyl ether	10	U	10		ug/L			09/10/15 09:13	1
Styrene	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
Tetrachloroethene	1.0	U	1.0		ug/L			09/10/15 09:13	1
Toluene	1.0	U	1.0		ug/L			09/10/15 09:13	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			09/10/15 09:13	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			09/10/15 09:13	1
Trichloroethene	1.0	U	1.0		ug/L			09/10/15 09:13	1
Vinyl chloride	1.0	U	1.0		ug/L			09/10/15 09:13	1
Xylenes, Total	1.0	U	1.0		ug/L			09/10/15 09:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*09/10/15 09:13*	*1*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*09/10/15 09:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*09/10/15 09:13*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*09/10/15 09:13*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-400272/4
Matrix: Water
Analysis Batch: 400272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	264		ug/L		106	60 - 154
Benzene	50.0	48.7		ug/L		97	73 - 131
Bromoform	50.0	54.1		ug/L		108	69 - 135
Bromomethane	50.0	49.3		ug/L		99	20 - 180
2-Butanone (MEK)	250	232		ug/L		93	75 - 133
Carbon disulfide	50.0	57.7		ug/L		115	73 - 127
Carbon tetrachloride	50.0	53.2		ug/L		106	75 - 130
Chlorobenzene	50.0	47.8		ug/L		96	80 - 120
Chlorodibromomethane	50.0	44.6		ug/L		89	71 - 136
Chloroethane	50.0	57.3		ug/L		115	50 - 151
Chloroform	50.0	46.9		ug/L		94	79 - 122
Chloromethane	50.0	58.5		ug/L		117	63 - 126
cis-1,2-Dichloroethene	50.0	47.3		ug/L		95	80 - 122
cis-1,3-Dichloropropene	50.0	52.1		ug/L		104	80 - 133
Dichlorobromomethane	50.0	51.7		ug/L		103	77 - 129
1,1-Dichloroethane	50.0	49.7		ug/L		99	80 - 120
1,2-Dichloroethane	50.0	46.7		ug/L		93	75 - 130
1,1-Dichloroethene	50.0	49.6		ug/L		99	74 - 125
1,2-Dichloropropane	50.0	49.5		ug/L		99	80 - 123
Diethyl ether	50.0	48.6		ug/L		97	74 - 134
Ethylbenzene	50.0	49.1		ug/L		98	80 - 120
2-Hexanone	250	259		ug/L		104	70 - 141
Methylene Chloride	50.0	59.5		ug/L		119	76 - 129
4-Methyl-2-pentanone (MIBK)	250	252		ug/L		101	75 - 135
Methyl tert-butyl ether	50.0	48.7		ug/L		97	74 - 135
Styrene	50.0	52.1		ug/L		104	80 - 122
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	72 - 128
Tetrachloroethene	50.0	52.0		ug/L		104	77 - 123
Toluene	50.0	51.2		ug/L		102	80 - 122
trans-1,2-Dichloroethene	50.0	49.1		ug/L		98	78 - 123
trans-1,3-Dichloropropene	50.0	41.5		ug/L		83	74 - 140
1,1,1-Trichloroethane	50.0	48.7		ug/L		97	74 - 128
1,1,2-Trichloroethane	50.0	49.6		ug/L		99	79 - 125
Trichloroethene	50.0	50.6		ug/L		101	80 - 123
Vinyl chloride	50.0	62.8		ug/L		126	68 - 132
Xylenes, Total	100	102		ug/L		102	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
Dibromofluoromethane (Surr)	*91*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-400272/5
Matrix: Water
Analysis Batch: 400272

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	283		ug/L		113	60 - 154	7	40
Benzene	50.0	49.3		ug/L		99	73 - 131	1	30
Bromoform	50.0	56.3		ug/L		113	69 - 135	4	20
Bromomethane	50.0	37.6		ug/L		75	20 - 180	27	40
2-Butanone (MEK)	250	260		ug/L		104	75 - 133	12	30
Carbon disulfide	50.0	57.1		ug/L		114	73 - 127	1	20
Carbon tetrachloride	50.0	53.3		ug/L		107	75 - 130	0	20
Chlorobenzene	50.0	48.6		ug/L		97	80 - 120	2	20
Chlorodibromomethane	50.0	47.7		ug/L		95	71 - 136	7	20
Chloroethane	50.0	67.7		ug/L		135	50 - 151	17	30
Chloroform	50.0	48.0		ug/L		96	79 - 122	2	20
Chloromethane	50.0	58.7		ug/L		117	63 - 126	0	30
cis-1,2-Dichloroethene	50.0	48.4		ug/L		97	80 - 122	2	20
cis-1,3-Dichloropropene	50.0	52.9		ug/L		106	80 - 133	2	20
Dichlorobromomethane	50.0	53.4		ug/L		107	77 - 129	3	20
1,1-Dichloroethane	50.0	49.9		ug/L		100	80 - 120	0	20
1,2-Dichloroethane	50.0	49.9		ug/L		100	75 - 130	7	20
1,1-Dichloroethene	50.0	48.1		ug/L		96	74 - 125	3	20
1,2-Dichloropropane	50.0	50.1		ug/L		100	80 - 123	1	20
Diethyl ether	50.0	50.7		ug/L		101	74 - 134	4	50
Ethylbenzene	50.0	49.1		ug/L		98	80 - 120	0	20
2-Hexanone	250	288		ug/L		115	70 - 141	11	40
Methylene Chloride	50.0	61.1		ug/L		122	76 - 129	3	20
4-Methyl-2-pentanone (MIBK)	250	279		ug/L		112	75 - 135	10	30
Methyl tert-butyl ether	50.0	51.5		ug/L		103	74 - 135	6	20
Styrene	50.0	53.4		ug/L		107	80 - 122	2	20
1,1,2,2-Tetrachloroethane	50.0	54.7		ug/L		109	72 - 128	8	20
Tetrachloroethene	50.0	52.3		ug/L		105	77 - 123	1	20
Toluene	50.0	52.1		ug/L		104	80 - 122	2	20
trans-1,2-Dichloroethene	50.0	49.4		ug/L		99	78 - 123	0	20
trans-1,3-Dichloropropene	50.0	43.1		ug/L		86	74 - 140	4	20
1,1,1-Trichloroethane	50.0	48.6		ug/L		97	74 - 128	0	20
1,1,2-Trichloroethane	50.0	52.2		ug/L		104	79 - 125	5	20
Trichloroethene	50.0	51.1		ug/L		102	80 - 123	1	20
Vinyl chloride	50.0	61.9		ug/L		124	68 - 132	1	30
Xylenes, Total	100	102		ug/L		102	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-399504/1-A
Matrix: Water
Analysis Batch: 400223

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 399504

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		09/03/15 23:13	09/09/15 12:29	1
Chromium	10	U	10		ug/L		09/03/15 23:13	09/09/15 12:29	1
Copper	20	U	20		ug/L		09/03/15 23:13	09/09/15 12:29	1
Lead	10	U	10		ug/L		09/03/15 23:13	09/09/15 12:29	1
Zinc	20	U	20		ug/L		09/03/15 23:13	09/09/15 12:29	1

Lab Sample ID: LCS 680-399504/2-A
Matrix: Water
Analysis Batch: 400223

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 399504

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	116		ug/L		116	80 - 120
Chromium	100	108		ug/L		108	80 - 120
Copper	100	109		ug/L		109	80 - 120
Lead	500	532		ug/L		106	80 - 120
Zinc	100	105		ug/L		105	80 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

GC/MS VOA

Analysis Batch: 400272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-116188-1	Effluent	Total/NA	Water	8260B	
LCS 680-400272/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-400272/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-400272/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 399504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-116188-1	Effluent	Total Recoverable	Water	3005A	
LCS 680-399504/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-399504/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 400223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-116188-1	Effluent	Total Recoverable	Water	6010C	399504
LCS 680-399504/2-A	Lab Control Sample	Total Recoverable	Water	6010C	399504
MB 680-399504/1-A	Method Blank	Total Recoverable	Water	6010C	399504

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Client Sample ID: Effluent

Date Collected: 08/28/15 13:45
Date Received: 08/29/15 10:25

Lab Sample ID: 680-116188-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	400272	09/10/15 16:22	CEJ	TAL SAV
	Instrument ID: CMSA2									
Total Recoverable	Prep	3005A			50 mL	50 mL	399504	09/03/15 23:13	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	400223	09/09/15 13:22	BCB	TAL SAV
	Instrument ID: ICPF									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 8-28-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	8/28/15	1345	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-116188 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

680-116188 3.8(CF) 4.2°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	8-28-15/1700	[signature]	SAV.	08-29-15 1025
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-116188-1

Login Number: 116188
List Number: 1
Creator: Banda, Christy S

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-116188-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-110322-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
9/4/2015 8:47:38 AM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Detection Summary 4
Sample Summary 5
Client Sample Results 6
QC Association 7
QC Sample Results 8
Chronicle 9
Certification Summary 10
Method Summary 11
Chain of Custody 12
Receipt Checklists 13

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-110322-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	1.9		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-110322-1	EFFLUENT	Water	08/28/15 13:45	08/29/15 09:08

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-110322-1

Date Collected: 08/28/15 13:45
Matrix: Water
Date Received: 08/29/15 09:08

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.9		0.50		ng/L		08/29/15 09:30	09/03/15 14:05	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Metals

Prep Batch: 272814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-110322-1	EFFLUENT	Total/NA	Water	1631E	
660-68918-K-1-B MS	Matrix Spike	Total/NA	Water	1631E	
660-68918-K-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
LCS 400-272814/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-272814/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-272814/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 272900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-110322-1	EFFLUENT	Total/NA	Water	1631E	272814
660-68918-K-1-B MS	Matrix Spike	Total/NA	Water	1631E	272814
660-68918-K-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	272814
LCS 400-272814/2-A	Lab Control Sample	Total/NA	Water	1631E	272814
LCSD 400-272814/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	272814
MB 400-272814/1-A	Method Blank	Total/NA	Water	1631E	272814

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-272814/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272900 — **Prep Batch: 272814**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		09/03/15 09:47	09/03/15 11:22	1

Lab Sample ID: LCS 400-272814/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272900 — **Prep Batch: 272814**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	5.03		ng/L		101	79 - 121		

Lab Sample ID: LCSD 400-272814/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272900 — **Prep Batch: 272814**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.98		ng/L		100	79 - 121	1	20

Lab Sample ID: 660-68918-K-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272900 — **Prep Batch: 272814**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	2.5		25.0	22.1		ng/L		78	71 - 125		

Lab Sample ID: 660-68918-K-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272900 — **Prep Batch: 272814**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	2.5		25.0	22.3		ng/L		79	71 - 125	1	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Client Sample ID: EFFLUENT

Date Collected: 08/28/15 13:45
Date Received: 08/29/15 09:08

Lab Sample ID: 400-110322-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			272814	08/29/15 09:30	VLC	TAL PEN
Total/NA	Analysis	1631E		1	272900	09/03/15 14:05	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-110322-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 8-28-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

100-110322 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	8/28/15	1345	Grab	W	3	N	3	
							1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	8-28-15/1700			
			[signature]		8-29-15 9:00

1.3°C IR-2

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-110322-1

Login Number: 110322
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-117297-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
10/12/2015 5:03:58 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-117297-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-117297-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 09/30/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.0 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-117297-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/08/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-404812.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-117297-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 10/05/2015 and analyzed on 10/07/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-117297-1	Effluent	Water	09/28/15 14:30	09/30/15 09:35

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Client Sample ID: Effluent — Lab Sample ID: 680-117297-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	6.6		5.0		ug/L	1		8260B	Total/NA
Zinc	62		20		ug/L	1		6010C	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Client Sample ID: Effluent

Date Collected: 09/28/15 14:30
Date Received: 09/30/15 09:35

Lab Sample ID: 680-117297-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			10/08/15 18:46	1
Benzene	1.0	U	1.0		ug/L			10/08/15 18:46	1
Bromoform	1.0	U	1.0		ug/L			10/08/15 18:46	1
Bromomethane	5.0	U	5.0		ug/L			10/08/15 18:46	1
2-Butanone (MEK)	10	U	10		ug/L			10/08/15 18:46	1
Carbon disulfide	2.0	U	2.0		ug/L			10/08/15 18:46	1
Carbon tetrachloride	1.0	U	1.0		ug/L			10/08/15 18:46	1
Chlorobenzene	1.0	U	1.0		ug/L			10/08/15 18:46	1
Chlorodibromomethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
Chloroethane	5.0	U	5.0		ug/L			10/08/15 18:46	1
Chloroform	1.0	U	1.0		ug/L			10/08/15 18:46	1
Chloromethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			10/08/15 18:46	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			10/08/15 18:46	1
Dichlorobromomethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			10/08/15 18:46	1
Diethyl ether	**6.6**		5.0		ug/L			10/08/15 18:46	1
Ethylbenzene	1.0	U	1.0		ug/L			10/08/15 18:46	1
2-Hexanone	10	U	10		ug/L			10/08/15 18:46	1
Methylene Chloride	5.0	U	5.0		ug/L			10/08/15 18:46	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			10/08/15 18:46	1
Methyl tert-butyl ether	10	U	10		ug/L			10/08/15 18:46	1
Styrene	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
Tetrachloroethene	1.0	U	1.0		ug/L			10/08/15 18:46	1
Toluene	1.0	U	1.0		ug/L			10/08/15 18:46	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			10/08/15 18:46	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			10/08/15 18:46	1
Trichloroethene	1.0	U	1.0		ug/L			10/08/15 18:46	1
Vinyl chloride	1.0	U	1.0		ug/L			10/08/15 18:46	1
Xylenes, Total	1.0	U	1.0		ug/L			10/08/15 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*10/08/15 18:46*	*1*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*10/08/15 18:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*10/08/15 18:46*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*10/08/15 18:46*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		10/05/15 14:06	10/07/15 21:31	1
Chromium	10	U	10		ug/L		10/05/15 14:06	10/07/15 21:31	1
Copper	20	U	20		ug/L		10/05/15 14:06	10/07/15 21:31	1
Lead	10	U	10		ug/L		10/05/15 14:06	10/07/15 21:31	1
Zinc	**62**		20		ug/L		10/05/15 14:06	10/07/15 21:31	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-117297-1	Effluent	97	97	98	98
LCS 680-404812/4	Lab Control Sample	93	94	95	95
LCSD 680-404812/5	Lab Control Sample Dup	94	94	95	96
MB 680-404812/9	Method Blank	94	98	99	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-404812/9
Matrix: Water
Analysis Batch: 404812

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			10/08/15 13:07	1
Benzene	1.0	U	1.0		ug/L			10/08/15 13:07	1
Bromoform	1.0	U	1.0		ug/L			10/08/15 13:07	1
Bromomethane	5.0	U	5.0		ug/L			10/08/15 13:07	1
2-Butanone (MEK)	10	U	10		ug/L			10/08/15 13:07	1
Carbon disulfide	2.0	U	2.0		ug/L			10/08/15 13:07	1
Carbon tetrachloride	1.0	U	1.0		ug/L			10/08/15 13:07	1
Chlorobenzene	1.0	U	1.0		ug/L			10/08/15 13:07	1
Chlorodibromomethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
Chloroethane	5.0	U	5.0		ug/L			10/08/15 13:07	1
Chloroform	1.0	U	1.0		ug/L			10/08/15 13:07	1
Chloromethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			10/08/15 13:07	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			10/08/15 13:07	1
Dichlorobromomethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			10/08/15 13:07	1
Diethyl ether	5.0	U	5.0		ug/L			10/08/15 13:07	1
Ethylbenzene	1.0	U	1.0		ug/L			10/08/15 13:07	1
2-Hexanone	10	U	10		ug/L			10/08/15 13:07	1
Methylene Chloride	5.0	U	5.0		ug/L			10/08/15 13:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			10/08/15 13:07	1
Methyl tert-butyl ether	10	U	10		ug/L			10/08/15 13:07	1
Styrene	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
Tetrachloroethene	1.0	U	1.0		ug/L			10/08/15 13:07	1
Toluene	1.0	U	1.0		ug/L			10/08/15 13:07	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			10/08/15 13:07	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			10/08/15 13:07	1
Trichloroethene	1.0	U	1.0		ug/L			10/08/15 13:07	1
Vinyl chloride	1.0	U	1.0		ug/L			10/08/15 13:07	1
Xylenes, Total	1.0	U	1.0		ug/L			10/08/15 13:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*10/08/15 13:07*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*10/08/15 13:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*10/08/15 13:07*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*10/08/15 13:07*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-404812/4
Matrix: Water
Analysis Batch: 404812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	241		ug/L		96	60 - 154
Benzene	50.0	47.4		ug/L		95	73 - 131
Bromoform	50.0	49.3		ug/L		99	69 - 135
Bromomethane	50.0	51.9		ug/L		104	20 - 180
2-Butanone (MEK)	250	239		ug/L		96	75 - 133
Carbon disulfide	50.0	45.9		ug/L		92	73 - 127
Carbon tetrachloride	50.0	49.0		ug/L		98	75 - 130
Chlorobenzene	50.0	47.5		ug/L		95	80 - 120
Chlorodibromomethane	50.0	48.7		ug/L		97	71 - 136
Chloroethane	50.0	47.9		ug/L		96	50 - 151
Chloroform	50.0	48.1		ug/L		96	79 - 122
Chloromethane	50.0	48.4		ug/L		97	63 - 126
cis-1,2-Dichloroethene	50.0	47.0		ug/L		94	80 - 122
cis-1,3-Dichloropropene	50.0	48.2		ug/L		96	80 - 133
Dichlorobromomethane	50.0	47.8		ug/L		96	77 - 129
1,1-Dichloroethane	50.0	47.9		ug/L		96	80 - 120
1,2-Dichloroethane	50.0	47.8		ug/L		96	75 - 130
1,1-Dichloroethene	50.0	45.3		ug/L		91	74 - 125
1,2-Dichloropropane	50.0	47.6		ug/L		95	80 - 123
Diethyl ether	50.0	46.9		ug/L		94	74 - 134
Ethylbenzene	50.0	48.0		ug/L		96	80 - 120
2-Hexanone	250	235		ug/L		94	70 - 141
Methylene Chloride	50.0	48.5		ug/L		97	76 - 129
4-Methyl-2-pentanone (MIBK)	250	232		ug/L		93	75 - 135
Methyl tert-butyl ether	50.0	47.3		ug/L		95	74 - 135
Styrene	50.0	47.7		ug/L		95	80 - 122
1,1,2,2-Tetrachloroethane	50.0	45.8		ug/L		92	72 - 128
Tetrachloroethene	50.0	48.5		ug/L		97	77 - 123
Toluene	50.0	47.2		ug/L		94	80 - 122
trans-1,2-Dichloroethene	50.0	47.5		ug/L		95	78 - 123
trans-1,3-Dichloropropene	50.0	48.8		ug/L		98	74 - 140
1,1,1-Trichloroethane	50.0	47.8		ug/L		96	74 - 128
1,1,2-Trichloroethane	50.0	47.3		ug/L		95	79 - 125
Trichloroethene	50.0	48.6		ug/L		97	80 - 123
Vinyl chloride	50.0	45.2		ug/L		90	68 - 132
Xylenes, Total	100	96.4		ug/L		96	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
Dibromofluoromethane (Surr)	*94*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*95*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-404812/5
Matrix: Water
Analysis Batch: 404812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	247		ug/L		99	60 - 154	2	40
Benzene	50.0	47.1		ug/L		94	73 - 131	1	30
Bromoform	50.0	49.3		ug/L		99	69 - 135	0	20
Bromomethane	50.0	56.6		ug/L		113	20 - 180	9	40
2-Butanone (MEK)	250	242		ug/L		97	75 - 133	1	30
Carbon disulfide	50.0	46.6		ug/L		93	73 - 127	2	20
Carbon tetrachloride	50.0	47.7		ug/L		95	75 - 130	3	20
Chlorobenzene	50.0	47.6		ug/L		95	80 - 120	0	20
Chlorodibromomethane	50.0	48.7		ug/L		97	71 - 136	0	20
Chloroethane	50.0	46.8		ug/L		94	50 - 151	2	30
Chloroform	50.0	48.0		ug/L		96	79 - 122	0	20
Chloromethane	50.0	47.1		ug/L		94	63 - 126	3	30
cis-1,2-Dichloroethene	50.0	46.8		ug/L		94	80 - 122	0	20
cis-1,3-Dichloropropene	50.0	48.0		ug/L		96	80 - 133	0	20
Dichlorobromomethane	50.0	48.4		ug/L		97	77 - 129	1	20
1,1-Dichloroethane	50.0	47.7		ug/L		95	80 - 120	0	20
1,2-Dichloroethane	50.0	48.4		ug/L		97	75 - 130	1	20
1,1-Dichloroethene	50.0	43.7		ug/L		87	74 - 125	4	20
1,2-Dichloropropane	50.0	47.9		ug/L		96	80 - 123	0	20
Diethyl ether	50.0	47.3		ug/L		95	74 - 134	1	50
Ethylbenzene	50.0	47.9		ug/L		96	80 - 120	0	20
2-Hexanone	250	237		ug/L		95	70 - 141	1	40
Methylene Chloride	50.0	48.2		ug/L		96	76 - 129	1	20
4-Methyl-2-pentanone (MIBK)	250	235		ug/L		94	75 - 135	1	30
Methyl tert-butyl ether	50.0	47.6		ug/L		95	74 - 135	0	20
Styrene	50.0	47.7		ug/L		95	80 - 122	0	20
1,1,2,2-Tetrachloroethane	50.0	46.4		ug/L		93	72 - 128	1	20
Tetrachloroethene	50.0	48.9		ug/L		98	77 - 123	1	20
Toluene	50.0	47.3		ug/L		95	80 - 122	0	20
trans-1,2-Dichloroethene	50.0	46.9		ug/L		94	78 - 123	1	20
trans-1,3-Dichloropropene	50.0	48.8		ug/L		98	74 - 140	0	20
1,1,1-Trichloroethane	50.0	48.4		ug/L		97	74 - 128	1	20
1,1,2-Trichloroethane	50.0	47.2		ug/L		94	79 - 125	0	20
Trichloroethene	50.0	48.0		ug/L		96	80 - 123	1	20
Vinyl chloride	50.0	41.4		ug/L		83	68 - 132	9	30
Xylenes, Total	100	96.7		ug/L		97	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
Dibromofluoromethane (Surr)	*94*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-404304/1-A
Matrix: Water
Analysis Batch: 404862

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 404304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		10/05/15 14:06	10/07/15 21:24	1
Chromium	10	U	10		ug/L		10/05/15 14:06	10/07/15 21:24	1
Copper	20	U	20		ug/L		10/05/15 14:06	10/07/15 21:24	1
Lead	10	U	10		ug/L		10/05/15 14:06	10/07/15 21:24	1
Zinc	20	U	20		ug/L		10/05/15 14:06	10/07/15 21:24	1

Lab Sample ID: LCS 680-404304/2-A
Matrix: Water
Analysis Batch: 404862

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 404304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	104		ug/L		104	80 - 120
Chromium	100	106		ug/L		106	80 - 120
Copper	100	106		ug/L		106	80 - 120
Lead	500	513		ug/L		103	80 - 120
Zinc	100	104		ug/L		104	80 - 120

Lab Sample ID: 680-117297-1 MS
Matrix: Water
Analysis Batch: 404862

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 404304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20	U	100	108		ug/L		108	75 - 125
Chromium	10	U	100	103		ug/L		103	75 - 125
Copper	20	U	100	111		ug/L		105	75 - 125
Lead	10	U	500	493		ug/L		99	75 - 125
Zinc	62		100	159		ug/L		97	75 - 125

Lab Sample ID: 680-117297-1 MSD
Matrix: Water
Analysis Batch: 404862

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 404304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	20	U	100	112		ug/L		112	75 - 125	4	20
Chromium	10	U	100	108		ug/L		108	75 - 125	5	20
Copper	20	U	100	115		ug/L		110	75 - 125	4	20
Lead	10	U	500	518		ug/L		104	75 - 125	5	20
Zinc	62		100	165		ug/L		103	75 - 125	4	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

GC/MS VOA

Analysis Batch: 404812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117297-1	Effluent	Total/NA	Water	8260B	
LCS 680-404812/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-404812/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-404812/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 404304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117297-1	Effluent	Total Recoverable	Water	3005A	
680-117297-1 MS	Effluent	Total Recoverable	Water	3005A	
680-117297-1 MSD	Effluent	Total Recoverable	Water	3005A	
LCS 680-404304/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-404304/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 404862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117297-1	Effluent	Total Recoverable	Water	6010C	404304
680-117297-1 MS	Effluent	Total Recoverable	Water	6010C	404304
680-117297-1 MSD	Effluent	Total Recoverable	Water	6010C	404304
LCS 680-404304/2-A	Lab Control Sample	Total Recoverable	Water	6010C	404304
MB 680-404304/1-A	Method Blank	Total Recoverable	Water	6010C	404304

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Client Sample ID: Effluent

Date Collected: 09/28/15 14:30
Date Received: 09/30/15 09:35

Lab Sample ID: 680-117297-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	404812	10/08/15 18:46	JD1	TAL SAV
	Instrument ID: CMSO2									
Total Recoverable	Prep	3005A			50 mL	50 mL	404304	10/05/15 14:06	KMN	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	404862	10/07/15 21:31	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Alan Pinnix	Date: 9-28-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W)			
919-854-1282	TAT if different from Below			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.00[redacted].0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	9/28/15	1430	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

680-117297 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

2.6/3.0 680-117297

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	9-29-15/1700	[signature]	TA	9/30/15 09:35
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-117297-1

Login Number: 117297
List Number: 1
Creator: Kicklighter, Marilyn D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-117297-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-111658-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
10/6/2015 10:04:05 AM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Job ID: 400-111658-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-111658-1

Comments
No additional comments.

Receipt
The sample was received on 9/30/2015 9:53 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1º C.

Receipt Exceptions

The following samples was received unbagged with client labels on bottles: EFFLUENT (400-111658-1). Clean hands/dirty hands was not followed.

Metals
Method 1631E: The following sample was received with labels already on the vials: EFFLUENT (400-111658-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-111658-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	0.80		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-111658-1	EFFLUENT	Water	09/28/15 14:30	09/30/15 09:53

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-111658-1

Date Collected: 09/28/15 14:30

Matrix: Water

Date Received: 09/30/15 09:53

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.80		0.50		ng/L		09/30/15 16:15	10/05/15 11:33	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Metals

Prep Batch: 277304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-111658-1	EFFLUENT	Total/NA	Water	1631E	
490-88168-I-1-A MS	Matrix Spike	Total/NA	Water	1631E	
490-88168-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
LCS 400-277304/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-277304/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-277304/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 277410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-111658-1	EFFLUENT	Total/NA	Water	1631E	277304
490-88168-I-1-A MS	Matrix Spike	Total/NA	Water	1631E	277304
490-88168-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	277304
LCS 400-277304/2-A	Lab Control Sample	Total/NA	Water	1631E	277304
LCSD 400-277304/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	277304
MB 400-277304/1-A	Method Blank	Total/NA	Water	1631E	277304

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-277304/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 277410 — **Prep Batch: 277304**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		10/05/15 09:14	10/05/15 10:22	1

Lab Sample ID: LCS 400-277304/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 277410 — **Prep Batch: 277304**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	5.60		ng/L		112	79 - 121		

Lab Sample ID: LCSD 400-277304/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 277410 — **Prep Batch: 277304**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	5.81		ng/L		116	79 - 121	4	20

Lab Sample ID: 490-88168-I-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 277410 — **Prep Batch: 277304**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.68		2.50	2.69		ng/L		80	71 - 125		

Lab Sample ID: 490-88168-I-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 277410 — **Prep Batch: 277304**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.68		2.50	2.72		ng/L		82	71 - 125	1	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Client Sample ID: EFFLUENT

Date Collected: 09/28/15 14:30
Date Received: 09/30/15 09:53

Lab Sample ID: 400-111658-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			277304	09/30/15 16:15	VLC	TAL PEN
Total/NA	Analysis	1631E		1	277410	10/05/15 11:33	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-111658-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 9-28-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.00[redacted].0001B	☐ 1 day			

400-111658 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	9/28/15	1430	Grab	W	3	N	3	
							1	

Page 13 of 14

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

3.1°C IR6

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	9-29-15/1200			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]		9-30-15 953	[signature]	QA-Pa	9-30-15 953

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-111658-1

Login Number: 111658
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C IR-6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-118348-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
11/11/2015 6:05:21 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-118348-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-118348-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 10/28/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-118348-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/04/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-408847.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-118348-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 11/04/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-118348-1	Effluent	Water	10/26/15 17:30	10/28/15 10:00

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Client Sample ID: Effluent — Lab Sample ID: 680-118348-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	6.0		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Client Sample ID: Effluent

Date Collected: 10/26/15 17:30
Date Received: 10/28/15 10:00

Lab Sample ID: 680-118348-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			11/04/15 13:25	1
Benzene	1.0	U	1.0		ug/L			11/04/15 13:25	1
Bromoform	1.0	U	1.0		ug/L			11/04/15 13:25	1
Bromomethane	5.0	U	5.0		ug/L			11/04/15 13:25	1
2-Butanone (MEK)	10	U	10		ug/L			11/04/15 13:25	1
Carbon disulfide	2.0	U	2.0		ug/L			11/04/15 13:25	1
Carbon tetrachloride	1.0	U	1.0		ug/L			11/04/15 13:25	1
Chlorobenzene	1.0	U	1.0		ug/L			11/04/15 13:25	1
Chlorodibromomethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
Chloroethane	5.0	U	5.0		ug/L			11/04/15 13:25	1
Chloroform	1.0	U	1.0		ug/L			11/04/15 13:25	1
Chloromethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			11/04/15 13:25	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			11/04/15 13:25	1
Dichlorobromomethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			11/04/15 13:25	1
Diethyl ether	**6.0**		5.0		ug/L			11/04/15 13:25	1
Ethylbenzene	1.0	U	1.0		ug/L			11/04/15 13:25	1
2-Hexanone	10	U	10		ug/L			11/04/15 13:25	1
Methylene Chloride	5.0	U	5.0		ug/L			11/04/15 13:25	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			11/04/15 13:25	1
Methyl tert-butyl ether	10	U	10		ug/L			11/04/15 13:25	1
Styrene	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
Tetrachloroethene	1.0	U	1.0		ug/L			11/04/15 13:25	1
Toluene	1.0	U	1.0		ug/L			11/04/15 13:25	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			11/04/15 13:25	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			11/04/15 13:25	1
Trichloroethene	1.0	U	1.0		ug/L			11/04/15 13:25	1
Vinyl chloride	1.0	U	1.0		ug/L			11/04/15 13:25	1
Xylenes, Total	1.0	U	1.0		ug/L			11/04/15 13:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*11/04/15 13:25*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*11/04/15 13:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*		*11/04/15 13:25*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*11/04/15 13:25*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		11/04/15 09:06	11/04/15 23:01	1
Chromium	10	U	10		ug/L		11/04/15 09:06	11/04/15 23:01	1
Copper	20	U	20		ug/L		11/04/15 09:06	11/04/15 23:01	1
Lead	10	U	10		ug/L		11/04/15 09:06	11/04/15 23:01	1
Zinc	20	U	20		ug/L		11/04/15 09:06	11/04/15 23:01	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-118348-1	Effluent	97	92	88	98
LCS 680-408847/4	Lab Control Sample	95	99	96	100
LCSD 680-408847/5	Lab Control Sample Dup	93	97	95	96
MB 680-408847/9	Method Blank	97	96	89	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-408847/9
Matrix: Water
Analysis Batch: 408847

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			11/04/15 10:02	1
Benzene	1.0	U	1.0		ug/L			11/04/15 10:02	1
Bromoform	1.0	U	1.0		ug/L			11/04/15 10:02	1
Bromomethane	5.0	U	5.0		ug/L			11/04/15 10:02	1
2-Butanone (MEK)	10	U	10		ug/L			11/04/15 10:02	1
Carbon disulfide	2.0	U	2.0		ug/L			11/04/15 10:02	1
Carbon tetrachloride	1.0	U	1.0		ug/L			11/04/15 10:02	1
Chlorobenzene	1.0	U	1.0		ug/L			11/04/15 10:02	1
Chlorodibromomethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
Chloroethane	5.0	U	5.0		ug/L			11/04/15 10:02	1
Chloroform	1.0	U	1.0		ug/L			11/04/15 10:02	1
Chloromethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			11/04/15 10:02	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			11/04/15 10:02	1
Dichlorobromomethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			11/04/15 10:02	1
Diethyl ether	5.0	U	5.0		ug/L			11/04/15 10:02	1
Ethylbenzene	1.0	U	1.0		ug/L			11/04/15 10:02	1
2-Hexanone	10	U	10		ug/L			11/04/15 10:02	1
Methylene Chloride	5.0	U	5.0		ug/L			11/04/15 10:02	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			11/04/15 10:02	1
Methyl tert-butyl ether	10	U	10		ug/L			11/04/15 10:02	1
Styrene	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
Tetrachloroethene	1.0	U	1.0		ug/L			11/04/15 10:02	1
Toluene	1.0	U	1.0		ug/L			11/04/15 10:02	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			11/04/15 10:02	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			11/04/15 10:02	1
Trichloroethene	1.0	U	1.0		ug/L			11/04/15 10:02	1
Vinyl chloride	1.0	U	1.0		ug/L			11/04/15 10:02	1
Xylenes, Total	1.0	U	1.0		ug/L			11/04/15 10:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*11/04/15 10:02*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*11/04/15 10:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*11/04/15 10:02*	*1*
Toluene-d8 (Surr)	*93*		*70 - 130*		*11/04/15 10:02*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-408847/4
Matrix: Water
Analysis Batch: 408847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	230		ug/L		92	60 - 154
Benzene	50.0	48.4		ug/L		97	73 - 131
Bromoform	50.0	54.3		ug/L		109	69 - 135
Bromomethane	50.0	57.1		ug/L		114	20 - 180
2-Butanone (MEK)	250	241		ug/L		96	75 - 133
Carbon disulfide	50.0	52.1		ug/L		104	73 - 127
Carbon tetrachloride	50.0	50.2		ug/L		100	75 - 130
Chlorobenzene	50.0	48.5		ug/L		97	80 - 120
Chlorodibromomethane	50.0	54.0		ug/L		108	71 - 136
Chloroethane	50.0	52.1		ug/L		104	50 - 151
Chloroform	50.0	50.2		ug/L		100	79 - 122
Chloromethane	50.0	49.2		ug/L		98	63 - 126
cis-1,2-Dichloroethene	50.0	49.0		ug/L		98	80 - 122
cis-1,3-Dichloropropene	50.0	52.9		ug/L		106	80 - 133
Dichlorobromomethane	50.0	52.5		ug/L		105	77 - 129
1,1-Dichloroethane	50.0	50.4		ug/L		101	80 - 120
1,2-Dichloroethane	50.0	48.4		ug/L		97	75 - 130
1,1-Dichloroethene	50.0	52.1		ug/L		104	74 - 125
1,2-Dichloropropane	50.0	49.0		ug/L		98	80 - 123
Diethyl ether	50.0	49.1		ug/L		98	74 - 134
Ethylbenzene	50.0	50.6		ug/L		101	80 - 120
2-Hexanone	250	233		ug/L		93	70 - 141
Methylene Chloride	50.0	46.3		ug/L		93	76 - 129
4-Methyl-2-pentanone (MIBK)	250	235		ug/L		94	75 - 135
Methyl tert-butyl ether	50.0	45.4		ug/L		91	74 - 135
Styrene	50.0	52.1		ug/L		104	80 - 122
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	72 - 128
Tetrachloroethene	50.0	50.1		ug/L		100	77 - 123
Toluene	50.0	49.5		ug/L		99	80 - 122
trans-1,2-Dichloroethene	50.0	49.3		ug/L		99	78 - 123
trans-1,3-Dichloropropene	50.0	49.7		ug/L		99	74 - 140
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	74 - 128
1,1,2-Trichloroethane	50.0	48.5		ug/L		97	79 - 125
Trichloroethene	50.0	48.9		ug/L		98	80 - 123
Vinyl chloride	50.0	50.3		ug/L		101	68 - 132
Xylenes, Total	100	101		ug/L		101	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
Dibromofluoromethane (Surr)	*99*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-408847/5
Matrix: Water
Analysis Batch: 408847

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	211		ug/L		84	60 - 154	9	40
Benzene	50.0	48.0		ug/L		96	73 - 131	1	30
Bromoform	50.0	53.6		ug/L		107	69 - 135	1	20
Bromomethane	50.0	57.2		ug/L		114	20 - 180	0	40
2-Butanone (MEK)	250	237		ug/L		95	75 - 133	1	30
Carbon disulfide	50.0	47.5		ug/L		95	73 - 127	9	20
Carbon tetrachloride	50.0	50.3		ug/L		101	75 - 130	0	20
Chlorobenzene	50.0	46.8		ug/L		94	80 - 120	4	20
Chlorodibromomethane	50.0	53.7		ug/L		107	71 - 136	1	20
Chloroethane	50.0	50.7		ug/L		101	50 - 151	3	30
Chloroform	50.0	48.6		ug/L		97	79 - 122	3	20
Chloromethane	50.0	48.0		ug/L		96	63 - 126	2	30
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	80 - 122	1	20
cis-1,3-Dichloropropene	50.0	52.1		ug/L		104	80 - 133	2	20
Dichlorobromomethane	50.0	50.7		ug/L		101	77 - 129	3	20
1,1-Dichloroethane	50.0	49.8		ug/L		100	80 - 120	1	20
1,2-Dichloroethane	50.0	47.6		ug/L		95	75 - 130	2	20
1,1-Dichloroethene	50.0	48.0		ug/L		96	74 - 125	8	20
1,2-Dichloropropane	50.0	48.3		ug/L		97	80 - 123	1	20
Diethyl ether	50.0	45.5		ug/L		91	74 - 134	7	50
Ethylbenzene	50.0	48.9		ug/L		98	80 - 120	3	20
2-Hexanone	250	234		ug/L		94	70 - 141	1	40
Methylene Chloride	50.0	45.7		ug/L		91	76 - 129	1	20
4-Methyl-2-pentanone (MIBK)	250	237		ug/L		95	75 - 135	1	30
Methyl tert-butyl ether	50.0	45.5		ug/L		91	74 - 135	0	20
Styrene	50.0	50.6		ug/L		101	80 - 122	3	20
1,1,2,2-Tetrachloroethane	50.0	45.9		ug/L		92	72 - 128	3	20
Tetrachloroethene	50.0	48.6		ug/L		97	77 - 123	3	20
Toluene	50.0	48.1		ug/L		96	80 - 122	3	20
trans-1,2-Dichloroethene	50.0	48.7		ug/L		97	78 - 123	1	20
trans-1,3-Dichloropropene	50.0	49.7		ug/L		99	74 - 140	0	20
1,1,1-Trichloroethane	50.0	50.5		ug/L		101	74 - 128	1	20
1,1,2-Trichloroethane	50.0	47.2		ug/L		94	79 - 125	3	20
Trichloroethene	50.0	48.2		ug/L		96	80 - 123	1	20
Vinyl chloride	50.0	49.1		ug/L		98	68 - 132	2	30
Xylenes, Total	100	97.4		ug/L		97	80 - 120	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-408873/1-A
Matrix: Water
Analysis Batch: 409068

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 408873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		11/04/15 09:06	11/04/15 22:44	1
Chromium	10	U	10		ug/L		11/04/15 09:06	11/04/15 22:44	1
Copper	20	U	20		ug/L		11/04/15 09:06	11/04/15 22:44	1
Lead	10	U	10		ug/L		11/04/15 09:06	11/04/15 22:44	1
Zinc	20	U	20		ug/L		11/04/15 09:06	11/04/15 22:44	1

Lab Sample ID: LCS 680-408873/2-A
Matrix: Water
Analysis Batch: 409068

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 408873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	80 - 120
Chromium	100	106		ug/L		106	80 - 120
Copper	100	107		ug/L		107	80 - 120
Lead	500	513		ug/L		103	80 - 120
Zinc	100	104		ug/L		104	80 - 120

Lab Sample ID: 680-118348-1 MS
Matrix: Water
Analysis Batch: 409068

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 408873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20	U	100	109		ug/L		109	75 - 125
Chromium	10	U	100	103		ug/L		103	75 - 125
Copper	20	U	100	110		ug/L		105	75 - 125
Lead	10	U	500	499		ug/L		100	75 - 125
Zinc	20	U	100	115		ug/L		102	75 - 125

Lab Sample ID: 680-118348-1 MSD
Matrix: Water
Analysis Batch: 409068

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 408873

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	20	U	100	113		ug/L		113	75 - 125	4	20
Chromium	10	U	100	107		ug/L		107	75 - 125	4	20
Copper	20	U	100	113		ug/L		108	75 - 125	3	20
Lead	10	U	500	517		ug/L		103	75 - 125	3	20
Zinc	20	U	100	118		ug/L		105	75 - 125	3	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

GC/MS VOA

Analysis Batch: 408847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-118348-1	Effluent	Total/NA	Water	8260B	
LCS 680-408847/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-408847/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-408847/9	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 408873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-118348-1	Effluent	Total Recoverable	Water	3005A	
680-118348-1 MS	Effluent	Total Recoverable	Water	3005A	
680-118348-1 MSD	Effluent	Total Recoverable	Water	3005A	
LCS 680-408873/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-408873/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 409068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-118348-1	Effluent	Total Recoverable	Water	6010C	408873
680-118348-1 MS	Effluent	Total Recoverable	Water	6010C	408873
680-118348-1 MSD	Effluent	Total Recoverable	Water	6010C	408873
LCS 680-408873/2-A	Lab Control Sample	Total Recoverable	Water	6010C	408873
MB 680-408873/1-A	Method Blank	Total Recoverable	Water	6010C	408873

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Client Sample ID: Effluent

Date Collected: 10/26/15 17:30
Date Received: 10/28/15 10:00

Lab Sample ID: 680-118348-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	408847	11/04/15 13:25	CEJ	TAL SAV
	Instrument ID: CMSS									
Total Recoverable	Prep	3005A			50 mL	50 mL	408873	11/04/15 09:06	KMN	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	409068	11/04/15 23:01	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Alan Pinnix	Date: 10-26-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W)			
919-854-1282	TAT if different from Below			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	10/26/15	1730	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							2	4	

680-118348 Chain of Custody

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

0-81-2

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	10-27-15 1330	[signature]	TA	10/28/15 10:00
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-118348-1

Login Number: 118348
List Number: 1
Creator: White, Menica R

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-118348-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15 *

* Certification renewal pending - certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-112986-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
10/29/2015 4:20:48 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Job ID: 400-112986-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-112986-1

Comments
No additional comments.

Receipt
The sample was received on 10/28/2015 10:01 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0º C.

Receipt Exceptions

LLHg vials were received with labels directly on bottles and unbagged. Clean hands/dirty hands was not followed for sample EFFLUENT (400-112986-1).

Metals
Method 1631E: The matrix spike duplicate (MSD) recoveries for batch 400-281070 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample and duplicate (LCS/LCSD) recoveries was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-112986-1

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-112986-1	EFFLUENT	Water	10/26/15 17:30	10/28/15 10:01

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-112986-1

Date Collected: 10/26/15 17:30

Matrix: Water

Date Received: 10/28/15 10:01

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		10/28/15 12:20	10/29/15 13:08	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Metals

Prep Batch: 281070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-112986-1	EFFLUENT	Total/NA	Water	1631E	
680-118128-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
680-118128-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	
LCS 400-281070/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-281070/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-281070/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 281151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-112986-1	EFFLUENT	Total/NA	Water	1631E	281070
680-118128-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	281070
680-118128-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	281070
LCS 400-281070/2-A	Lab Control Sample	Total/NA	Water	1631E	281070
LCSD 400-281070/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	281070
MB 400-281070/1-A	Method Blank	Total/NA	Water	1631E	281070

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-281070/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281151 — **Prep Batch: 281070**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		10/29/15 09:05	10/29/15 09:34	1

Lab Sample ID: LCS 400-281070/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281151 — **Prep Batch: 281070**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.62		ng/L		92	79 - 121		

Lab Sample ID: LCSD 400-281070/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281151 — **Prep Batch: 281070**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.74		ng/L		95	79 - 121	3	20

Lab Sample ID: 680-118128-D-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281151 — **Prep Batch: 281070**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	11	F1	5.00	16.8	F1	ng/L		126	71 - 125	3	24

Lab Sample ID: 680-118128-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281151 — **Prep Batch: 281070**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	11	F1	5.00	16.3		ng/L		116	71 - 125		

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-112986-1

Date Collected: 10/26/15 17:30

Matrix: Water

Date Received: 10/28/15 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			281070	10/28/15 12:20	VLC	TAL PEN
Total/NA	Analysis	1631E		1	281151	10/29/15 13:08	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-112986-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Alan Pinnix	Date: 10-26-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

400-112986 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	10/26/15	1730	Grab	W	3	N	3	
							1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	10-27-15/1330	[signature]	TAL	10-28-15 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

0.0°C

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-112986-1

Login Number: 112986
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-119446-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
12/8/2015 4:52:20 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-119446-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-119446-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 11/25/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-119446-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 12/02/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 680-412650.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-119446-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 11/30/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-119446-1	Effluent	Water	11/23/15 16:30	11/25/15 09:33

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Client Sample ID: Effluent — Lab Sample ID: 680-119446-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	31		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Client Sample ID: Effluent

Date Collected: 11/23/15 16:30
Date Received: 11/25/15 09:33

Lab Sample ID: 680-119446-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/02/15 03:39	1
Benzene	1.0	U	1.0		ug/L			12/02/15 03:39	1
Bromoform	1.0	U	1.0		ug/L			12/02/15 03:39	1
Bromomethane	5.0	U	5.0		ug/L			12/02/15 03:39	1
2-Butanone (MEK)	10	U	10		ug/L			12/02/15 03:39	1
Carbon disulfide	2.0	U	2.0		ug/L			12/02/15 03:39	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/02/15 03:39	1
Chlorobenzene	1.0	U	1.0		ug/L			12/02/15 03:39	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
Chloroethane	5.0	U	5.0		ug/L			12/02/15 03:39	1
Chloroform	1.0	U	1.0		ug/L			12/02/15 03:39	1
Chloromethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/02/15 03:39	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/02/15 03:39	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/02/15 03:39	1
Diethyl ether	**31**		5.0		ug/L			12/02/15 03:39	1
Ethylbenzene	1.0	U	1.0		ug/L			12/02/15 03:39	1
2-Hexanone	10	U	10		ug/L			12/02/15 03:39	1
Methylene Chloride	5.0	U	5.0		ug/L			12/02/15 03:39	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/02/15 03:39	1
Methyl tert-butyl ether	10	U	10		ug/L			12/02/15 03:39	1
Styrene	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/02/15 03:39	1
Toluene	1.0	U	1.0		ug/L			12/02/15 03:39	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/02/15 03:39	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/02/15 03:39	1
Trichloroethene	1.0	U	1.0		ug/L			12/02/15 03:39	1
Vinyl chloride	1.0	U	1.0		ug/L			12/02/15 03:39	1
Xylenes, Total	1.0	U	1.0		ug/L			12/02/15 03:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*12/02/15 03:39*	*1*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*12/02/15 03:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/02/15 03:39*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*12/02/15 03:39*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		11/30/15 10:03	11/30/15 18:19	1
Chromium	10	U	10		ug/L		11/30/15 10:03	11/30/15 18:19	1
Copper	20	U	20		ug/L		11/30/15 10:03	11/30/15 18:19	1
Lead	10	U	10		ug/L		11/30/15 10:03	11/30/15 18:19	1
Zinc	20	U	20		ug/L		11/30/15 10:03	11/30/15 18:19	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-119446-1	Effluent	93	97	93	103
LCS 680-412650/3	Lab Control Sample	98	101	96	100
LCSD 680-412650/4	Lab Control Sample Dup	96	101	99	99
MB 680-412650/8	Method Blank	95	97	96	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-412650/8
Matrix: Water
Analysis Batch: 412650

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/01/15 20:07	1
Benzene	1.0	U	1.0		ug/L			12/01/15 20:07	1
Bromoform	1.0	U	1.0		ug/L			12/01/15 20:07	1
Bromomethane	5.0	U	5.0		ug/L			12/01/15 20:07	1
2-Butanone (MEK)	10	U	10		ug/L			12/01/15 20:07	1
Carbon disulfide	2.0	U	2.0		ug/L			12/01/15 20:07	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/01/15 20:07	1
Chlorobenzene	1.0	U	1.0		ug/L			12/01/15 20:07	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
Chloroethane	5.0	U	5.0		ug/L			12/01/15 20:07	1
Chloroform	1.0	U	1.0		ug/L			12/01/15 20:07	1
Chloromethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/01/15 20:07	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/01/15 20:07	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/01/15 20:07	1
Diethyl ether	5.0	U	5.0		ug/L			12/01/15 20:07	1
Ethylbenzene	1.0	U	1.0		ug/L			12/01/15 20:07	1
2-Hexanone	10	U	10		ug/L			12/01/15 20:07	1
Methylene Chloride	5.0	U	5.0		ug/L			12/01/15 20:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/01/15 20:07	1
Methyl tert-butyl ether	10	U	10		ug/L			12/01/15 20:07	1
Styrene	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/01/15 20:07	1
Toluene	1.0	U	1.0		ug/L			12/01/15 20:07	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/01/15 20:07	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/01/15 20:07	1
Trichloroethene	1.0	U	1.0		ug/L			12/01/15 20:07	1
Vinyl chloride	1.0	U	1.0		ug/L			12/01/15 20:07	1
Xylenes, Total	1.0	U	1.0		ug/L			12/01/15 20:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*12/01/15 20:07*	*1*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*12/01/15 20:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*12/01/15 20:07*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*12/01/15 20:07*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-412650/3
Matrix: Water
Analysis Batch: 412650

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	230		ug/L		92	60 - 154
Benzene	50.0	50.3		ug/L		101	73 - 131
Bromoform	50.0	57.5		ug/L		115	69 - 135
Bromomethane	50.0	52.9		ug/L		106	20 - 180
2-Butanone (MEK)	250	242		ug/L		97	75 - 133
Carbon disulfide	50.0	49.4		ug/L		99	73 - 127
Carbon tetrachloride	50.0	58.3		ug/L		117	75 - 130
Chlorobenzene	50.0	48.6		ug/L		97	80 - 120
Chlorodibromomethane	50.0	54.1		ug/L		108	71 - 136
Chloroethane	50.0	48.7		ug/L		97	50 - 151
Chloroform	50.0	48.7		ug/L		97	79 - 122
Chloromethane	50.0	46.9		ug/L		94	63 - 126
cis-1,2-Dichloroethene	50.0	50.2		ug/L		100	80 - 122
cis-1,3-Dichloropropene	50.0	56.1		ug/L		112	80 - 133
Dichlorobromomethane	50.0	52.3		ug/L		105	77 - 129
1,1-Dichloroethane	50.0	47.7		ug/L		95	80 - 120
1,2-Dichloroethane	50.0	48.5		ug/L		97	75 - 130
1,1-Dichloroethene	50.0	49.8		ug/L		100	74 - 125
1,2-Dichloropropane	50.0	51.5		ug/L		103	80 - 123
Diethyl ether	50.0	49.4		ug/L		99	74 - 134
Ethylbenzene	50.0	52.1		ug/L		104	80 - 120
2-Hexanone	250	263		ug/L		105	70 - 141
Methylene Chloride	50.0	47.6		ug/L		95	76 - 129
4-Methyl-2-pentanone (MIBK)	250	262		ug/L		105	75 - 135
Methyl tert-butyl ether	50.0	49.5		ug/L		99	74 - 135
Styrene	50.0	53.4		ug/L		107	80 - 122
1,1,2,2-Tetrachloroethane	50.0	51.9		ug/L		104	72 - 128
Tetrachloroethene	50.0	51.3		ug/L		103	77 - 123
Toluene	50.0	51.7		ug/L		103	80 - 122
trans-1,2-Dichloroethene	50.0	50.5		ug/L		101	78 - 123
trans-1,3-Dichloropropene	50.0	51.0		ug/L		102	74 - 140
1,1,1-Trichloroethane	50.0	52.1		ug/L		104	74 - 128
1,1,2-Trichloroethane	50.0	52.3		ug/L		105	79 - 125
Trichloroethene	50.0	51.0		ug/L		102	80 - 123
Vinyl chloride	50.0	48.4		ug/L		97	68 - 132
Xylenes, Total	100	105		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-412650/4
Matrix: Water
Analysis Batch: 412650

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	259		ug/L		104	60 - 154	12	40
Benzene	50.0	50.3		ug/L		101	73 - 131	0	30
Bromoform	50.0	57.7		ug/L		115	69 - 135	0	20
Bromomethane	50.0	54.2		ug/L		108	20 - 180	3	40
2-Butanone (MEK)	250	259		ug/L		103	75 - 133	7	30
Carbon disulfide	50.0	52.4		ug/L		105	73 - 127	6	20
Carbon tetrachloride	50.0	57.8		ug/L		116	75 - 130	1	20
Chlorobenzene	50.0	49.9		ug/L		100	80 - 120	3	20
Chlorodibromomethane	50.0	54.3		ug/L		109	71 - 136	0	20
Chloroethane	50.0	49.7		ug/L		99	50 - 151	2	30
Chloroform	50.0	49.1		ug/L		98	79 - 122	1	20
Chloromethane	50.0	46.9		ug/L		94	63 - 126	0	30
cis-1,2-Dichloroethene	50.0	50.1		ug/L		100	80 - 122	0	20
cis-1,3-Dichloropropene	50.0	56.8		ug/L		114	80 - 133	1	20
Dichlorobromomethane	50.0	52.3		ug/L		105	77 - 129	0	20
1,1-Dichloroethane	50.0	49.3		ug/L		99	80 - 120	3	20
1,2-Dichloroethane	50.0	50.2		ug/L		100	75 - 130	3	20
1,1-Dichloroethene	50.0	52.7		ug/L		105	74 - 125	6	20
1,2-Dichloropropane	50.0	52.2		ug/L		104	80 - 123	1	20
Diethyl ether	50.0	52.1		ug/L		104	74 - 134	5	50
Ethylbenzene	50.0	52.4		ug/L		105	80 - 120	1	20
2-Hexanone	250	277		ug/L		111	70 - 141	5	40
Methylene Chloride	50.0	50.2		ug/L		100	76 - 129	5	20
4-Methyl-2-pentanone (MIBK)	250	268		ug/L		107	75 - 135	2	30
Methyl tert-butyl ether	50.0	52.7		ug/L		105	74 - 135	6	20
Styrene	50.0	54.4		ug/L		109	80 - 122	2	20
1,1,2,2-Tetrachloroethane	50.0	53.7		ug/L		107	72 - 128	3	20
Tetrachloroethene	50.0	52.9		ug/L		106	77 - 123	3	20
Toluene	50.0	52.8		ug/L		106	80 - 122	2	20
trans-1,2-Dichloroethene	50.0	54.0		ug/L		108	78 - 123	7	20
trans-1,3-Dichloropropene	50.0	52.1		ug/L		104	74 - 140	2	20
1,1,1-Trichloroethane	50.0	52.4		ug/L		105	74 - 128	1	20
1,1,2-Trichloroethane	50.0	53.9		ug/L		108	79 - 125	3	20
Trichloroethene	50.0	50.8		ug/L		102	80 - 123	0	20
Vinyl chloride	50.0	48.8		ug/L		98	68 - 132	1	30
Xylenes, Total	100	107		ug/L		107	80 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-412345/1-A
Matrix: Water
Analysis Batch: 412560

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 412345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		11/30/15 10:03	11/30/15 18:10	1
Chromium	10	U	10		ug/L		11/30/15 10:03	11/30/15 18:10	1
Copper	20	U	20		ug/L		11/30/15 10:03	11/30/15 18:10	1
Lead	10	U	10		ug/L		11/30/15 10:03	11/30/15 18:10	1
Zinc	20	U	20		ug/L		11/30/15 10:03	11/30/15 18:10	1

Lab Sample ID: LCS 680-412345/2-A
Matrix: Water
Analysis Batch: 412560

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 412345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	103		ug/L		103	80 - 120
Chromium	100	102		ug/L		102	80 - 120
Copper	100	102		ug/L		102	80 - 120
Lead	500	511		ug/L		102	80 - 120
Zinc	100	101		ug/L		101	80 - 120

Lab Sample ID: 680-119446-1 MS
Matrix: Water
Analysis Batch: 412560

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 412345

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20	U	100	106		ug/L		106	75 - 125
Chromium	10	U	100	103		ug/L		103	75 - 125
Copper	20	U	100	107		ug/L		107	75 - 125
Lead	10	U	500	507		ug/L		101	75 - 125
Zinc	20	U	100	108		ug/L		101	75 - 125

Lab Sample ID: 680-119446-1 MSD
Matrix: Water
Analysis Batch: 412560

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 412345

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	20	U	100	105		ug/L		105	75 - 125	2	20
Chromium	10	U	100	99.0		ug/L		99	75 - 125	4	20
Copper	20	U	100	103		ug/L		103	75 - 125	4	20
Lead	10	U	500	492		ug/L		98	75 - 125	3	20
Zinc	20	U	100	105		ug/L		97	75 - 125	3	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

GC/MS VOA

Analysis Batch: 412650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119446-1	Effluent	Total/NA	Water	8260B	
LCS 680-412650/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-412650/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-412650/8	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 412345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119446-1	Effluent	Total Recoverable	Water	3005A	
680-119446-1 MS	Effluent	Total Recoverable	Water	3005A	
680-119446-1 MSD	Effluent	Total Recoverable	Water	3005A	
LCS 680-412345/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-412345/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 412560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119446-1	Effluent	Total Recoverable	Water	6010C	412345
680-119446-1 MS	Effluent	Total Recoverable	Water	6010C	412345
680-119446-1 MSD	Effluent	Total Recoverable	Water	6010C	412345
LCS 680-412345/2-A	Lab Control Sample	Total Recoverable	Water	6010C	412345
MB 680-412345/1-A	Method Blank	Total Recoverable	Water	6010C	412345

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Client Sample ID: Effluent

Date Collected: 11/23/15 16:30
Date Received: 11/25/15 09:33

Lab Sample ID: 680-119446-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	412650	12/02/15 03:39	JD1	TAL SAV
	Instrument ID: CMSS									
Total Recoverable	Prep	3005A			50 mL	50 mL	412345	11/30/15 10:03	CRW	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	412560	11/30/15 18:19	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 11-23-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	11/23/15	1630	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
							2	4	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

680-119446 Chain of Custody

Possible Hazard Identification
■ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

3.8/4.2 680-119446

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dave Twamley	ARCADIS	11-24-15/1200	[illegible]	TA	11/25/15 - 09:33
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-119446-1

Login Number: 119446
List Number: 1
Creator: Kicklighter, Marilyn D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119446-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15 *

* Certification renewal pending - certification considered valid.

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-114404-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
12/2/2015 4:17:48 PM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Case Narrative 4
Detection Summary 5
Sample Summary 6
Client Sample Results 7
QC Association 8
QC Sample Results 9
Chronicle 10
Certification Summary 11
Method Summary 12
Chain of Custody 13
Receipt Checklists 14

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Job ID: 400-114404-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-114404-1

Comments
No additional comments.

Receipt
The sample was received on 11/25/2015 9:29 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5º C.

Metals
Method 1631E: The sample was received with labels already on the vials.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-114404-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	1.2		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-114404-1	EFFLUENT	Water	11/23/15 16:30	11/25/15 09:29

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-114404-1

Date Collected: 11/23/15 16:30

Matrix: Water

Date Received: 11/25/15 09:29

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.2		0.50		ng/L		11/25/15 15:50	12/02/15 11:36	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Metals

Prep Batch: 285642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-114370-A-1-A MS	Matrix Spike	Total/NA	Water	1631E	
400-114370-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
400-114404-1	EFFLUENT	Total/NA	Water	1631E	
LCS 400-285642/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-285642/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-285642/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 285714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-114370-A-1-A MS	Matrix Spike	Total/NA	Water	1631E	285642
400-114370-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	285642
400-114404-1	EFFLUENT	Total/NA	Water	1631E	285642
LCS 400-285642/2-A	Lab Control Sample	Total/NA	Water	1631E	285642
LCSD 400-285642/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	285642
MB 400-285642/1-A	Method Blank	Total/NA	Water	1631E	285642

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-285642/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 285714 — **Prep Batch: 285642**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		12/02/15 09:19	12/02/15 10:25	1

Lab Sample ID: LCS 400-285642/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 285714 — **Prep Batch: 285642**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.03		ng/L		81	79 - 121		

Lab Sample ID: LCSD 400-285642/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 285714 — **Prep Batch: 285642**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.17		ng/L		83	79 - 121	3	20

Lab Sample ID: 400-114370-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 285714 — **Prep Batch: 285642**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.66		2.50	2.88		ng/L		89	71 - 125		

Lab Sample ID: 400-114370-E-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 285714 — **Prep Batch: 285642**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.66		2.50	3.03		ng/L		95	71 - 125	5	24

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Client Sample ID: EFFLUENT

Date Collected: 11/23/15 16:30
Date Received: 11/25/15 09:29

Lab Sample ID: 400-114404-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			285642	11/25/15 15:50	VLC	TAL PEN
Total/NA	Analysis	1631E		1	285714	12/02/15 11:36	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114404-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 11-23-15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0019.0001B	☐ 1 day			

400-114404 COC

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	11/23/15	1630	Grab	W	3	N	3	
							1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments:

0.5°C – IR 5

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ARCADIS	11-24-15/1200	[signature]	TA	11/25/15 0929

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-114404-1

Login Number: 114404
List Number: 1
Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.5°C IR-5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-119768-1
Client Project/Site: UNC Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
12/15/2015 1:50:16 PM
Bernard Kirkland, Manager of Project Management
(912)354-7858 e.3238
bernard.kirkland@testamericainc.com

Designee for

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 9
QC Sample Results 10
QC Association 14
Chronicle 15
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 680-119768-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road

Report Number: 680-119768-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 12/08/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.0 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Sample Effluent (680-119768-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 12/10/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-413792.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Sample Effluent (680-119768-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 12/10/2015 and analyzed on 12/14/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-119768-1	Effluent	Water	12/07/15 12:05	12/08/15 09:18

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Client Sample ID: Effluent — Lab Sample ID: 680-119768-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloromethane	1.2		1.0		ug/L	1		8260B	Total/NA
Diethyl ether	6.0		5.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Client Sample ID: Effluent

Date Collected: 12/07/15 12:05
Date Received: 12/08/15 09:18

Lab Sample ID: 680-119768-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/10/15 17:45	1
Benzene	1.0	U	1.0		ug/L			12/10/15 17:45	1
Bromoform	1.0	U	1.0		ug/L			12/10/15 17:45	1
Bromomethane	5.0	U	5.0		ug/L			12/10/15 17:45	1
2-Butanone (MEK)	10	U	10		ug/L			12/10/15 17:45	1
Carbon disulfide	2.0	U	2.0		ug/L			12/10/15 17:45	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/10/15 17:45	1
Chlorobenzene	1.0	U	1.0		ug/L			12/10/15 17:45	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
Chloroethane	5.0	U	5.0		ug/L			12/10/15 17:45	1
Chloroform	1.0	U	1.0		ug/L			12/10/15 17:45	1
Chloromethane	**1.2**		1.0		ug/L			12/10/15 17:45	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/10/15 17:45	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/10/15 17:45	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/10/15 17:45	1
Diethyl ether	**6.0**		5.0		ug/L			12/10/15 17:45	1
Ethylbenzene	1.0	U	1.0		ug/L			12/10/15 17:45	1
2-Hexanone	10	U	10		ug/L			12/10/15 17:45	1
Methylene Chloride	5.0	U	5.0		ug/L			12/10/15 17:45	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/10/15 17:45	1
Methyl tert-butyl ether	10	U	10		ug/L			12/10/15 17:45	1
Styrene	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/10/15 17:45	1
Toluene	1.0	U	1.0		ug/L			12/10/15 17:45	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/10/15 17:45	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/10/15 17:45	1
Trichloroethene	1.0	U	1.0		ug/L			12/10/15 17:45	1
Vinyl chloride	1.0	U	1.0		ug/L			12/10/15 17:45	1
Xylenes, Total	1.0	U	1.0		ug/L			12/10/15 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*12/10/15 17:45*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*12/10/15 17:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*12/10/15 17:45*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*12/10/15 17:45*	*1*

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		12/10/15 09:04	12/14/15 19:37	1
Chromium	10	U	10		ug/L		12/10/15 09:04	12/14/15 19:37	1
Copper	20	U	20		ug/L		12/10/15 09:04	12/14/15 19:37	1
Lead	10	U	10		ug/L		12/10/15 09:04	12/14/15 19:37	1
Zinc	20	U	20		ug/L		12/10/15 09:04	12/14/15 19:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**	**(70-130)**
680-119768-1	Effluent	104	103	101	103
LCS 680-413792/4	Lab Control Sample	94	95	94	92
LCSD 680-413792/5	Lab Control Sample Dup	107	102	101	101
MB 680-413792/11	Method Blank	102	101	100	105

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-413792/11
Matrix: Water
Analysis Batch: 413792

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/10/15 11:40	1
Benzene	1.0	U	1.0		ug/L			12/10/15 11:40	1
Bromoform	1.0	U	1.0		ug/L			12/10/15 11:40	1
Bromomethane	5.0	U	5.0		ug/L			12/10/15 11:40	1
2-Butanone (MEK)	10	U	10		ug/L			12/10/15 11:40	1
Carbon disulfide	2.0	U	2.0		ug/L			12/10/15 11:40	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/10/15 11:40	1
Chlorobenzene	1.0	U	1.0		ug/L			12/10/15 11:40	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
Chloroethane	5.0	U	5.0		ug/L			12/10/15 11:40	1
Chloroform	1.0	U	1.0		ug/L			12/10/15 11:40	1
Chloromethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/10/15 11:40	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/10/15 11:40	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/10/15 11:40	1
Diethyl ether	5.0	U	5.0		ug/L			12/10/15 11:40	1
Ethylbenzene	1.0	U	1.0		ug/L			12/10/15 11:40	1
2-Hexanone	10	U	10		ug/L			12/10/15 11:40	1
Methylene Chloride	5.0	U	5.0		ug/L			12/10/15 11:40	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/10/15 11:40	1
Methyl tert-butyl ether	10	U	10		ug/L			12/10/15 11:40	1
Styrene	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/10/15 11:40	1
Toluene	1.0	U	1.0		ug/L			12/10/15 11:40	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/10/15 11:40	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/10/15 11:40	1
Trichloroethene	1.0	U	1.0		ug/L			12/10/15 11:40	1
Vinyl chloride	1.0	U	1.0		ug/L			12/10/15 11:40	1
Xylenes, Total	1.0	U	1.0		ug/L			12/10/15 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*12/10/15 11:40*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*12/10/15 11:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*12/10/15 11:40*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/10/15 11:40*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-413792/4
Matrix: Water
Analysis Batch: 413792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	214		ug/L		86	60 - 154
Benzene	50.0	46.4		ug/L		93	73 - 131
Bromoform	50.0	49.5		ug/L		99	69 - 135
Bromomethane	50.0	48.2		ug/L		96	20 - 180
2-Butanone (MEK)	250	225		ug/L		90	75 - 133
Carbon disulfide	50.0	45.8		ug/L		92	73 - 127
Carbon tetrachloride	50.0	48.8		ug/L		98	75 - 130
Chlorobenzene	50.0	46.0		ug/L		92	80 - 120
Chlorodibromomethane	50.0	50.4		ug/L		101	71 - 136
Chloroethane	50.0	49.0		ug/L		98	50 - 151
Chloroform	50.0	47.5		ug/L		95	79 - 122
Chloromethane	50.0	48.2		ug/L		96	63 - 126
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	80 - 122
cis-1,3-Dichloropropene	50.0	51.3		ug/L		103	80 - 133
Dichlorobromomethane	50.0	47.2		ug/L		94	77 - 129
1,1-Dichloroethane	50.0	46.6		ug/L		93	80 - 120
1,2-Dichloroethane	50.0	46.1		ug/L		92	75 - 130
1,1-Dichloroethene	50.0	46.5		ug/L		93	74 - 125
1,2-Dichloropropane	50.0	47.3		ug/L		95	80 - 123
Diethyl ether	50.0	49.6		ug/L		99	74 - 134
Ethylbenzene	50.0	48.2		ug/L		96	80 - 120
2-Hexanone	250	232		ug/L		93	70 - 141
Methylene Chloride	50.0	47.9		ug/L		96	76 - 129
4-Methyl-2-pentanone (MIBK)	250	234		ug/L		93	75 - 135
Methyl tert-butyl ether	50.0	49.6		ug/L		99	74 - 135
Styrene	50.0	50.9		ug/L		102	80 - 122
1,1,2,2-Tetrachloroethane	50.0	47.6		ug/L		95	72 - 128
Tetrachloroethene	50.0	46.3		ug/L		93	77 - 123
Toluene	50.0	47.1		ug/L		94	80 - 122
trans-1,2-Dichloroethene	50.0	46.1		ug/L		92	78 - 123
trans-1,3-Dichloropropene	50.0	51.0		ug/L		102	74 - 140
1,1,1-Trichloroethane	50.0	48.2		ug/L		96	74 - 128
1,1,2-Trichloroethane	50.0	46.0		ug/L		92	79 - 125
Trichloroethene	50.0	46.6		ug/L		93	80 - 123
Vinyl chloride	50.0	48.5		ug/L		97	68 - 132
Xylenes, Total	100	97.9		ug/L		98	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
Dibromofluoromethane (Surr)	*95*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
Toluene-d8 (Surr)	*92*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-413792/5
Matrix: Water
Analysis Batch: 413792

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	221		ug/L		88	60 - 154	3	40
Benzene	50.0	51.4		ug/L		103	73 - 131	10	30
Bromoform	50.0	53.2		ug/L		106	69 - 135	7	20
Bromomethane	50.0	53.8		ug/L		108	20 - 180	11	40
2-Butanone (MEK)	250	239		ug/L		96	75 - 133	6	30
Carbon disulfide	50.0	51.1		ug/L		102	73 - 127	11	20
Carbon tetrachloride	50.0	54.8		ug/L		110	75 - 130	11	20
Chlorobenzene	50.0	49.5		ug/L		99	80 - 120	7	20
Chlorodibromomethane	50.0	54.2		ug/L		108	71 - 136	7	20
Chloroethane	50.0	53.0		ug/L		106	50 - 151	8	30
Chloroform	50.0	51.1		ug/L		102	79 - 122	7	20
Chloromethane	50.0	52.9		ug/L		106	63 - 126	9	30
cis-1,2-Dichloroethene	50.0	52.6		ug/L		105	80 - 122	8	20
cis-1,3-Dichloropropene	50.0	54.7		ug/L		109	80 - 133	6	20
Dichlorobromomethane	50.0	52.4		ug/L		105	77 - 129	10	20
1,1-Dichloroethane	50.0	51.1		ug/L		102	80 - 120	9	20
1,2-Dichloroethane	50.0	50.4		ug/L		101	75 - 130	9	20
1,1-Dichloroethene	50.0	53.0		ug/L		106	74 - 125	13	20
1,2-Dichloropropane	50.0	50.4		ug/L		101	80 - 123	6	20
Diethyl ether	50.0	53.8		ug/L		108	74 - 134	8	50
Ethylbenzene	50.0	52.1		ug/L		104	80 - 120	8	20
2-Hexanone	250	255		ug/L		102	70 - 141	10	40
Methylene Chloride	50.0	51.9		ug/L		104	76 - 129	8	20
4-Methyl-2-pentanone (MIBK)	250	255		ug/L		102	75 - 135	9	30
Methyl tert-butyl ether	50.0	52.5		ug/L		105	74 - 135	6	20
Styrene	50.0	55.6		ug/L		111	80 - 122	9	20
1,1,2,2-Tetrachloroethane	50.0	50.7		ug/L		101	72 - 128	6	20
Tetrachloroethene	50.0	51.6		ug/L		103	77 - 123	11	20
Toluene	50.0	51.0		ug/L		102	80 - 122	8	20
trans-1,2-Dichloroethene	50.0	51.6		ug/L		103	78 - 123	11	20
trans-1,3-Dichloropropene	50.0	55.0		ug/L		110	74 - 140	8	20
1,1,1-Trichloroethane	50.0	53.8		ug/L		108	74 - 128	11	20
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	79 - 125	8	20
Trichloroethene	50.0	52.1		ug/L		104	80 - 123	11	20
Vinyl chloride	50.0	54.0		ug/L		108	68 - 132	11	30
Xylenes, Total	100	107		ug/L		107	80 - 120	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-413816/1-A
Matrix: Water
Analysis Batch: 414491

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 413816

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	U	20		ug/L		12/10/15 09:04	12/14/15 19:28	1
Chromium	10	U	10		ug/L		12/10/15 09:04	12/14/15 19:28	1
Copper	20	U	20		ug/L		12/10/15 09:04	12/14/15 19:28	1
Lead	10	U	10		ug/L		12/10/15 09:04	12/14/15 19:28	1
Zinc	20	U	20		ug/L		12/10/15 09:04	12/14/15 19:28	1

Lab Sample ID: LCS 680-413816/2-A
Matrix: Water
Analysis Batch: 414491

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 413816

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	103		ug/L		103	80 - 120
Chromium	100	102		ug/L		102	80 - 120
Copper	100	104		ug/L		104	80 - 120
Lead	500	503		ug/L		101	80 - 120
Zinc	100	98.9		ug/L		99	80 - 120

Lab Sample ID: 680-119768-1 MS
Matrix: Water
Analysis Batch: 414491

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 413816

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20	U	100	108		ug/L		108	75 - 125
Chromium	10	U	100	102		ug/L		102	75 - 125
Copper	20	U	100	109		ug/L		105	75 - 125
Lead	10	U	500	497		ug/L		99	75 - 125
Zinc	20	U	100	103		ug/L		103	75 - 125

Lab Sample ID: 680-119768-1 MSD
Matrix: Water
Analysis Batch: 414491

Client Sample ID: Effluent
Prep Type: Total Recoverable
Prep Batch: 413816

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	20	U	100	109		ug/L		109	75 - 125	0	20
Chromium	10	U	100	102		ug/L		102	75 - 125	0	20
Copper	20	U	100	109		ug/L		105	75 - 125	0	20
Lead	10	U	500	503		ug/L		101	75 - 125	1	20
Zinc	20	U	100	103		ug/L		103	75 - 125	1	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

GC/MS VOA

Analysis Batch: 413792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119768-1	Effluent	Total/NA	Water	8260B	
LCS 680-413792/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-413792/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-413792/11	Method Blank	Total/NA	Water	8260B	

Metals

Prep Batch: 413816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119768-1	Effluent	Total Recoverable	Water	3005A	
680-119768-1 MS	Effluent	Total Recoverable	Water	3005A	
680-119768-1 MSD	Effluent	Total Recoverable	Water	3005A	
LCS 680-413816/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-413816/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 414491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119768-1	Effluent	Total Recoverable	Water	6010C	413816
680-119768-1 MS	Effluent	Total Recoverable	Water	6010C	413816
680-119768-1 MSD	Effluent	Total Recoverable	Water	6010C	413816
LCS 680-413816/2-A	Lab Control Sample	Total Recoverable	Water	6010C	413816
MB 680-413816/1-A	Method Blank	Total Recoverable	Water	6010C	413816

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Client Sample ID: Effluent

Date Collected: 12/07/15 12:05
Date Received: 12/08/15 09:18

Lab Sample ID: 680-119768-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	413792	12/10/15 17:45	CEJ	TAL SAV
	Instrument ID: CMSP2									
Total Recoverable	Prep	3005A			50 mL	50 mL	413816	12/10/15 09:04	CRW	TAL SAV
Total Recoverable	Analysis	6010C		1	50 mL	50 mL	414491	12/14/15 19:37	BCB	TAL SAV
	Instrument ID: ICPE									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 12/7/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Jerry Lanier	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W) _____			
919-854-1282	TAT if different from Below _____			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0020.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (Method 8260B)	PP Metals (Method 6010)*	Sample Specific Notes:
Effluent	12/7/2015	12:05	Grab	W	4	N	3	1	*Report: As, Cr, Cu, Pb, and Zn only.
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____							2	4	

680-119768 Chain of Custody

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

2.6/3.0 CF

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dave Twamley	ARCADIS	12-7-15/1700	[signature]	TA	12/8/15 9:18
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-119768-1

Login Number: 119768
List Number: 1
Creator: White, Menica R

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road

TestAmerica Job ID: 680-119768-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15 *

* Certification renewal pending - certification considered valid.

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-114835-1
Client Project/Site: UNC-Airport Road

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Mark Swafford

Authorized for release by:
12/21/2015 8:49:50 AM

Mark Swafford, Project Manager I
(850)474-1001
mark.swafford@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions 3
Detection Summary 4
Sample Summary 5
Client Sample Results 6
QC Association 7
QC Sample Results 8
Chronicle 9
Certification Summary 10
Method Summary 11
Chain of Custody 12
Receipt Checklists 13

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Client Sample ID: EFFLUENT — Lab Sample ID: 400-114835-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Mercury	1.8		0.50		ng/L	1		1631E	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-114835-1	EFFLUENT	Water	12/07/15 12:05	12/08/15 09:56

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Client Sample ID: EFFLUENT

Lab Sample ID: 400-114835-1

Date Collected: 12/07/15 12:05

Matrix: Water

Date Received: 12/08/15 09:56

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.8		0.50		ng/L		12/08/15 15:00	12/20/15 11:53	1

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Metals

Prep Batch: 287904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-114835-1	EFFLUENT	Total/NA	Water	1631E	
660-71001-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
660-71001-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	
LCS 400-287904/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-287904/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-287904/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 287918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-114835-1	EFFLUENT	Total/NA	Water	1631E	287904
660-71001-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	287904
660-71001-E-1-A MS	Matrix Spike	Total/NA	Water	1631E	287904
LCS 400-287904/2-A	Lab Control Sample	Total/NA	Water	1631E	287904
LCSD 400-287904/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	287904
MB 400-287904/1-A	Method Blank	Total/NA	Water	1631E	287904

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-287904/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 287918 — **Prep Batch: 287904**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50		ng/L		12/20/15 09:17	12/20/15 10:09	1

Lab Sample ID: LCS 400-287904/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 287918 — **Prep Batch: 287904**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.84		ng/L		97	79 - 121		

Lab Sample ID: LCSD 400-287904/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 287918 — **Prep Batch: 287904**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			5.00	4.93		ng/L		99	79 - 121	2	20

Lab Sample ID: 660-71001-D-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 287918 — **Prep Batch: 287904**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	1.5		5.00	6.55		ng/L		101	71 - 125	1	24

Lab Sample ID: 660-71001-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 287918 — **Prep Batch: 287904**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	1.5		5.00	6.48		ng/L		99	71 - 125		

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Client Sample ID: EFFLUENT

Date Collected: 12/07/15 12:05
Date Received: 12/08/15 09:56

Lab Sample ID: 400-114835-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			287904	12/08/15 15:00	VLC	TAL PEN
Total/NA	Analysis	1631E		1	287918	12/20/15 11:53	VLC	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Laboratory: TestAmerica Pensacola

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	314	12-31-15

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC-Airport Road

TestAmerica Job ID: 400-114835-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Pensacola
3355 McLemore Drive

Pensacola, FL 32514
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

400-114835 COC

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TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Alan Pinnix	Site Contact: Dave Twamley	Date: 12/7/15	COC No:
ARCADIS	Tel/Fax: 919-854-1282	Lab Contact: Marty Edwards	Carrier: Fed Ex	1 of 1 COCs
801 Corporate Center Drive, Suite 300	Analysis Turnaround Time			Job No.
Raleigh, NC 27607	Calendar (C) or Work Days (W)			
919-854-1282	TAT if different from Below			
919-854-5448	■ 2 weeks			SDG No.
Project Name: UNC - Airport Road	☐ 1 week			
Site: Chapel Hill, NC	☐ 2 days			
P O # NC000239.0020.0001B	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Mercury, low level (Method 1631E)	Sample Specific Notes:
Effluent	12/7/2015	1205	Grab	W	3	N	3	
							1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dave Twamley	ARCADIS	12-7-15 / 1700	[illegible]	TA	12/8/15 0956

4.6°C IR 6

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 400-114835-1

Login Number: 114835
List Number: 1
Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6°C IR-6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	Vials were labeled by client.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-119967-1
Client Project/Site: UNC Airport Road (Waste Disposal Area)

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Mr. Alan Pinnix

Authorized for release by:
12/21/2015 3:57:13 PM

Jerry Lanier, Project Manager I
(912)354-7858 e.3410
jerry.lanier@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Method Summary 5
Definitions 6
Detection Summary 7
Client Sample Results 12
Surrogate Summary 58
QC Sample Results 60
QC Association 72
Chronicle 74
Chain of Custody 82
Receipt Checklists 86
Certification Summary 87

Job ID: 680-119967-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: UNC Airport Road (Waste Disposal Area)

Report Number: 680-119967-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 12/11/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-33 (680-119967-1), MW-32 (680-119967-2), MW-35 (680-119967-3), MW-5 (680-119967-4), MW-31 (680-119967-5), MW-30 (680-119967-6), MW-4 (680-119967-7), MW-36 (680-119967-8), MW-25 (680-119967-9), MW-11 (680-119967-10), MW-26 (680-119967-11), DRW-1 (680-119967-12), DRW-2 (680-119967-13), DRW-3 (680-119967-14), SRW-1 (680-119967-15), SW-1 (680-119967-16), SW-2 (680-119967-17), SW-3 (680-119967-18), SW-4 (680-119967-19), SW-5 (680-119967-20), SW-6 (680-119967-21), MW-28 (680-119967-22), MW-22 (680-119967-23), SRW-3 (680-119967-24), MW-23 (680-119967-25), MW-6 (680-119967-26), MW-17 (680-119967-27), MW-16 (680-119967-28), MW-15 (680-119967-29), Dup-1 (680-119967-30), MW-12 (680-119967-31), MW-2 (680-119967-32), MW-1 (680-119967-33), MW-3 (680-119967-34), MW-9 (680-119967-35), MW-14 (680-119967-36), VER-1 (680-119967-37), VER-2 (680-119967-38), VER-3 (680-119967-39), VER-4 (680-119967-40), MW-38 (680-119967-41), MW-39 (680-119967-42) and Trip Blank (680-119967-43) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 12/15/2015, 12/16/2015 and 12/17/2015.

Samples MW-4 (680-119967-7)[2X], DRW-1 (680-119967-12)[25X], MW-15 (680-119967-29)[10X], Dup-1 (680-119967-30)[5X], MW-2 (680-119967-32)[25X], MW-1 (680-119967-33)[10X], MW-9 (680-119967-35)[5X], MW-14 (680-119967-36)[5X] and VER-1 (680-119967-37) [5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batches 680-414485, 680-414672, 680-414674, and 680-414912.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-119967-1	MW-33	Water	12/08/15 10:40	12/11/15 12:08
680-119967-2	MW-32	Water	12/08/15 11:11	12/11/15 12:08
680-119967-3	MW-35	Water	12/08/15 10:22	12/11/15 12:08
680-119967-4	MW-5	Water	12/08/15 11:05	12/11/15 12:08
680-119967-5	MW-31	Water	12/08/15 12:07	12/11/15 12:08
680-119967-6	MW-30	Water	12/08/15 12:08	12/11/15 12:08
680-119967-7	MW-4	Water	12/08/15 13:48	12/11/15 12:08
680-119967-8	MW-36	Water	12/08/15 14:15	12/11/15 12:08
680-119967-9	MW-25	Water	12/08/15 14:30	12/11/15 12:08
680-119967-10	MW-11	Water	12/08/15 15:08	12/11/15 12:08
680-119967-11	MW-26	Water	12/08/15 15:40	12/11/15 12:08
680-119967-12	DRW-1	Water	12/07/15 15:55	12/11/15 12:08
680-119967-13	DRW-2	Water	12/07/15 16:00	12/11/15 12:08
680-119967-14	DRW-3	Water	12/07/15 16:05	12/11/15 12:08
680-119967-15	SRW-1	Water	12/07/15 16:10	12/11/15 12:08
680-119967-16	SW-1	Water	12/07/15 14:45	12/11/15 12:08
680-119967-17	SW-2	Water	12/07/15 15:00	12/11/15 12:08
680-119967-18	SW-3	Water	12/07/15 15:15	12/11/15 12:08
680-119967-19	SW-4	Water	12/07/15 15:25	12/11/15 12:08
680-119967-20	SW-5	Water	12/07/15 15:35	12/11/15 12:08
680-119967-21	SW-6	Water	12/08/15 15:45	12/11/15 12:08
680-119967-22	MW-28	Water	12/08/15 16:31	12/11/15 12:08
680-119967-23	MW-22	Water	12/08/15 16:10	12/11/15 12:08
680-119967-24	SRW-3	Water	12/09/15 16:30	12/11/15 12:08
680-119967-25	MW-23	Water	12/09/15 10:51	12/11/15 12:08
680-119967-26	MW-6	Water	12/09/15 10:16	12/11/15 12:08
680-119967-27	MW-17	Water	12/09/15 12:07	12/11/15 12:08
680-119967-28	MW-16	Water	12/09/15 14:11	12/11/15 12:08
680-119967-29	MW-15	Water	12/09/15 15:03	12/11/15 12:08
680-119967-30	Dup-1	Water	12/09/15 00:00	12/11/15 12:08
680-119967-31	MW-12	Water	12/09/15 12:25	12/11/15 12:08
680-119967-32	MW-2	Water	12/09/15 14:05	12/11/15 12:08
680-119967-33	MW-1	Water	12/09/15 15:00	12/11/15 12:08
680-119967-34	MW-3	Water	12/09/15 15:48	12/11/15 12:08
680-119967-35	MW-9	Water	12/09/15 16:45	12/11/15 12:08
680-119967-36	MW-14	Water	12/09/15 17:05	12/11/15 12:08
680-119967-37	VER-1	Water	12/10/15 10:44	12/11/15 12:08
680-119967-38	VER-2	Water	12/10/15 11:50	12/11/15 12:08
680-119967-39	VER-3	Water	12/10/15 12:44	12/11/15 12:08
680-119967-40	VER-4	Water	12/10/15 14:22	12/11/15 12:08
680-119967-41	MW-38	Water	12/10/15 15:02	12/11/15 12:08
680-119967-42	MW-39	Water	12/10/15 15:52	12/11/15 12:08
680-119967-43	Trip Blank	Water	12/10/15 00:00	12/11/15 12:08

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-33 — Lab Sample ID: 680-119967-1

No Detections.

Client Sample ID: MW-32 — Lab Sample ID: 680-119967-2

No Detections.

Client Sample ID: MW-35 — Lab Sample ID: 680-119967-3

No Detections.

Client Sample ID: MW-5 — Lab Sample ID: 680-119967-4

No Detections.

Client Sample ID: MW-31 — Lab Sample ID: 680-119967-5

No Detections.

Client Sample ID: MW-30 — Lab Sample ID: 680-119967-6

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 680-119967-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether - DL	270		20		ug/L	2		8260B	Total/NA

Client Sample ID: MW-36 — Lab Sample ID: 680-119967-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	41		10		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.1		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-25 — Lab Sample ID: 680-119967-9

No Detections.

Client Sample ID: MW-11 — Lab Sample ID: 680-119967-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	5.4		5.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-26 — Lab Sample ID: 680-119967-11

No Detections.

Client Sample ID: DRW-1 — Lab Sample ID: 680-119967-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethane	29		25		ug/L	25		8260B	Total/NA
Diethyl ether	960		130		ug/L	25		8260B	Total/NA

Client Sample ID: DRW-2 — Lab Sample ID: 680-119967-13

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: DRW-2 (Continued) — Lab Sample ID: 680-119967-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diethyl ether	11		5.0		ug/L	1		8260B	Total/NA

Client Sample ID: DRW-3 — Lab Sample ID: 680-119967-14

No Detections.

Client Sample ID: SRW-1 — Lab Sample ID: 680-119967-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	4.7		1.0		ug/L	1		8260B	Total/NA
Diethyl ether	12		5.0		ug/L	1		8260B	Total/NA

Client Sample ID: SW-1 — Lab Sample ID: 680-119967-16

No Detections.

Client Sample ID: SW-2 — Lab Sample ID: 680-119967-17

No Detections.

Client Sample ID: SW-3 — Lab Sample ID: 680-119967-18

No Detections.

Client Sample ID: SW-4 — Lab Sample ID: 680-119967-19

No Detections.

Client Sample ID: SW-5 — Lab Sample ID: 680-119967-20

No Detections.

Client Sample ID: SW-6 — Lab Sample ID: 680-119967-21

No Detections.

Client Sample ID: MW-28 — Lab Sample ID: 680-119967-22

No Detections.

Client Sample ID: MW-22 — Lab Sample ID: 680-119967-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	2.4		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: SRW-3 — Lab Sample ID: 680-119967-24

No Detections.

Client Sample ID: MW-23 — Lab Sample ID: 680-119967-25

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-6 — Lab Sample ID: 680-119967-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.1		1.0		ug/L	1		8260B	Total/NA
Diethyl ether	27		5.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-17 — Lab Sample ID: 680-119967-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.5		1.0		ug/L	1		8260B	Total/NA
Chlorobenzene	3.6		1.0		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	3.9		1.0		ug/L	1		8260B	Total/NA
Diethyl ether	35		5.0		ug/L	1		8260B	Total/NA
Vinyl chloride	3.5		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-16 — Lab Sample ID: 680-119967-28

No Detections.

Client Sample ID: MW-15 — Lab Sample ID: 680-119967-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	20		10		ug/L	10		8260B	Total/NA
1,2-Dichloroethane	17		10		ug/L	10		8260B	Total/NA
Diethyl ether	630		50		ug/L	10		8260B	Total/NA

Client Sample ID: Dup-1 — Lab Sample ID: 680-119967-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.4		5.0		ug/L	5		8260B	Total/NA
1,2-Dichloroethane	7.2		5.0		ug/L	5		8260B	Total/NA
Diethyl ether	400		25		ug/L	5		8260B	Total/NA
Methylene Chloride	32		25		ug/L	5		8260B	Total/NA

Client Sample ID: MW-12 — Lab Sample ID: 680-119967-31

No Detections.

Client Sample ID: MW-2 — Lab Sample ID: 680-119967-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	27		25		ug/L	25		8260B	Total/NA
1,2-Dichloroethane	140		25		ug/L	25		8260B	Total/NA
Diethyl ether	1700		130		ug/L	25		8260B	Total/NA

Client Sample ID: MW-1 — Lab Sample ID: 680-119967-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	29		10		ug/L	10		8260B	Total/NA
1,2-Dichloroethane	32		10		ug/L	10		8260B	Total/NA
Diethyl ether	1200		50		ug/L	10		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-3 — Lab Sample ID: 680-119967-34

No Detections.

Client Sample ID: MW-9 — Lab Sample ID: 680-119967-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethane	1.7		1.0		ug/L	1		8260B	Total/NA
Diethyl ether - DL	550		25		ug/L	5		8260B	Total/NA

Client Sample ID: MW-14 — Lab Sample ID: 680-119967-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.8		5.0		ug/L	5		8260B	Total/NA
1,2-Dichloroethane	7.2		5.0		ug/L	5		8260B	Total/NA
Diethyl ether	430		25		ug/L	5		8260B	Total/NA
Methylene Chloride	37		25		ug/L	5		8260B	Total/NA

Client Sample ID: VER-1 — Lab Sample ID: 680-119967-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.6		1.0		ug/L	1		8260B	Total/NA
Chlorobenzene	62		1.0		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	3.8		1.0		ug/L	1		8260B	Total/NA
1,1-Dichloroethane	7.4		1.0		ug/L	1		8260B	Total/NA
1,2-Dichloroethane	48		1.0		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.3		1.0		ug/L	1		8260B	Total/NA
Trichloroethene	14		1.0		ug/L	1		8260B	Total/NA
Diethyl ether - DL	1000		25		ug/L	5		8260B	Total/NA

Client Sample ID: VER-2 — Lab Sample ID: 680-119967-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	1.0		1.0		ug/L	1		8260B	Total/NA
Chloroform	13		1.0		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.2		1.0		ug/L	1		8260B	Total/NA
1,1-Dichloroethane	2.4		1.0		ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.8		1.0		ug/L	1		8260B	Total/NA
Diethyl ether	39		5.0		ug/L	1		8260B	Total/NA
1,1,2,2-Tetrachloroethane	11		1.0		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.0		1.0		ug/L	1		8260B	Total/NA
Trichloroethene	12		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: VER-3 — Lab Sample ID: 680-119967-39

No Detections.

Client Sample ID: VER-4 — Lab Sample ID: 680-119967-40

No Detections.

Client Sample ID: MW-38 — Lab Sample ID: 680-119967-41

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-38 (Continued) — Lab Sample ID: 680-119967-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	4.8		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-39 — Lab Sample ID: 680-119967-42

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 680-119967-43

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-33

Date Collected: 12/08/15 10:40
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 13:28	1
Benzene	1.0	U	1.0		ug/L			12/15/15 13:28	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 13:28	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 13:28	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 13:28	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 13:28	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 13:28	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 13:28	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 13:28	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 13:28	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:28	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 13:28	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 13:28	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 13:28	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 13:28	1
2-Hexanone	10	U	10		ug/L			12/15/15 13:28	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 13:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 13:28	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 13:28	1
Styrene	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 13:28	1
Toluene	1.0	U	1.0		ug/L			12/15/15 13:28	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:28	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 13:28	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 13:28	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 13:28	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*12/15/15 13:28*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/15/15 13:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/15/15 13:28*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 13:28*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-32

Date Collected: 12/08/15 11:11
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 13:48	1
Benzene	1.0	U	1.0		ug/L			12/15/15 13:48	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 13:48	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 13:48	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 13:48	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 13:48	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 13:48	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 13:48	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 13:48	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 13:48	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:48	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 13:48	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 13:48	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 13:48	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 13:48	1
2-Hexanone	10	U	10		ug/L			12/15/15 13:48	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 13:48	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 13:48	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 13:48	1
Styrene	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 13:48	1
Toluene	1.0	U	1.0		ug/L			12/15/15 13:48	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:48	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 13:48	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 13:48	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 13:48	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/15/15 13:48*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*12/15/15 13:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*12/15/15 13:48*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*12/15/15 13:48*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-35

Date Collected: 12/08/15 10:22
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 14:09	1
Benzene	1.0	U	1.0		ug/L			12/15/15 14:09	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 14:09	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 14:09	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 14:09	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 14:09	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 14:09	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 14:09	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 14:09	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 14:09	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:09	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 14:09	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 14:09	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 14:09	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 14:09	1
2-Hexanone	10	U	10		ug/L			12/15/15 14:09	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 14:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 14:09	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 14:09	1
Styrene	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 14:09	1
Toluene	1.0	U	1.0		ug/L			12/15/15 14:09	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:09	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 14:09	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 14:09	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 14:09	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 14:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/15/15 14:09*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/15/15 14:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/15/15 14:09*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 14:09*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-5

Date Collected: 12/08/15 11:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 14:29	1
Benzene	1.0	U	1.0		ug/L			12/15/15 14:29	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 14:29	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 14:29	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 14:29	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 14:29	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 14:29	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 14:29	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 14:29	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 14:29	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:29	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 14:29	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 14:29	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 14:29	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 14:29	1
2-Hexanone	10	U	10		ug/L			12/15/15 14:29	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 14:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 14:29	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 14:29	1
Styrene	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 14:29	1
Toluene	1.0	U	1.0		ug/L			12/15/15 14:29	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:29	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 14:29	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 14:29	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 14:29	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*12/15/15 14:29*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*12/15/15 14:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*12/15/15 14:29*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*12/15/15 14:29*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-31

Date Collected: 12/08/15 12:07
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 14:49	1
Benzene	1.0	U	1.0		ug/L			12/15/15 14:49	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 14:49	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 14:49	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 14:49	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 14:49	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 14:49	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 14:49	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 14:49	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 14:49	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:49	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 14:49	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 14:49	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 14:49	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 14:49	1
2-Hexanone	10	U	10		ug/L			12/15/15 14:49	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 14:49	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 14:49	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 14:49	1
Styrene	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 14:49	1
Toluene	1.0	U	1.0		ug/L			12/15/15 14:49	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 14:49	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 14:49	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 14:49	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 14:49	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*12/15/15 14:49*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/15/15 14:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/15/15 14:49*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/15/15 14:49*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-30

Date Collected: 12/08/15 12:08
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 18:14	1
Benzene	1.0	U	1.0		ug/L			12/15/15 18:14	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 18:14	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 18:14	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 18:14	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 18:14	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 18:14	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 18:14	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 18:14	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 18:14	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:14	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 18:14	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 18:14	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 18:14	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 18:14	1
2-Hexanone	10	U	10		ug/L			12/15/15 18:14	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 18:14	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 18:14	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 18:14	1
Styrene	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 18:14	1
Toluene	1.0	U	1.0		ug/L			12/15/15 18:14	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:14	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 18:14	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 18:14	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 18:14	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/15/15 18:14*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*12/15/15 18:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*12/15/15 18:14*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/15/15 18:14*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-4

Date Collected: 12/08/15 13:48
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 18:34	1
Benzene	1.0	U	1.0		ug/L			12/15/15 18:34	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 18:34	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 18:34	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 18:34	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 18:34	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 18:34	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 18:34	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 18:34	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 18:34	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:34	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 18:34	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 18:34	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 18:34	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 18:34	1
2-Hexanone	10	U	10		ug/L			12/15/15 18:34	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 18:34	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 18:34	1
Styrene	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 18:34	1
Toluene	1.0	U	1.0		ug/L			12/15/15 18:34	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:34	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 18:34	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 18:34	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 18:34	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/15/15 18:34*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*12/15/15 18:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 18:34*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 18:34*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	**270**		20		ug/L			12/16/15 12:18	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*12/16/15 12:18*	*2*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*12/16/15 12:18*	*2*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*12/16/15 12:18*	*2*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-4

Lab Sample ID: 680-119967-7

Date Collected: 12/08/15 13:48

Matrix: Water

Date Received: 12/11/15 12:08

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		70 - 130		12/16/15 12:18	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-36

Date Collected: 12/08/15 14:15
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 16:15	1
Benzene	1.0	U	1.0		ug/L			12/16/15 16:15	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 16:15	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 16:15	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 16:15	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 16:15	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 16:15	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 16:15	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 16:15	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 16:15	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:15	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:15	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 16:15	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 16:15	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 16:15	1
2-Hexanone	10	U	10		ug/L			12/16/15 16:15	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 16:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 16:15	1
Methyl tert-butyl ether	**41**		10		ug/L			12/16/15 16:15	1
Styrene	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
Tetrachloroethene	**1.1**		1.0		ug/L			12/16/15 16:15	1
Toluene	1.0	U	1.0		ug/L			12/16/15 16:15	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:15	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:15	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 16:15	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 16:15	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*12/16/15 16:15*	*1*
Dibromofluoromethane (Surr)	*107*		*70 - 130*		*12/16/15 16:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*12/16/15 16:15*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*12/16/15 16:15*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-25

Date Collected: 12/08/15 14:30
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 18:55	1
Benzene	1.0	U	1.0		ug/L			12/15/15 18:55	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 18:55	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 18:55	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 18:55	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 18:55	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 18:55	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 18:55	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 18:55	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 18:55	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:55	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 18:55	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 18:55	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 18:55	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 18:55	1
2-Hexanone	10	U	10		ug/L			12/15/15 18:55	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 18:55	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 18:55	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 18:55	1
Styrene	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 18:55	1
Toluene	1.0	U	1.0		ug/L			12/15/15 18:55	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 18:55	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 18:55	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 18:55	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 18:55	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/15/15 18:55*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*12/15/15 18:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 18:55*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/15/15 18:55*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-11

Date Collected: 12/08/15 15:08
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 19:15	1
Benzene	1.0	U	1.0		ug/L			12/15/15 19:15	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 19:15	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 19:15	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 19:15	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 19:15	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 19:15	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 19:15	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 19:15	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 19:15	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 19:15	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 19:15	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 19:15	1
Diethyl ether	**5.4**		5.0		ug/L			12/15/15 19:15	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 19:15	1
2-Hexanone	10	U	10		ug/L			12/15/15 19:15	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 19:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 19:15	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 19:15	1
Styrene	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 19:15	1
Toluene	1.0	U	1.0		ug/L			12/15/15 19:15	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 19:15	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 19:15	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 19:15	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 19:15	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/15/15 19:15*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/15/15 19:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/15/15 19:15*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/15/15 19:15*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-26

Date Collected: 12/08/15 15:40
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 11:28	1
Benzene	1.0	U	1.0		ug/L			12/16/15 11:28	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 11:28	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 11:28	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 11:28	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 11:28	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 11:28	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 11:28	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 11:28	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 11:28	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:28	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 11:28	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 11:28	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 11:28	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 11:28	1
2-Hexanone	10	U	10		ug/L			12/16/15 11:28	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 11:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 11:28	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 11:28	1
Styrene	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 11:28	1
Toluene	1.0	U	1.0		ug/L			12/16/15 11:28	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:28	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 11:28	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 11:28	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 11:28	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 11:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/16/15 11:28*	*1*
Dibromofluoromethane (Surr)	*91*		*70 - 130*		*12/16/15 11:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*		*12/16/15 11:28*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/16/15 11:28*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: DRW-1

Date Collected: 12/07/15 15:55
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-12

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	250	U	250		ug/L			12/15/15 17:53	25
Benzene	25	U	25		ug/L			12/15/15 17:53	25
Bromoform	25	U	25		ug/L			12/15/15 17:53	25
Bromomethane	130	U	130		ug/L			12/15/15 17:53	25
2-Butanone (MEK)	250	U	250		ug/L			12/15/15 17:53	25
Carbon disulfide	50	U	50		ug/L			12/15/15 17:53	25
Carbon tetrachloride	25	U	25		ug/L			12/15/15 17:53	25
Chlorobenzene	25	U	25		ug/L			12/15/15 17:53	25
Chlorodibromomethane	25	U	25		ug/L			12/15/15 17:53	25
Chloroethane	130	U	130		ug/L			12/15/15 17:53	25
Chloroform	25	U	25		ug/L			12/15/15 17:53	25
Chloromethane	25	U	25		ug/L			12/15/15 17:53	25
cis-1,2-Dichloroethene	25	U	25		ug/L			12/15/15 17:53	25
cis-1,3-Dichloropropene	25	U	25		ug/L			12/15/15 17:53	25
Dichlorobromomethane	25	U	25		ug/L			12/15/15 17:53	25
1,1-Dichloroethane	25	U	25		ug/L			12/15/15 17:53	25
1,2-Dichloroethane	**29**		25		ug/L			12/15/15 17:53	25
1,1-Dichloroethene	25	U	25		ug/L			12/15/15 17:53	25
1,2-Dichloropropane	25	U	25		ug/L			12/15/15 17:53	25
Diethyl ether	**960**		130		ug/L			12/15/15 17:53	25
Ethylbenzene	25	U	25		ug/L			12/15/15 17:53	25
2-Hexanone	250	U	250		ug/L			12/15/15 17:53	25
Methylene Chloride	130	U	130		ug/L			12/15/15 17:53	25
4-Methyl-2-pentanone (MIBK)	250	U	250		ug/L			12/15/15 17:53	25
Methyl tert-butyl ether	250	U	250		ug/L			12/15/15 17:53	25
Styrene	25	U	25		ug/L			12/15/15 17:53	25
1,1,2,2-Tetrachloroethane	25	U	25		ug/L			12/15/15 17:53	25
Tetrachloroethene	25	U	25		ug/L			12/15/15 17:53	25
Toluene	25	U	25		ug/L			12/15/15 17:53	25
trans-1,2-Dichloroethene	25	U	25		ug/L			12/15/15 17:53	25
trans-1,3-Dichloropropene	25	U	25		ug/L			12/15/15 17:53	25
1,1,1-Trichloroethane	25	U	25		ug/L			12/15/15 17:53	25
1,1,2-Trichloroethane	25	U	25		ug/L			12/15/15 17:53	25
Trichloroethene	25	U	25		ug/L			12/15/15 17:53	25
Vinyl chloride	25	U	25		ug/L			12/15/15 17:53	25
Xylenes, Total	25	U	25		ug/L			12/15/15 17:53	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/15/15 17:53*	*25*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*12/15/15 17:53*	*25*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*12/15/15 17:53*	*25*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 17:53*	*25*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: DRW-2

Date Collected: 12/07/15 16:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-13

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 15:10	1
Benzene	1.0	U	1.0		ug/L			12/15/15 15:10	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 15:10	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 15:10	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 15:10	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 15:10	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 15:10	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 15:10	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 15:10	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 15:10	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:10	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 15:10	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 15:10	1
Diethyl ether	**11**		5.0		ug/L			12/15/15 15:10	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 15:10	1
2-Hexanone	10	U	10		ug/L			12/15/15 15:10	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 15:10	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 15:10	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 15:10	1
Styrene	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 15:10	1
Toluene	1.0	U	1.0		ug/L			12/15/15 15:10	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:10	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 15:10	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 15:10	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 15:10	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*12/15/15 15:10*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/15/15 15:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 15:10*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*12/15/15 15:10*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: DRW-3

Date Collected: 12/07/15 16:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-14

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 15:30	1
Benzene	1.0	U	1.0		ug/L			12/15/15 15:30	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 15:30	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 15:30	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 15:30	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 15:30	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 15:30	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 15:30	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 15:30	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 15:30	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:30	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 15:30	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 15:30	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 15:30	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 15:30	1
2-Hexanone	10	U	10		ug/L			12/15/15 15:30	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 15:30	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 15:30	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 15:30	1
Styrene	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 15:30	1
Toluene	1.0	U	1.0		ug/L			12/15/15 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:30	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 15:30	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 15:30	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 15:30	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/15/15 15:30*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/15/15 15:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*12/15/15 15:30*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 15:30*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SRW-1

Date Collected: 12/07/15 16:10
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-15

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 15:51	1
Benzene	1.0	U	1.0		ug/L			12/15/15 15:51	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 15:51	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 15:51	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 15:51	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 15:51	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 15:51	1
Chlorobenzene	**4.7**		1.0		ug/L			12/15/15 15:51	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 15:51	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 15:51	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:51	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 15:51	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 15:51	1
Diethyl ether	**12**		5.0		ug/L			12/15/15 15:51	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 15:51	1
2-Hexanone	10	U	10		ug/L			12/15/15 15:51	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 15:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 15:51	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 15:51	1
Styrene	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 15:51	1
Toluene	1.0	U	1.0		ug/L			12/15/15 15:51	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 15:51	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 15:51	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 15:51	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 15:51	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*12/15/15 15:51*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*12/15/15 15:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 15:51*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 15:51*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-1

Date Collected: 12/07/15 14:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-16

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 16:11	1
Benzene	1.0	U	1.0		ug/L			12/15/15 16:11	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 16:11	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 16:11	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 16:11	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 16:11	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 16:11	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 16:11	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 16:11	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 16:11	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:11	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 16:11	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 16:11	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 16:11	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 16:11	1
2-Hexanone	10	U	10		ug/L			12/15/15 16:11	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 16:11	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 16:11	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 16:11	1
Styrene	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 16:11	1
Toluene	1.0	U	1.0		ug/L			12/15/15 16:11	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:11	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 16:11	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 16:11	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 16:11	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/15/15 16:11*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*12/15/15 16:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 16:11*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 16:11*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-2

Lab Sample ID: 680-119967-17

Date Collected: 12/07/15 15:00
Date Received: 12/11/15 12:08

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 16:32	1
Benzene	1.0	U	1.0		ug/L			12/15/15 16:32	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 16:32	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 16:32	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 16:32	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 16:32	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 16:32	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 16:32	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 16:32	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 16:32	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:32	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 16:32	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 16:32	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 16:32	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 16:32	1
2-Hexanone	10	U	10		ug/L			12/15/15 16:32	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 16:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 16:32	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 16:32	1
Styrene	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 16:32	1
Toluene	1.0	U	1.0		ug/L			12/15/15 16:32	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:32	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 16:32	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 16:32	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 16:32	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/15/15 16:32*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/15/15 16:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 16:32*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/15/15 16:32*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-3

Lab Sample ID: 680-119967-18

Date Collected: 12/07/15 15:15
Date Received: 12/11/15 12:08

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 16:52	1
Benzene	1.0	U	1.0		ug/L			12/15/15 16:52	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 16:52	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 16:52	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 16:52	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 16:52	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 16:52	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 16:52	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 16:52	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 16:52	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:52	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 16:52	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 16:52	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 16:52	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 16:52	1
2-Hexanone	10	U	10		ug/L			12/15/15 16:52	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 16:52	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 16:52	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 16:52	1
Styrene	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 16:52	1
Toluene	1.0	U	1.0		ug/L			12/15/15 16:52	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 16:52	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 16:52	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 16:52	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 16:52	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*12/15/15 16:52*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/15/15 16:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/15/15 16:52*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/15/15 16:52*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-4

Lab Sample ID: 680-119967-19

Date Collected: 12/07/15 15:25
Date Received: 12/11/15 12:08

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 17:12	1
Benzene	1.0	U	1.0		ug/L			12/15/15 17:12	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 17:12	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 17:12	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 17:12	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 17:12	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 17:12	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 17:12	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 17:12	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 17:12	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 17:12	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 17:12	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 17:12	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 17:12	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 17:12	1
2-Hexanone	10	U	10		ug/L			12/15/15 17:12	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 17:12	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 17:12	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 17:12	1
Styrene	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 17:12	1
Toluene	1.0	U	1.0		ug/L			12/15/15 17:12	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 17:12	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 17:12	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 17:12	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 17:12	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/15/15 17:12*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*12/15/15 17:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 17:12*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*12/15/15 17:12*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-5

Lab Sample ID: 680-119967-20

Date Collected: 12/07/15 15:35
Date Received: 12/11/15 12:08

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 17:33	1
Benzene	1.0	U	1.0		ug/L			12/15/15 17:33	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 17:33	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 17:33	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 17:33	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 17:33	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 17:33	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 17:33	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 17:33	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 17:33	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 17:33	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 17:33	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 17:33	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 17:33	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 17:33	1
2-Hexanone	10	U	10		ug/L			12/15/15 17:33	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 17:33	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 17:33	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 17:33	1
Styrene	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 17:33	1
Toluene	1.0	U	1.0		ug/L			12/15/15 17:33	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 17:33	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 17:33	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 17:33	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 17:33	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/15/15 17:33*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*12/15/15 17:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*12/15/15 17:33*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/15/15 17:33*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-6

Date Collected: 12/08/15 15:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-21

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 11:50	1
Benzene	1.0	U	1.0		ug/L			12/16/15 11:50	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 11:50	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 11:50	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 11:50	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 11:50	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 11:50	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 11:50	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 11:50	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 11:50	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:50	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 11:50	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 11:50	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 11:50	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 11:50	1
2-Hexanone	10	U	10		ug/L			12/16/15 11:50	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 11:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 11:50	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 11:50	1
Styrene	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 11:50	1
Toluene	1.0	U	1.0		ug/L			12/16/15 11:50	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:50	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 11:50	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 11:50	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 11:50	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/16/15 11:50*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/16/15 11:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*12/16/15 11:50*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/16/15 11:50*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-28

Date Collected: 12/08/15 16:31
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-22

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 12:13	1
Benzene	1.0	U	1.0		ug/L			12/16/15 12:13	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 12:13	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 12:13	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 12:13	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 12:13	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 12:13	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 12:13	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 12:13	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 12:13	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:13	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 12:13	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 12:13	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 12:13	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 12:13	1
2-Hexanone	10	U	10		ug/L			12/16/15 12:13	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 12:13	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 12:13	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 12:13	1
Styrene	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 12:13	1
Toluene	1.0	U	1.0		ug/L			12/16/15 12:13	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:13	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 12:13	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 12:13	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 12:13	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/16/15 12:13*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 12:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*12/16/15 12:13*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/16/15 12:13*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-22

Date Collected: 12/08/15 16:10
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-23

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 12:36	1
Benzene	1.0	U	1.0		ug/L			12/16/15 12:36	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 12:36	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 12:36	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 12:36	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 12:36	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 12:36	1
Chlorobenzene	**2.4**		1.0		ug/L			12/16/15 12:36	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 12:36	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 12:36	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:36	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 12:36	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 12:36	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 12:36	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 12:36	1
2-Hexanone	10	U	10		ug/L			12/16/15 12:36	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 12:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 12:36	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 12:36	1
Styrene	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 12:36	1
Toluene	1.0	U	1.0		ug/L			12/16/15 12:36	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:36	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 12:36	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 12:36	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 12:36	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/16/15 12:36*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 12:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/16/15 12:36*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*12/16/15 12:36*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SRW-3

Date Collected: 12/09/15 16:30
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-24

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 12:58	1
Benzene	1.0	U	1.0		ug/L			12/16/15 12:58	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 12:58	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 12:58	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 12:58	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 12:58	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 12:58	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 12:58	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 12:58	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 12:58	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:58	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 12:58	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 12:58	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 12:58	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 12:58	1
2-Hexanone	10	U	10		ug/L			12/16/15 12:58	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 12:58	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 12:58	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 12:58	1
Styrene	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 12:58	1
Toluene	1.0	U	1.0		ug/L			12/16/15 12:58	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 12:58	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 12:58	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 12:58	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 12:58	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/16/15 12:58*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 12:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/16/15 12:58*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 12:58*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-23

Date Collected: 12/09/15 10:51
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-25

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 13:21	1
Benzene	1.0	U	1.0		ug/L			12/16/15 13:21	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 13:21	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 13:21	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 13:21	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 13:21	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 13:21	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 13:21	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 13:21	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 13:21	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 13:21	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 13:21	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 13:21	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 13:21	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 13:21	1
2-Hexanone	10	U	10		ug/L			12/16/15 13:21	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 13:21	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 13:21	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 13:21	1
Styrene	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 13:21	1
Toluene	1.0	U	1.0		ug/L			12/16/15 13:21	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 13:21	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 13:21	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 13:21	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 13:21	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/16/15 13:21*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/16/15 13:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/16/15 13:21*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 13:21*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-6

Date Collected: 12/09/15 10:16
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-26

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 13:44	1
Benzene	1.0	U	1.0		ug/L			12/16/15 13:44	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 13:44	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 13:44	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 13:44	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 13:44	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 13:44	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 13:44	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 13:44	1
Chloroform	**1.1**		1.0		ug/L			12/16/15 13:44	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 13:44	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 13:44	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 13:44	1
Diethyl ether	**27**		5.0		ug/L			12/16/15 13:44	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 13:44	1
2-Hexanone	10	U	10		ug/L			12/16/15 13:44	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 13:44	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 13:44	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 13:44	1
Styrene	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 13:44	1
Toluene	1.0	U	1.0		ug/L			12/16/15 13:44	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 13:44	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 13:44	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 13:44	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 13:44	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/16/15 13:44*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 13:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/16/15 13:44*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/16/15 13:44*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-17

Date Collected: 12/09/15 12:07
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-27

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 14:06	1
Benzene	**1.5**		1.0		ug/L			12/16/15 14:06	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 14:06	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 14:06	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 14:06	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 14:06	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 14:06	1
Chlorobenzene	**3.6**		1.0		ug/L			12/16/15 14:06	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 14:06	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 14:06	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
cis-1,2-Dichloroethene	**3.9**		1.0		ug/L			12/16/15 14:06	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 14:06	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 14:06	1
Diethyl ether	**35**		5.0		ug/L			12/16/15 14:06	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 14:06	1
2-Hexanone	10	U	10		ug/L			12/16/15 14:06	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 14:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 14:06	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 14:06	1
Styrene	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 14:06	1
Toluene	1.0	U	1.0		ug/L			12/16/15 14:06	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:06	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 14:06	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 14:06	1
Vinyl chloride	**3.5**		1.0		ug/L			12/16/15 14:06	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/16/15 14:06*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/16/15 14:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*12/16/15 14:06*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/16/15 14:06*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-16

Date Collected: 12/09/15 14:11
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-28

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 14:29	1
Benzene	1.0	U	1.0		ug/L			12/16/15 14:29	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 14:29	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 14:29	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 14:29	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 14:29	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 14:29	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 14:29	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 14:29	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 14:29	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:29	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 14:29	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 14:29	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 14:29	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 14:29	1
2-Hexanone	10	U	10		ug/L			12/16/15 14:29	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 14:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 14:29	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 14:29	1
Styrene	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 14:29	1
Toluene	1.0	U	1.0		ug/L			12/16/15 14:29	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:29	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 14:29	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 14:29	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 14:29	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/16/15 14:29*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/16/15 14:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/16/15 14:29*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/16/15 14:29*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-15

Date Collected: 12/09/15 15:03
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-29

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100		ug/L			12/16/15 15:14	10
Benzene	10	U	10		ug/L			12/16/15 15:14	10
Bromoform	10	U	10		ug/L			12/16/15 15:14	10
Bromomethane	50	U	50		ug/L			12/16/15 15:14	10
2-Butanone (MEK)	100	U	100		ug/L			12/16/15 15:14	10
Carbon disulfide	20	U	20		ug/L			12/16/15 15:14	10
Carbon tetrachloride	10	U	10		ug/L			12/16/15 15:14	10
Chlorobenzene	10	U	10		ug/L			12/16/15 15:14	10
Chlorodibromomethane	10	U	10		ug/L			12/16/15 15:14	10
Chloroethane	50	U	50		ug/L			12/16/15 15:14	10
Chloroform	**20**		10		ug/L			12/16/15 15:14	10
Chloromethane	10	U	10		ug/L			12/16/15 15:14	10
cis-1,2-Dichloroethene	10	U	10		ug/L			12/16/15 15:14	10
cis-1,3-Dichloropropene	10	U	10		ug/L			12/16/15 15:14	10
Dichlorobromomethane	10	U	10		ug/L			12/16/15 15:14	10
1,1-Dichloroethane	10	U	10		ug/L			12/16/15 15:14	10
1,2-Dichloroethane	**17**		10		ug/L			12/16/15 15:14	10
1,1-Dichloroethene	10	U	10		ug/L			12/16/15 15:14	10
1,2-Dichloropropane	10	U	10		ug/L			12/16/15 15:14	10
Diethyl ether	**630**		50		ug/L			12/16/15 15:14	10
Ethylbenzene	10	U	10		ug/L			12/16/15 15:14	10
2-Hexanone	100	U	100		ug/L			12/16/15 15:14	10
Methylene Chloride	50	U	50		ug/L			12/16/15 15:14	10
4-Methyl-2-pentanone (MIBK)	100	U	100		ug/L			12/16/15 15:14	10
Methyl tert-butyl ether	100	U	100		ug/L			12/16/15 15:14	10
Styrene	10	U	10		ug/L			12/16/15 15:14	10
1,1,2,2-Tetrachloroethane	10	U	10		ug/L			12/16/15 15:14	10
Tetrachloroethene	10	U	10		ug/L			12/16/15 15:14	10
Toluene	10	U	10		ug/L			12/16/15 15:14	10
trans-1,2-Dichloroethene	10	U	10		ug/L			12/16/15 15:14	10
trans-1,3-Dichloropropene	10	U	10		ug/L			12/16/15 15:14	10
1,1,1-Trichloroethane	10	U	10		ug/L			12/16/15 15:14	10
1,1,2-Trichloroethane	10	U	10		ug/L			12/16/15 15:14	10
Trichloroethene	10	U	10		ug/L			12/16/15 15:14	10
Vinyl chloride	10	U	10		ug/L			12/16/15 15:14	10
Xylenes, Total	10	U	10		ug/L			12/16/15 15:14	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/16/15 15:14*	*10*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*12/16/15 15:14*	*10*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*12/16/15 15:14*	*10*
Toluene-d8 (Surr)	*97*		*70 - 130*		*12/16/15 15:14*	*10*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: Dup-1

Date Collected: 12/09/15 00:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-30

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	50	U	50		ug/L			12/16/15 15:37	5
Benzene	**5.4**		5.0		ug/L			12/16/15 15:37	5
Bromoform	5.0	U	5.0		ug/L			12/16/15 15:37	5
Bromomethane	25	U	25		ug/L			12/16/15 15:37	5
2-Butanone (MEK)	50	U	50		ug/L			12/16/15 15:37	5
Carbon disulfide	10	U	10		ug/L			12/16/15 15:37	5
Carbon tetrachloride	5.0	U	5.0		ug/L			12/16/15 15:37	5
Chlorobenzene	5.0	U	5.0		ug/L			12/16/15 15:37	5
Chlorodibromomethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
Chloroethane	25	U	25		ug/L			12/16/15 15:37	5
Chloroform	5.0	U	5.0		ug/L			12/16/15 15:37	5
Chloromethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
cis-1,2-Dichloroethene	5.0	U	5.0		ug/L			12/16/15 15:37	5
cis-1,3-Dichloropropene	5.0	U	5.0		ug/L			12/16/15 15:37	5
Dichlorobromomethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
1,1-Dichloroethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
1,2-Dichloroethane	**7.2**		5.0		ug/L			12/16/15 15:37	5
1,1-Dichloroethene	5.0	U	5.0		ug/L			12/16/15 15:37	5
1,2-Dichloropropane	5.0	U	5.0		ug/L			12/16/15 15:37	5
Diethyl ether	**400**		25		ug/L			12/16/15 15:37	5
Ethylbenzene	5.0	U	5.0		ug/L			12/16/15 15:37	5
2-Hexanone	50	U	50		ug/L			12/16/15 15:37	5
Methylene Chloride	**32**		25		ug/L			12/16/15 15:37	5
4-Methyl-2-pentanone (MIBK)	50	U	50		ug/L			12/16/15 15:37	5
Methyl tert-butyl ether	50	U	50		ug/L			12/16/15 15:37	5
Styrene	5.0	U	5.0		ug/L			12/16/15 15:37	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
Tetrachloroethene	5.0	U	5.0		ug/L			12/16/15 15:37	5
Toluene	5.0	U	5.0		ug/L			12/16/15 15:37	5
trans-1,2-Dichloroethene	5.0	U	5.0		ug/L			12/16/15 15:37	5
trans-1,3-Dichloropropene	5.0	U	5.0		ug/L			12/16/15 15:37	5
1,1,1-Trichloroethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
1,1,2-Trichloroethane	5.0	U	5.0		ug/L			12/16/15 15:37	5
Trichloroethene	5.0	U	5.0		ug/L			12/16/15 15:37	5
Vinyl chloride	5.0	U	5.0		ug/L			12/16/15 15:37	5
Xylenes, Total	5.0	U	5.0		ug/L			12/16/15 15:37	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/16/15 15:37*	*5*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*12/16/15 15:37*	*5*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*12/16/15 15:37*	*5*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/16/15 15:37*	*5*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-12

Date Collected: 12/09/15 12:25
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-31

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 14:51	1
Benzene	1.0	U	1.0		ug/L			12/16/15 14:51	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 14:51	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 14:51	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 14:51	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 14:51	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 14:51	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 14:51	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 14:51	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 14:51	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:51	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 14:51	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 14:51	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 14:51	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 14:51	1
2-Hexanone	10	U	10		ug/L			12/16/15 14:51	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 14:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 14:51	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 14:51	1
Styrene	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 14:51	1
Toluene	1.0	U	1.0		ug/L			12/16/15 14:51	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 14:51	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 14:51	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 14:51	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 14:51	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/16/15 14:51*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 14:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/16/15 14:51*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 14:51*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-2

Date Collected: 12/09/15 14:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-32

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	250	U	250		ug/L			12/16/15 15:59	25
Benzene	25	U	25		ug/L			12/16/15 15:59	25
Bromoform	25	U	25		ug/L			12/16/15 15:59	25
Bromomethane	130	U	130		ug/L			12/16/15 15:59	25
2-Butanone (MEK)	250	U	250		ug/L			12/16/15 15:59	25
Carbon disulfide	50	U	50		ug/L			12/16/15 15:59	25
Carbon tetrachloride	25	U	25		ug/L			12/16/15 15:59	25
Chlorobenzene	**27**		25		ug/L			12/16/15 15:59	25
Chlorodibromomethane	25	U	25		ug/L			12/16/15 15:59	25
Chloroethane	130	U	130		ug/L			12/16/15 15:59	25
Chloroform	25	U	25		ug/L			12/16/15 15:59	25
Chloromethane	25	U	25		ug/L			12/16/15 15:59	25
cis-1,2-Dichloroethene	25	U	25		ug/L			12/16/15 15:59	25
cis-1,3-Dichloropropene	25	U	25		ug/L			12/16/15 15:59	25
Dichlorobromomethane	25	U	25		ug/L			12/16/15 15:59	25
1,1-Dichloroethane	25	U	25		ug/L			12/16/15 15:59	25
1,2-Dichloroethane	**140**		25		ug/L			12/16/15 15:59	25
1,1-Dichloroethene	25	U	25		ug/L			12/16/15 15:59	25
1,2-Dichloropropane	25	U	25		ug/L			12/16/15 15:59	25
Diethyl ether	**1700**		130		ug/L			12/16/15 15:59	25
Ethylbenzene	25	U	25		ug/L			12/16/15 15:59	25
2-Hexanone	250	U	250		ug/L			12/16/15 15:59	25
Methylene Chloride	130	U	130		ug/L			12/16/15 15:59	25
4-Methyl-2-pentanone (MIBK)	250	U	250		ug/L			12/16/15 15:59	25
Methyl tert-butyl ether	250	U	250		ug/L			12/16/15 15:59	25
Styrene	25	U	25		ug/L			12/16/15 15:59	25
1,1,2,2-Tetrachloroethane	25	U	25		ug/L			12/16/15 15:59	25
Tetrachloroethene	25	U	25		ug/L			12/16/15 15:59	25
Toluene	25	U	25		ug/L			12/16/15 15:59	25
trans-1,2-Dichloroethene	25	U	25		ug/L			12/16/15 15:59	25
trans-1,3-Dichloropropene	25	U	25		ug/L			12/16/15 15:59	25
1,1,1-Trichloroethane	25	U	25		ug/L			12/16/15 15:59	25
1,1,2-Trichloroethane	25	U	25		ug/L			12/16/15 15:59	25
Trichloroethene	25	U	25		ug/L			12/16/15 15:59	25
Vinyl chloride	25	U	25		ug/L			12/16/15 15:59	25
Xylenes, Total	25	U	25		ug/L			12/16/15 15:59	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/16/15 15:59*	*25*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*12/16/15 15:59*	*25*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*12/16/15 15:59*	*25*
Toluene-d8 (Surr)	*95*		*70 - 130*		*12/16/15 15:59*	*25*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-1

Date Collected: 12/09/15 15:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-33

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100		ug/L			12/17/15 19:41	10
Benzene	10	U	10		ug/L			12/17/15 19:41	10
Bromoform	10	U	10		ug/L			12/17/15 19:41	10
Bromomethane	50	U	50		ug/L			12/17/15 19:41	10
2-Butanone (MEK)	100	U	100		ug/L			12/17/15 19:41	10
Carbon disulfide	20	U	20		ug/L			12/17/15 19:41	10
Carbon tetrachloride	10	U	10		ug/L			12/17/15 19:41	10
Chlorobenzene	10	U	10		ug/L			12/17/15 19:41	10
Chlorodibromomethane	10	U	10		ug/L			12/17/15 19:41	10
Chloroethane	50	U	50		ug/L			12/17/15 19:41	10
Chloroform	10	U	10		ug/L			12/17/15 19:41	10
Chloromethane	10	U	10		ug/L			12/17/15 19:41	10
cis-1,2-Dichloroethene	10	U	10		ug/L			12/17/15 19:41	10
cis-1,3-Dichloropropene	10	U	10		ug/L			12/17/15 19:41	10
Dichlorobromomethane	10	U	10		ug/L			12/17/15 19:41	10
1,1-Dichloroethane	**29**		10		ug/L			12/17/15 19:41	10
1,2-Dichloroethane	**32**		10		ug/L			12/17/15 19:41	10
1,1-Dichloroethene	10	U	10		ug/L			12/17/15 19:41	10
1,2-Dichloropropane	10	U	10		ug/L			12/17/15 19:41	10
Diethyl ether	**1200**		50		ug/L			12/17/15 19:41	10
Ethylbenzene	10	U	10		ug/L			12/17/15 19:41	10
2-Hexanone	100	U	100		ug/L			12/17/15 19:41	10
Methylene Chloride	50	U	50		ug/L			12/17/15 19:41	10
4-Methyl-2-pentanone (MIBK)	100	U	100		ug/L			12/17/15 19:41	10
Methyl tert-butyl ether	100	U	100		ug/L			12/17/15 19:41	10
Styrene	10	U	10		ug/L			12/17/15 19:41	10
1,1,2,2-Tetrachloroethane	10	U	10		ug/L			12/17/15 19:41	10
Tetrachloroethene	10	U	10		ug/L			12/17/15 19:41	10
Toluene	10	U	10		ug/L			12/17/15 19:41	10
trans-1,2-Dichloroethene	10	U	10		ug/L			12/17/15 19:41	10
trans-1,3-Dichloropropene	10	U	10		ug/L			12/17/15 19:41	10
1,1,1-Trichloroethane	10	U	10		ug/L			12/17/15 19:41	10
1,1,2-Trichloroethane	10	U	10		ug/L			12/17/15 19:41	10
Trichloroethene	10	U	10		ug/L			12/17/15 19:41	10
Vinyl chloride	10	U	10		ug/L			12/17/15 19:41	10
Xylenes, Total	10	U	10		ug/L			12/17/15 19:41	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/17/15 19:41*	*10*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*12/17/15 19:41*	*10*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*12/17/15 19:41*	*10*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/17/15 19:41*	*10*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-3

Date Collected: 12/09/15 15:48
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-34

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 16:45	1
Benzene	1.0	U	1.0		ug/L			12/16/15 16:45	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 16:45	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 16:45	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 16:45	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 16:45	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 16:45	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 16:45	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 16:45	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 16:45	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:45	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:45	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 16:45	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 16:45	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 16:45	1
2-Hexanone	10	U	10		ug/L			12/16/15 16:45	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 16:45	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 16:45	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 16:45	1
Styrene	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 16:45	1
Toluene	1.0	U	1.0		ug/L			12/16/15 16:45	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:45	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:45	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 16:45	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 16:45	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*12/16/15 16:45*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 16:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/16/15 16:45*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 16:45*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-9

Date Collected: 12/09/15 16:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-35

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 17:07	1
Benzene	1.0	U	1.0		ug/L			12/16/15 17:07	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 17:07	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 17:07	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 17:07	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 17:07	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 17:07	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 17:07	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 17:07	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 17:07	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 17:07	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 17:07	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
1,2-Dichloroethane	**1.7**		1.0		ug/L			12/16/15 17:07	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 17:07	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 17:07	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 17:07	1
2-Hexanone	10	U	10		ug/L			12/16/15 17:07	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 17:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 17:07	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 17:07	1
Styrene	1.0	U	1.0		ug/L			12/16/15 17:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 17:07	1
Toluene	1.0	U	1.0		ug/L			12/16/15 17:07	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 17:07	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 17:07	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 17:07	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 17:07	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 17:07	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/16/15 17:07*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/16/15 17:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/16/15 17:07*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 17:07*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diethyl ether	**550**		25		ug/L			12/17/15 19:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/17/15 19:18*	*5*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*12/17/15 19:18*	*5*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*12/17/15 19:18*	*5*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-9

Lab Sample ID: 680-119967-35

Date Collected: 12/09/15 16:45
Matrix: Water
Date Received: 12/11/15 12:08

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		70 - 130		12/17/15 19:18	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-14

Date Collected: 12/09/15 17:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-36

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	50	U	50		ug/L			12/16/15 18:38	5
Benzene	**5.8**		5.0		ug/L			12/16/15 18:38	5
Bromoform	5.0	U	5.0		ug/L			12/16/15 18:38	5
Bromomethane	25	U	25		ug/L			12/16/15 18:38	5
2-Butanone (MEK)	50	U	50		ug/L			12/16/15 18:38	5
Carbon disulfide	10	U	10		ug/L			12/16/15 18:38	5
Carbon tetrachloride	5.0	U	5.0		ug/L			12/16/15 18:38	5
Chlorobenzene	5.0	U	5.0		ug/L			12/16/15 18:38	5
Chlorodibromomethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
Chloroethane	25	U	25		ug/L			12/16/15 18:38	5
Chloroform	5.0	U	5.0		ug/L			12/16/15 18:38	5
Chloromethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
cis-1,2-Dichloroethene	5.0	U	5.0		ug/L			12/16/15 18:38	5
cis-1,3-Dichloropropene	5.0	U	5.0		ug/L			12/16/15 18:38	5
Dichlorobromomethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
1,1-Dichloroethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
1,2-Dichloroethane	**7.2**		5.0		ug/L			12/16/15 18:38	5
1,1-Dichloroethene	5.0	U	5.0		ug/L			12/16/15 18:38	5
1,2-Dichloropropane	5.0	U	5.0		ug/L			12/16/15 18:38	5
Diethyl ether	**430**		25		ug/L			12/16/15 18:38	5
Ethylbenzene	5.0	U	5.0		ug/L			12/16/15 18:38	5
2-Hexanone	50	U	50		ug/L			12/16/15 18:38	5
Methylene Chloride	**37**		25		ug/L			12/16/15 18:38	5
4-Methyl-2-pentanone (MIBK)	50	U	50		ug/L			12/16/15 18:38	5
Methyl tert-butyl ether	50	U	50		ug/L			12/16/15 18:38	5
Styrene	5.0	U	5.0		ug/L			12/16/15 18:38	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
Tetrachloroethene	5.0	U	5.0		ug/L			12/16/15 18:38	5
Toluene	5.0	U	5.0		ug/L			12/16/15 18:38	5
trans-1,2-Dichloroethene	5.0	U	5.0		ug/L			12/16/15 18:38	5
trans-1,3-Dichloropropene	5.0	U	5.0		ug/L			12/16/15 18:38	5
1,1,1-Trichloroethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
1,1,2-Trichloroethane	5.0	U	5.0		ug/L			12/16/15 18:38	5
Trichloroethene	5.0	U	5.0		ug/L			12/16/15 18:38	5
Vinyl chloride	5.0	U	5.0		ug/L			12/16/15 18:38	5
Xylenes, Total	5.0	U	5.0		ug/L			12/16/15 18:38	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/16/15 18:38*	*5*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*12/16/15 18:38*	*5*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*12/16/15 18:38*	*5*
Toluene-d8 (Surr)	*96*		*70 - 130*		*12/16/15 18:38*	*5*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: VER-1

Date Collected: 12/10/15 10:44
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-37

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 16:22	1
Benzene	**2.6**		1.0		ug/L			12/16/15 16:22	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 16:22	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 16:22	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 16:22	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 16:22	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 16:22	1
Chlorobenzene	**62**		1.0		ug/L			12/16/15 16:22	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 16:22	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 16:22	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 16:22	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 16:22	1
cis-1,2-Dichloroethene	**3.8**		1.0		ug/L			12/16/15 16:22	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:22	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 16:22	1
1,1-Dichloroethane	**7.4**		1.0		ug/L			12/16/15 16:22	1
1,2-Dichloroethane	**48**		1.0		ug/L			12/16/15 16:22	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:22	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 16:22	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 16:22	1
2-Hexanone	10	U	10		ug/L			12/16/15 16:22	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 16:22	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 16:22	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 16:22	1
Styrene	1.0	U	1.0		ug/L			12/16/15 16:22	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 16:22	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 16:22	1
Toluene	1.0	U	1.0		ug/L			12/16/15 16:22	1
trans-1,2-Dichloroethene	**2.3**		1.0		ug/L			12/16/15 16:22	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:22	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:22	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:22	1
Trichloroethene	**14**		1.0		ug/L			12/16/15 16:22	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 16:22	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/16/15 16:22*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/16/15 16:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*12/16/15 16:22*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 16:22*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diethyl ether	**1000**		25		ug/L			12/17/15 18:55	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/17/15 18:55*	*5*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*12/17/15 18:55*	*5*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*12/17/15 18:55*	*5*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: VER-1

Date Collected: 12/10/15 10:44
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-37

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		12/17/15 18:55	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: VER-2

Date Collected: 12/10/15 11:50
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-38

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/17/15 18:10	1
Benzene	1.0	U	1.0		ug/L			12/17/15 18:10	1
Bromoform	1.0	U	1.0		ug/L			12/17/15 18:10	1
Bromomethane	5.0	U	5.0		ug/L			12/17/15 18:10	1
2-Butanone (MEK)	10	U	10		ug/L			12/17/15 18:10	1
Carbon disulfide	2.0	U	2.0		ug/L			12/17/15 18:10	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/17/15 18:10	1
Chlorobenzene	**1.0**		1.0		ug/L			12/17/15 18:10	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/17/15 18:10	1
Chloroethane	5.0	U	5.0		ug/L			12/17/15 18:10	1
Chloroform	**13**		1.0		ug/L			12/17/15 18:10	1
Chloromethane	1.0	U	1.0		ug/L			12/17/15 18:10	1
cis-1,2-Dichloroethene	**1.2**		1.0		ug/L			12/17/15 18:10	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/17/15 18:10	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/17/15 18:10	1
1,1-Dichloroethane	**2.4**		1.0		ug/L			12/17/15 18:10	1
1,2-Dichloroethane	**3.8**		1.0		ug/L			12/17/15 18:10	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 18:10	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/17/15 18:10	1
Diethyl ether	**39**		5.0		ug/L			12/17/15 18:10	1
Ethylbenzene	1.0	U	1.0		ug/L			12/17/15 18:10	1
2-Hexanone	10	U	10		ug/L			12/17/15 18:10	1
Methylene Chloride	5.0	U	5.0		ug/L			12/17/15 18:10	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/17/15 18:10	1
Methyl tert-butyl ether	10	U	10		ug/L			12/17/15 18:10	1
Styrene	1.0	U	1.0		ug/L			12/17/15 18:10	1
1,1,2,2-Tetrachloroethane	**11**		1.0		ug/L			12/17/15 18:10	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/17/15 18:10	1
Toluene	1.0	U	1.0		ug/L			12/17/15 18:10	1
trans-1,2-Dichloroethene	**2.0**		1.0		ug/L			12/17/15 18:10	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/17/15 18:10	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/17/15 18:10	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/17/15 18:10	1
Trichloroethene	**12**		1.0		ug/L			12/17/15 18:10	1
Vinyl chloride	1.0	U	1.0		ug/L			12/17/15 18:10	1
Xylenes, Total	1.0	U	1.0		ug/L			12/17/15 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/17/15 18:10*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/17/15 18:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*12/17/15 18:10*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/17/15 18:10*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: VER-3

Date Collected: 12/10/15 12:44
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-39

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/17/15 18:33	1
Benzene	1.0	U	1.0		ug/L			12/17/15 18:33	1
Bromoform	1.0	U	1.0		ug/L			12/17/15 18:33	1
Bromomethane	5.0	U	5.0		ug/L			12/17/15 18:33	1
2-Butanone (MEK)	10	U	10		ug/L			12/17/15 18:33	1
Carbon disulfide	2.0	U	2.0		ug/L			12/17/15 18:33	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/17/15 18:33	1
Chlorobenzene	1.0	U	1.0		ug/L			12/17/15 18:33	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
Chloroethane	5.0	U	5.0		ug/L			12/17/15 18:33	1
Chloroform	1.0	U	1.0		ug/L			12/17/15 18:33	1
Chloromethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 18:33	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/17/15 18:33	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/17/15 18:33	1
Diethyl ether	5.0	U	5.0		ug/L			12/17/15 18:33	1
Ethylbenzene	1.0	U	1.0		ug/L			12/17/15 18:33	1
2-Hexanone	10	U	10		ug/L			12/17/15 18:33	1
Methylene Chloride	5.0	U	5.0		ug/L			12/17/15 18:33	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/17/15 18:33	1
Methyl tert-butyl ether	10	U	10		ug/L			12/17/15 18:33	1
Styrene	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/17/15 18:33	1
Toluene	1.0	U	1.0		ug/L			12/17/15 18:33	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 18:33	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/17/15 18:33	1
Trichloroethene	1.0	U	1.0		ug/L			12/17/15 18:33	1
Vinyl chloride	1.0	U	1.0		ug/L			12/17/15 18:33	1
Xylenes, Total	1.0	U	1.0		ug/L			12/17/15 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/17/15 18:33*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*12/17/15 18:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/17/15 18:33*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/17/15 18:33*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: VER-4

Date Collected: 12/10/15 14:22
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-40

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 16:36	1
Benzene	1.0	U	1.0		ug/L			12/16/15 16:36	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 16:36	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 16:36	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 16:36	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 16:36	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 16:36	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 16:36	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 16:36	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 16:36	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:36	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:36	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 16:36	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 16:36	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 16:36	1
2-Hexanone	10	U	10		ug/L			12/16/15 16:36	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 16:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 16:36	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 16:36	1
Styrene	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 16:36	1
Toluene	1.0	U	1.0		ug/L			12/16/15 16:36	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:36	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:36	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 16:36	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 16:36	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*12/16/15 16:36*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*12/16/15 16:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*12/16/15 16:36*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*12/16/15 16:36*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-38

Date Collected: 12/10/15 15:02
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-41

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 16:58	1
Benzene	1.0	U	1.0		ug/L			12/16/15 16:58	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 16:58	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 16:58	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 16:58	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 16:58	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 16:58	1
Chlorobenzene	**4.8**		1.0		ug/L			12/16/15 16:58	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 16:58	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 16:58	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:58	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:58	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 16:58	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 16:58	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 16:58	1
2-Hexanone	10	U	10		ug/L			12/16/15 16:58	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 16:58	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 16:58	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 16:58	1
Styrene	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 16:58	1
Toluene	1.0	U	1.0		ug/L			12/16/15 16:58	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 16:58	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 16:58	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 16:58	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 16:58	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*12/16/15 16:58*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*12/16/15 16:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*12/16/15 16:58*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*12/16/15 16:58*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-39

Date Collected: 12/10/15 15:52
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-42

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 17:19	1
Benzene	1.0	U	1.0		ug/L			12/16/15 17:19	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 17:19	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 17:19	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 17:19	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 17:19	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 17:19	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 17:19	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 17:19	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 17:19	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 17:19	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 17:19	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 17:19	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 17:19	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 17:19	1
2-Hexanone	10	U	10		ug/L			12/16/15 17:19	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 17:19	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 17:19	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 17:19	1
Styrene	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 17:19	1
Toluene	1.0	U	1.0		ug/L			12/16/15 17:19	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 17:19	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 17:19	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 17:19	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 17:19	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*12/16/15 17:19*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*12/16/15 17:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*12/16/15 17:19*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/16/15 17:19*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: Trip Blank

Lab Sample ID: 680-119967-43

Date Collected: 12/10/15 00:00
Matrix: Water
Date Received: 12/11/15 12:08

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 13:07	1
Benzene	1.0	U	1.0		ug/L			12/15/15 13:07	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 13:07	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 13:07	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 13:07	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 13:07	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 13:07	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 13:07	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 13:07	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 13:07	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:07	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 13:07	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 13:07	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 13:07	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 13:07	1
2-Hexanone	10	U	10		ug/L			12/15/15 13:07	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 13:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 13:07	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 13:07	1
Styrene	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 13:07	1
Toluene	1.0	U	1.0		ug/L			12/15/15 13:07	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 13:07	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 13:07	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 13:07	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 13:07	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*12/15/15 13:07*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/15/15 13:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*		*12/15/15 13:07*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*12/15/15 13:07*	*1*

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
680-119967-1	MW-33	95	93	90	106
680-119967-2	MW-32	98	96	92	107
680-119967-3	MW-35	96	93	91	106
680-119967-4	MW-5	95	95	92	103
680-119967-5	MW-31	94	94	91	105
680-119967-6	MW-30	97	96	94	105
680-119967-7	MW-4	96	95	93	106
680-119967-7 - DL	MW-4	108	101	100	106
680-119967-8	MW-36	108	107	106	103
680-119967-9	MW-25	99	95	93	105
680-119967-10	MW-11	99	93	91	105
680-119967-11	MW-26	98	91	88	102
680-119967-12	DRW-1	97	101	104	106
680-119967-13	DRW-2	95	94	93	107
680-119967-14	DRW-3	96	94	92	106
680-119967-15	SRW-1	94	95	93	106
680-119967-16	SW-1	96	95	93	106
680-119967-17	SW-2	98	94	93	105
680-119967-18	SW-3	95	94	91	105
680-119967-19	SW-4	97	96	93	104
680-119967-20	SW-5	96	95	93	106
680-119967-21	SW-6	99	92	89	102
680-119967-22	MW-28	98	93	89	102
680-119967-23	MW-22	97	93	90	103
680-119967-24	SRW-3	99	93	90	101
680-119967-25	MW-23	98	94	91	101
680-119967-26	MW-6	97	93	90	102
680-119967-27	MW-17	98	92	89	102
680-119967-28	MW-16	97	92	90	102
680-119967-29	MW-15	99	101	104	97
680-119967-30	Dup-1	97	102	105	94
680-119967-31	MW-12	98	93	90	101
680-119967-32	MW-2	96	100	102	95
680-119967-33	MW-1	97	101	104	94
680-119967-34	MW-3	98	93	91	101
680-119967-35	MW-9	99	93	91	101
680-119967-35 - DL	MW-9	97	102	107	95
680-119967-36	MW-14	96	101	106	96
680-119967-37	VER-1	97	92	89	101
680-119967-37 - DL	VER-1	96	102	103	97
680-119967-38	VER-2	96	93	89	101
680-119967-39	VER-3	97	93	90	101
680-119967-40	VER-4	108	104	103	104
680-119967-41	MW-38	105	105	103	104
680-119967-42	MW-39	106	106	105	105
680-119967-43	Trip Blank	96	92	88	107
LCS 680-414485/4	Lab Control Sample	94	98	90	111
LCS 680-414672/4	Lab Control Sample	110	108	107	103
LCS 680-414674/4	Lab Control Sample	98	95	92	103

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
LCS 680-414912/4	Lab Control Sample	96	97	95	100
LCSD 680-414485/5	Lab Control Sample Dup	95	97	92	115
LCSD 680-414672/5	Lab Control Sample Dup	109	107	106	102
LCSD 680-414674/5	Lab Control Sample Dup	98	95	91	102
LCSD 680-414912/5	Lab Control Sample Dup	96	98	95	100
MB 680-414485/9	Method Blank	95	96	90	107
MB 680-414672/9	Method Blank	106	104	99	105
MB 680-414674/9	Method Blank	97	92	89	101
MB 680-414912/9	Method Blank	97	92	91	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-414485/9
Matrix: Water
Analysis Batch: 414485

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/15/15 12:47	1
Benzene	1.0	U	1.0		ug/L			12/15/15 12:47	1
Bromoform	1.0	U	1.0		ug/L			12/15/15 12:47	1
Bromomethane	5.0	U	5.0		ug/L			12/15/15 12:47	1
2-Butanone (MEK)	10	U	10		ug/L			12/15/15 12:47	1
Carbon disulfide	2.0	U	2.0		ug/L			12/15/15 12:47	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/15/15 12:47	1
Chlorobenzene	1.0	U	1.0		ug/L			12/15/15 12:47	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
Chloroethane	5.0	U	5.0		ug/L			12/15/15 12:47	1
Chloroform	1.0	U	1.0		ug/L			12/15/15 12:47	1
Chloromethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 12:47	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 12:47	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/15/15 12:47	1
Diethyl ether	5.0	U	5.0		ug/L			12/15/15 12:47	1
Ethylbenzene	1.0	U	1.0		ug/L			12/15/15 12:47	1
2-Hexanone	10	U	10		ug/L			12/15/15 12:47	1
Methylene Chloride	5.0	U	5.0		ug/L			12/15/15 12:47	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/15/15 12:47	1
Methyl tert-butyl ether	10	U	10		ug/L			12/15/15 12:47	1
Styrene	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/15/15 12:47	1
Toluene	1.0	U	1.0		ug/L			12/15/15 12:47	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/15/15 12:47	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/15/15 12:47	1
Trichloroethene	1.0	U	1.0		ug/L			12/15/15 12:47	1
Vinyl chloride	1.0	U	1.0		ug/L			12/15/15 12:47	1
Xylenes, Total	1.0	U	1.0		ug/L			12/15/15 12:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*12/15/15 12:47*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*12/15/15 12:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*12/15/15 12:47*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*12/15/15 12:47*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-414485/4
Matrix: Water
Analysis Batch: 414485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	275		ug/L		110	60 - 154
Benzene	50.0	49.0		ug/L		98	73 - 131
Bromoform	50.0	49.7		ug/L		99	69 - 135
Bromomethane	50.0	50.9		ug/L		102	20 - 180
2-Butanone (MEK)	250	233		ug/L		93	75 - 133
Carbon disulfide	50.0	57.8		ug/L		116	73 - 127
Carbon tetrachloride	50.0	51.5		ug/L		103	75 - 130
Chlorobenzene	50.0	49.4		ug/L		99	80 - 120
Chlorodibromomethane	50.0	49.4		ug/L		99	71 - 136
Chloroethane	50.0	51.0		ug/L		102	50 - 151
Chloroform	50.0	46.8		ug/L		94	79 - 122
Chloromethane	50.0	39.9		ug/L		80	63 - 126
cis-1,2-Dichloroethene	50.0	49.4		ug/L		99	80 - 122
cis-1,3-Dichloropropene	50.0	53.3		ug/L		107	80 - 133
Dichlorobromomethane	50.0	50.7		ug/L		101	77 - 129
1,1-Dichloroethane	50.0	43.6		ug/L		87	80 - 120
1,2-Dichloroethane	50.0	45.1		ug/L		90	75 - 130
1,1-Dichloroethene	50.0	52.0		ug/L		104	74 - 125
1,2-Dichloropropane	50.0	48.6		ug/L		97	80 - 123
Diethyl ether	50.0	47.2		ug/L		94	74 - 134
Ethylbenzene	50.0	53.1		ug/L		106	80 - 120
2-Hexanone	250	271		ug/L		108	70 - 141
Methylene Chloride	50.0	54.7		ug/L		109	76 - 129
4-Methyl-2-pentanone (MIBK)	250	257		ug/L		103	75 - 135
Methyl tert-butyl ether	50.0	46.2		ug/L		92	74 - 135
Styrene	50.0	59.5		ug/L		119	80 - 122
1,1,2,2-Tetrachloroethane	50.0	52.0		ug/L		104	72 - 128
Tetrachloroethene	50.0	55.5		ug/L		111	77 - 123
Toluene	50.0	54.4		ug/L		109	80 - 122
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	78 - 123
trans-1,3-Dichloropropene	50.0	57.6		ug/L		115	74 - 140
1,1,1-Trichloroethane	50.0	49.3		ug/L		99	74 - 128
1,1,2-Trichloroethane	50.0	51.7		ug/L		103	79 - 125
Trichloroethene	50.0	48.9		ug/L		98	80 - 123
Vinyl chloride	50.0	49.7		ug/L		99	68 - 132
Xylenes, Total	100	117		ug/L		117	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
Dibromofluoromethane (Surr)	*98*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*
Toluene-d8 (Surr)	*111*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-414485/5
Matrix: Water
Analysis Batch: 414485

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	281		ug/L		112	60 - 154	2	40
Benzene	50.0	48.5		ug/L		97	73 - 131	1	30
Bromoform	50.0	49.1		ug/L		98	69 - 135	1	20
Bromomethane	50.0	51.0		ug/L		102	20 - 180	0	40
2-Butanone (MEK)	250	222		ug/L		89	75 - 133	5	30
Carbon disulfide	50.0	55.5		ug/L		111	73 - 127	4	20
Carbon tetrachloride	50.0	49.1		ug/L		98	75 - 130	5	20
Chlorobenzene	50.0	48.8		ug/L		98	80 - 120	1	20
Chlorodibromomethane	50.0	51.5		ug/L		103	71 - 136	4	20
Chloroethane	50.0	46.7		ug/L		93	50 - 151	9	30
Chloroform	50.0	45.7		ug/L		91	79 - 122	3	20
Chloromethane	50.0	37.2		ug/L		74	63 - 126	7	30
cis-1,2-Dichloroethene	50.0	46.9		ug/L		94	80 - 122	5	20
cis-1,3-Dichloropropene	50.0	55.9		ug/L		112	80 - 133	5	20
Dichlorobromomethane	50.0	51.5		ug/L		103	77 - 129	2	20
1,1-Dichloroethane	50.0	48.4		ug/L		97	80 - 120	10	20
1,2-Dichloroethane	50.0	45.3		ug/L		91	75 - 130	0	20
1,1-Dichloroethene	50.0	50.2		ug/L		100	74 - 125	3	20
1,2-Dichloropropane	50.0	49.1		ug/L		98	80 - 123	1	20
Diethyl ether	50.0	48.7		ug/L		97	74 - 134	3	50
Ethylbenzene	50.0	51.5		ug/L		103	80 - 120	3	20
2-Hexanone	250	308		ug/L		123	70 - 141	13	40
Methylene Chloride	50.0	54.8		ug/L		110	76 - 129	0	20
4-Methyl-2-pentanone (MIBK)	250	293		ug/L		117	75 - 135	13	30
Methyl tert-butyl ether	50.0	47.4		ug/L		95	74 - 135	3	20
Styrene	50.0	57.2		ug/L		114	80 - 122	4	20
1,1,2,2-Tetrachloroethane	50.0	54.7		ug/L		109	72 - 128	5	20
Tetrachloroethene	50.0	54.7		ug/L		109	77 - 123	1	20
Toluene	50.0	56.7		ug/L		113	80 - 122	4	20
trans-1,2-Dichloroethene	50.0	45.9		ug/L		92	78 - 123	4	20
trans-1,3-Dichloropropene	50.0	59.7		ug/L		119	74 - 140	4	20
1,1,1-Trichloroethane	50.0	46.6		ug/L		93	74 - 128	6	20
1,1,2-Trichloroethane	50.0	53.9		ug/L		108	79 - 125	4	20
Trichloroethene	50.0	47.8		ug/L		96	80 - 123	2	20
Vinyl chloride	50.0	47.7		ug/L		95	68 - 132	4	30
Xylenes, Total	100	109		ug/L		109	80 - 120	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
Toluene-d8 (Surr)	*115*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-414672/9
Matrix: Water
Analysis Batch: 414672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 10:52	1
Benzene	1.0	U	1.0		ug/L			12/16/15 10:52	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 10:52	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 10:52	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 10:52	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 10:52	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 10:52	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 10:52	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 10:52	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 10:52	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 10:52	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 10:52	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 10:52	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 10:52	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 10:52	1
2-Hexanone	10	U	10		ug/L			12/16/15 10:52	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 10:52	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 10:52	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 10:52	1
Styrene	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 10:52	1
Toluene	1.0	U	1.0		ug/L			12/16/15 10:52	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 10:52	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 10:52	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 10:52	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 10:52	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 10:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*12/16/15 10:52*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*12/16/15 10:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*12/16/15 10:52*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*12/16/15 10:52*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-414672/4
Matrix: Water
Analysis Batch: 414672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	242		ug/L		97	60 - 154
Benzene	50.0	51.4		ug/L		103	73 - 131
Bromoform	50.0	54.1		ug/L		108	69 - 135
Bromomethane	50.0	39.2		ug/L		78	20 - 180
2-Butanone (MEK)	250	250		ug/L		100	75 - 133
Carbon disulfide	50.0	50.8		ug/L		102	73 - 127
Carbon tetrachloride	50.0	55.8		ug/L		112	75 - 130
Chlorobenzene	50.0	49.2		ug/L		98	80 - 120
Chlorodibromomethane	50.0	56.1		ug/L		112	71 - 136
Chloroethane	50.0	55.5		ug/L		111	50 - 151
Chloroform	50.0	53.1		ug/L		106	79 - 122
Chloromethane	50.0	59.2		ug/L		118	63 - 126
cis-1,2-Dichloroethene	50.0	53.7		ug/L		107	80 - 122
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	80 - 133
Dichlorobromomethane	50.0	53.5		ug/L		107	77 - 129
1,1-Dichloroethane	50.0	51.5		ug/L		103	80 - 120
1,2-Dichloroethane	50.0	53.3		ug/L		107	75 - 130
1,1-Dichloroethene	50.0	50.8		ug/L		102	74 - 125
1,2-Dichloropropane	50.0	49.9		ug/L		100	80 - 123
Diethyl ether	50.0	53.7		ug/L		107	74 - 134
Ethylbenzene	50.0	52.3		ug/L		105	80 - 120
2-Hexanone	250	294		ug/L		118	70 - 141
Methylene Chloride	50.0	50.9		ug/L		102	76 - 129
4-Methyl-2-pentanone (MIBK)	250	292		ug/L		117	75 - 135
Methyl tert-butyl ether	50.0	55.3		ug/L		111	74 - 135
Styrene	50.0	55.1		ug/L		110	80 - 122
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	72 - 128
Tetrachloroethene	50.0	51.2		ug/L		102	77 - 123
Toluene	50.0	51.2		ug/L		102	80 - 122
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	78 - 123
trans-1,3-Dichloropropene	50.0	54.8		ug/L		110	74 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	74 - 128
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	79 - 125
Trichloroethene	50.0	51.2		ug/L		102	80 - 123
Vinyl chloride	50.0	55.0		ug/L		110	68 - 132
Xylenes, Total	100	107		ug/L		107	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
Dibromofluoromethane (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-414672/5
Matrix: Water
Analysis Batch: 414672

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	234		ug/L		94	60 - 154	3	40
Benzene	50.0	50.2		ug/L		100	73 - 131	2	30
Bromoform	50.0	52.3		ug/L		105	69 - 135	3	20
Bromomethane	50.0	44.1		ug/L		88	20 - 180	12	40
2-Butanone (MEK)	250	233		ug/L		93	75 - 133	7	30
Carbon disulfide	50.0	50.9		ug/L		102	73 - 127	0	20
Carbon tetrachloride	50.0	55.8		ug/L		112	75 - 130	0	20
Chlorobenzene	50.0	47.7		ug/L		95	80 - 120	3	20
Chlorodibromomethane	50.0	53.4		ug/L		107	71 - 136	5	20
Chloroethane	50.0	55.1		ug/L		110	50 - 151	1	30
Chloroform	50.0	51.5		ug/L		103	79 - 122	3	20
Chloromethane	50.0	57.1		ug/L		114	63 - 126	4	30
cis-1,2-Dichloroethene	50.0	53.0		ug/L		106	80 - 122	1	20
cis-1,3-Dichloropropene	50.0	52.6		ug/L		105	80 - 133	4	20
Dichlorobromomethane	50.0	51.0		ug/L		102	77 - 129	5	20
1,1-Dichloroethane	50.0	50.4		ug/L		101	80 - 120	2	20
1,2-Dichloroethane	50.0	51.4		ug/L		103	75 - 130	4	20
1,1-Dichloroethene	50.0	51.3		ug/L		103	74 - 125	1	20
1,2-Dichloropropane	50.0	49.2		ug/L		98	80 - 123	1	20
Diethyl ether	50.0	52.8		ug/L		106	74 - 134	2	50
Ethylbenzene	50.0	52.0		ug/L		104	80 - 120	1	20
2-Hexanone	250	273		ug/L		109	70 - 141	7	40
Methylene Chloride	50.0	49.5		ug/L		99	76 - 129	3	20
4-Methyl-2-pentanone (MIBK)	250	277		ug/L		111	75 - 135	5	30
Methyl tert-butyl ether	50.0	53.8		ug/L		108	74 - 135	3	20
Styrene	50.0	53.4		ug/L		107	80 - 122	3	20
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	72 - 128	3	20
Tetrachloroethene	50.0	50.5		ug/L		101	77 - 123	1	20
Toluene	50.0	50.0		ug/L		100	80 - 122	2	20
trans-1,2-Dichloroethene	50.0	48.6		ug/L		97	78 - 123	5	20
trans-1,3-Dichloropropene	50.0	54.0		ug/L		108	74 - 140	1	20
1,1,1-Trichloroethane	50.0	55.1		ug/L		110	74 - 128	0	20
1,1,2-Trichloroethane	50.0	48.2		ug/L		96	79 - 125	3	20
Trichloroethene	50.0	50.4		ug/L		101	80 - 123	2	20
Vinyl chloride	50.0	55.4		ug/L		111	68 - 132	1	30
Xylenes, Total	100	105		ug/L		105	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
Dibromofluoromethane (Surr)	*107*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-414674/9
Matrix: Water
Analysis Batch: 414674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/16/15 11:05	1
Benzene	1.0	U	1.0		ug/L			12/16/15 11:05	1
Bromoform	1.0	U	1.0		ug/L			12/16/15 11:05	1
Bromomethane	5.0	U	5.0		ug/L			12/16/15 11:05	1
2-Butanone (MEK)	10	U	10		ug/L			12/16/15 11:05	1
Carbon disulfide	2.0	U	2.0		ug/L			12/16/15 11:05	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/16/15 11:05	1
Chlorobenzene	1.0	U	1.0		ug/L			12/16/15 11:05	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
Chloroethane	5.0	U	5.0		ug/L			12/16/15 11:05	1
Chloroform	1.0	U	1.0		ug/L			12/16/15 11:05	1
Chloromethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:05	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 11:05	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/16/15 11:05	1
Diethyl ether	5.0	U	5.0		ug/L			12/16/15 11:05	1
Ethylbenzene	1.0	U	1.0		ug/L			12/16/15 11:05	1
2-Hexanone	10	U	10		ug/L			12/16/15 11:05	1
Methylene Chloride	5.0	U	5.0		ug/L			12/16/15 11:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/16/15 11:05	1
Methyl tert-butyl ether	10	U	10		ug/L			12/16/15 11:05	1
Styrene	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/16/15 11:05	1
Toluene	1.0	U	1.0		ug/L			12/16/15 11:05	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/16/15 11:05	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/16/15 11:05	1
Trichloroethene	1.0	U	1.0		ug/L			12/16/15 11:05	1
Vinyl chloride	1.0	U	1.0		ug/L			12/16/15 11:05	1
Xylenes, Total	1.0	U	1.0		ug/L			12/16/15 11:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/16/15 11:05*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/16/15 11:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*		*12/16/15 11:05*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/16/15 11:05*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-414674/4
Matrix: Water
Analysis Batch: 414674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	227		ug/L		91	60 - 154
Benzene	50.0	49.5		ug/L		99	73 - 131
Bromoform	50.0	42.1		ug/L		84	69 - 135
Bromomethane	50.0	51.9		ug/L		104	20 - 180
2-Butanone (MEK)	250	219		ug/L		88	75 - 133
Carbon disulfide	50.0	51.1		ug/L		102	73 - 127
Carbon tetrachloride	50.0	48.0		ug/L		96	75 - 130
Chlorobenzene	50.0	51.1		ug/L		102	80 - 120
Chlorodibromomethane	50.0	50.4		ug/L		101	71 - 136
Chloroethane	50.0	57.1		ug/L		114	50 - 151
Chloroform	50.0	49.6		ug/L		99	79 - 122
Chloromethane	50.0	48.4		ug/L		97	63 - 126
cis-1,2-Dichloroethene	50.0	51.1		ug/L		102	80 - 122
cis-1,3-Dichloropropene	50.0	55.6		ug/L		111	80 - 133
Dichlorobromomethane	50.0	50.2		ug/L		100	77 - 129
1,1-Dichloroethane	50.0	50.1		ug/L		100	80 - 120
1,2-Dichloroethane	50.0	47.2		ug/L		94	75 - 130
1,1-Dichloroethene	50.0	52.9		ug/L		106	74 - 125
1,2-Dichloropropane	50.0	48.4		ug/L		97	80 - 123
Diethyl ether	50.0	47.6		ug/L		95	74 - 134
Ethylbenzene	50.0	53.2		ug/L		106	80 - 120
2-Hexanone	250	244		ug/L		98	70 - 141
Methylene Chloride	50.0	47.4		ug/L		95	76 - 129
4-Methyl-2-pentanone (MIBK)	250	238		ug/L		95	75 - 135
Methyl tert-butyl ether	50.0	48.3		ug/L		97	74 - 135
Styrene	50.0	52.5		ug/L		105	80 - 122
1,1,2,2-Tetrachloroethane	50.0	50.1		ug/L		100	72 - 128
Tetrachloroethene	50.0	54.2		ug/L		108	77 - 123
Toluene	50.0	52.3		ug/L		105	80 - 122
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	78 - 123
trans-1,3-Dichloropropene	50.0	46.3		ug/L		93	74 - 140
1,1,1-Trichloroethane	50.0	54.3		ug/L		109	74 - 128
1,1,2-Trichloroethane	50.0	49.0		ug/L		98	79 - 125
Trichloroethene	50.0	52.3		ug/L		105	80 - 123
Vinyl chloride	50.0	54.3		ug/L		109	68 - 132
Xylenes, Total	100	107		ug/L		107	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*95*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-414674/5
Matrix: Water
Analysis Batch: 414674

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	227		ug/L		91	60 - 154	0	40
Benzene	50.0	49.3		ug/L		99	73 - 131	0	30
Bromoform	50.0	42.0		ug/L		84	69 - 135	0	20
Bromomethane	50.0	53.8		ug/L		108	20 - 180	4	40
2-Butanone (MEK)	250	204		ug/L		82	75 - 133	7	30
Carbon disulfide	50.0	50.8		ug/L		102	73 - 127	0	20
Carbon tetrachloride	50.0	47.4		ug/L		95	75 - 130	1	20
Chlorobenzene	50.0	50.4		ug/L		101	80 - 120	2	20
Chlorodibromomethane	50.0	51.2		ug/L		102	71 - 136	2	20
Chloroethane	50.0	55.8		ug/L		112	50 - 151	2	30
Chloroform	50.0	48.8		ug/L		98	79 - 122	2	20
Chloromethane	50.0	46.9		ug/L		94	63 - 126	3	30
cis-1,2-Dichloroethene	50.0	49.9		ug/L		100	80 - 122	2	20
cis-1,3-Dichloropropene	50.0	53.9		ug/L		108	80 - 133	3	20
Dichlorobromomethane	50.0	50.2		ug/L		100	77 - 129	0	20
1,1-Dichloroethane	50.0	48.6		ug/L		97	80 - 120	3	20
1,2-Dichloroethane	50.0	46.9		ug/L		94	75 - 130	1	20
1,1-Dichloroethene	50.0	52.3		ug/L		105	74 - 125	1	20
1,2-Dichloropropane	50.0	48.0		ug/L		96	80 - 123	1	20
Diethyl ether	50.0	47.2		ug/L		94	74 - 134	1	50
Ethylbenzene	50.0	53.0		ug/L		106	80 - 120	0	20
2-Hexanone	250	242		ug/L		97	70 - 141	1	40
Methylene Chloride	50.0	45.4		ug/L		91	76 - 129	4	20
4-Methyl-2-pentanone (MIBK)	250	240		ug/L		96	75 - 135	1	30
Methyl tert-butyl ether	50.0	47.7		ug/L		95	74 - 135	1	20
Styrene	50.0	52.6		ug/L		105	80 - 122	0	20
1,1,2,2-Tetrachloroethane	50.0	49.8		ug/L		100	72 - 128	0	20
Tetrachloroethene	50.0	54.4		ug/L		109	77 - 123	0	20
Toluene	50.0	51.0		ug/L		102	80 - 122	2	20
trans-1,2-Dichloroethene	50.0	49.9		ug/L		100	78 - 123	2	20
trans-1,3-Dichloropropene	50.0	44.2		ug/L		88	74 - 140	5	20
1,1,1-Trichloroethane	50.0	54.0		ug/L		108	74 - 128	0	20
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	79 - 125	1	20
Trichloroethene	50.0	51.5		ug/L		103	80 - 123	1	20
Vinyl chloride	50.0	54.1		ug/L		108	68 - 132	0	30
Xylenes, Total	100	106		ug/L		106	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*95*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-414912/9
Matrix: Water
Analysis Batch: 414912

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10		ug/L			12/17/15 13:15	1
Benzene	1.0	U	1.0		ug/L			12/17/15 13:15	1
Bromoform	1.0	U	1.0		ug/L			12/17/15 13:15	1
Bromomethane	5.0	U	5.0		ug/L			12/17/15 13:15	1
2-Butanone (MEK)	10	U	10		ug/L			12/17/15 13:15	1
Carbon disulfide	2.0	U	2.0		ug/L			12/17/15 13:15	1
Carbon tetrachloride	1.0	U	1.0		ug/L			12/17/15 13:15	1
Chlorobenzene	1.0	U	1.0		ug/L			12/17/15 13:15	1
Chlorodibromomethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
Chloroethane	5.0	U	5.0		ug/L			12/17/15 13:15	1
Chloroform	1.0	U	1.0		ug/L			12/17/15 13:15	1
Chloromethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
cis-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 13:15	1
cis-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/17/15 13:15	1
Dichlorobromomethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,1-Dichloroethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,2-Dichloroethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,1-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,2-Dichloropropane	1.0	U	1.0		ug/L			12/17/15 13:15	1
Diethyl ether	5.0	U	5.0		ug/L			12/17/15 13:15	1
Ethylbenzene	1.0	U	1.0		ug/L			12/17/15 13:15	1
2-Hexanone	10	U	10		ug/L			12/17/15 13:15	1
Methylene Chloride	5.0	U	5.0		ug/L			12/17/15 13:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10		ug/L			12/17/15 13:15	1
Methyl tert-butyl ether	10	U	10		ug/L			12/17/15 13:15	1
Styrene	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
Tetrachloroethene	1.0	U	1.0		ug/L			12/17/15 13:15	1
Toluene	1.0	U	1.0		ug/L			12/17/15 13:15	1
trans-1,2-Dichloroethene	1.0	U	1.0		ug/L			12/17/15 13:15	1
trans-1,3-Dichloropropene	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,1,1-Trichloroethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
1,1,2-Trichloroethane	1.0	U	1.0		ug/L			12/17/15 13:15	1
Trichloroethene	1.0	U	1.0		ug/L			12/17/15 13:15	1
Vinyl chloride	1.0	U	1.0		ug/L			12/17/15 13:15	1
Xylenes, Total	1.0	U	1.0		ug/L			12/17/15 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*12/17/15 13:15*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*12/17/15 13:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*12/17/15 13:15*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*12/17/15 13:15*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-414912/4
Matrix: Water
Analysis Batch: 414912

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	253		ug/L		101	60 - 154
Benzene	50.0	50.8		ug/L		102	73 - 131
Bromoform	50.0	46.0		ug/L		92	69 - 135
Bromomethane	50.0	55.5		ug/L		111	20 - 180
2-Butanone (MEK)	250	238		ug/L		95	75 - 133
Carbon disulfide	50.0	49.1		ug/L		98	73 - 127
Carbon tetrachloride	50.0	49.3		ug/L		99	75 - 130
Chlorobenzene	50.0	51.8		ug/L		104	80 - 120
Chlorodibromomethane	50.0	53.6		ug/L		107	71 - 136
Chloroethane	50.0	54.0		ug/L		108	50 - 151
Chloroform	50.0	50.9		ug/L		102	79 - 122
Chloromethane	50.0	46.9		ug/L		94	63 - 126
cis-1,2-Dichloroethene	50.0	51.7		ug/L		103	80 - 122
cis-1,3-Dichloropropene	50.0	57.2		ug/L		114	80 - 133
Dichlorobromomethane	50.0	52.5		ug/L		105	77 - 129
1,1-Dichloroethane	50.0	48.6		ug/L		97	80 - 120
1,2-Dichloroethane	50.0	49.5		ug/L		99	75 - 130
1,1-Dichloroethene	50.0	51.9		ug/L		104	74 - 125
1,2-Dichloropropane	50.0	51.1		ug/L		102	80 - 123
Diethyl ether	50.0	48.9		ug/L		98	74 - 134
Ethylbenzene	50.0	53.5		ug/L		107	80 - 120
2-Hexanone	250	259		ug/L		103	70 - 141
Methylene Chloride	50.0	47.8		ug/L		96	76 - 129
4-Methyl-2-pentanone (MIBK)	250	260		ug/L		104	75 - 135
Methyl tert-butyl ether	50.0	49.7		ug/L		99	74 - 135
Styrene	50.0	54.5		ug/L		109	80 - 122
1,1,2,2-Tetrachloroethane	50.0	53.4		ug/L		107	72 - 128
Tetrachloroethene	50.0	54.3		ug/L		109	77 - 123
Toluene	50.0	53.1		ug/L		106	80 - 122
trans-1,2-Dichloroethene	50.0	51.8		ug/L		104	78 - 123
trans-1,3-Dichloropropene	50.0	45.6		ug/L		91	74 - 140
1,1,1-Trichloroethane	50.0	53.8		ug/L		108	74 - 128
1,1,2-Trichloroethane	50.0	52.7		ug/L		105	79 - 125
Trichloroethene	50.0	54.2		ug/L		108	80 - 123
Vinyl chloride	50.0	51.9		ug/L		104	68 - 132
Xylenes, Total	100	107		ug/L		107	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-414912/5
Matrix: Water
Analysis Batch: 414912

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	250	249		ug/L		99	60 - 154	2	40
Benzene	50.0	50.3		ug/L		101	73 - 131	1	30
Bromoform	50.0	43.8		ug/L		88	69 - 135	5	20
Bromomethane	50.0	47.5		ug/L		95	20 - 180	15	40
2-Butanone (MEK)	250	242		ug/L		97	75 - 133	1	30
Carbon disulfide	50.0	46.8		ug/L		94	73 - 127	5	20
Carbon tetrachloride	50.0	47.2		ug/L		94	75 - 130	4	20
Chlorobenzene	50.0	52.1		ug/L		104	80 - 120	1	20
Chlorodibromomethane	50.0	55.3		ug/L		111	71 - 136	3	20
Chloroethane	50.0	51.3		ug/L		103	50 - 151	5	30
Chloroform	50.0	51.0		ug/L		102	79 - 122	0	20
Chloromethane	50.0	36.5		ug/L		73	63 - 126	25	30
cis-1,2-Dichloroethene	50.0	51.1		ug/L		102	80 - 122	1	20
cis-1,3-Dichloropropene	50.0	56.3		ug/L		113	80 - 133	2	20
Dichlorobromomethane	50.0	52.5		ug/L		105	77 - 129	0	20
1,1-Dichloroethane	50.0	49.9		ug/L		100	80 - 120	2	20
1,2-Dichloroethane	50.0	49.7		ug/L		99	75 - 130	0	20
1,1-Dichloroethene	50.0	50.7		ug/L		101	74 - 125	2	20
1,2-Dichloropropane	50.0	50.4		ug/L		101	80 - 123	1	20
Diethyl ether	50.0	49.2		ug/L		98	74 - 134	1	50
Ethylbenzene	50.0	53.5		ug/L		107	80 - 120	0	20
2-Hexanone	250	269		ug/L		108	70 - 141	4	40
Methylene Chloride	50.0	47.6		ug/L		95	76 - 129	0	20
4-Methyl-2-pentanone (MIBK)	250	267		ug/L		107	75 - 135	3	30
Methyl tert-butyl ether	50.0	51.1		ug/L		102	74 - 135	3	20
Styrene	50.0	55.7		ug/L		111	80 - 122	2	20
1,1,2,2-Tetrachloroethane	50.0	54.8		ug/L		110	72 - 128	3	20
Tetrachloroethene	50.0	54.5		ug/L		109	77 - 123	0	20
Toluene	50.0	53.1		ug/L		106	80 - 122	0	20
trans-1,2-Dichloroethene	50.0	49.5		ug/L		99	78 - 123	4	20
trans-1,3-Dichloropropene	50.0	47.5		ug/L		95	74 - 140	4	20
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	74 - 128	1	20
1,1,2-Trichloroethane	50.0	53.7		ug/L		107	79 - 125	2	20
Trichloroethene	50.0	52.8		ug/L		106	80 - 123	3	20
Vinyl chloride	50.0	44.1		ug/L		88	68 - 132	16	30
Xylenes, Total	100	108		ug/L		108	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*98*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

GC/MS VOA

Analysis Batch: 414485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119967-1	MW-33	Total/NA	Water	8260B	
680-119967-2	MW-32	Total/NA	Water	8260B	
680-119967-3	MW-35	Total/NA	Water	8260B	
680-119967-4	MW-5	Total/NA	Water	8260B	
680-119967-5	MW-31	Total/NA	Water	8260B	
680-119967-6	MW-30	Total/NA	Water	8260B	
680-119967-7	MW-4	Total/NA	Water	8260B	
680-119967-9	MW-25	Total/NA	Water	8260B	
680-119967-10	MW-11	Total/NA	Water	8260B	
680-119967-12	DRW-1	Total/NA	Water	8260B	
680-119967-13	DRW-2	Total/NA	Water	8260B	
680-119967-14	DRW-3	Total/NA	Water	8260B	
680-119967-15	SRW-1	Total/NA	Water	8260B	
680-119967-16	SW-1	Total/NA	Water	8260B	
680-119967-17	SW-2	Total/NA	Water	8260B	
680-119967-18	SW-3	Total/NA	Water	8260B	
680-119967-19	SW-4	Total/NA	Water	8260B	
680-119967-20	SW-5	Total/NA	Water	8260B	
680-119967-43	Trip Blank	Total/NA	Water	8260B	
LCS 680-414485/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-414485/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-414485/9	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 414672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119967-7 - DL	MW-4	Total/NA	Water	8260B	
680-119967-8	MW-36	Total/NA	Water	8260B	
680-119967-40	VER-4	Total/NA	Water	8260B	
680-119967-41	MW-38	Total/NA	Water	8260B	
680-119967-42	MW-39	Total/NA	Water	8260B	
LCS 680-414672/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-414672/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-414672/9	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 414674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119967-11	MW-26	Total/NA	Water	8260B	
680-119967-21	SW-6	Total/NA	Water	8260B	
680-119967-22	MW-28	Total/NA	Water	8260B	
680-119967-23	MW-22	Total/NA	Water	8260B	
680-119967-24	SRW-3	Total/NA	Water	8260B	
680-119967-25	MW-23	Total/NA	Water	8260B	
680-119967-26	MW-6	Total/NA	Water	8260B	
680-119967-27	MW-17	Total/NA	Water	8260B	
680-119967-28	MW-16	Total/NA	Water	8260B	
680-119967-29	MW-15	Total/NA	Water	8260B	
680-119967-30	Dup-1	Total/NA	Water	8260B	
680-119967-31	MW-12	Total/NA	Water	8260B	
680-119967-32	MW-2	Total/NA	Water	8260B	
680-119967-34	MW-3	Total/NA	Water	8260B	
680-119967-35	MW-9	Total/NA	Water	8260B	

GC/MS VOA (Continued)

Analysis Batch: 414674 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119967-36	MW-14	Total/NA	Water	8260B	
680-119967-37	VER-1	Total/NA	Water	8260B	
LCS 680-414674/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-414674/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-414674/9	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 414912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-119967-33	MW-1	Total/NA	Water	8260B	
680-119967-35 - DL	MW-9	Total/NA	Water	8260B	
680-119967-37 - DL	VER-1	Total/NA	Water	8260B	
680-119967-38	VER-2	Total/NA	Water	8260B	
680-119967-39	VER-3	Total/NA	Water	8260B	
LCS 680-414912/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-414912/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-414912/9	Method Blank	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-33
Date Collected: 12/08/15 10:40
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 13:28	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-32
Date Collected: 12/08/15 11:11
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 13:48	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-35
Date Collected: 12/08/15 10:22
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 14:09	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-5
Date Collected: 12/08/15 11:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 14:29	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-31
Date Collected: 12/08/15 12:07
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 14:49	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-30
Date Collected: 12/08/15 12:08
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 18:14	CEJ	TAL SAV
	Instrument ID: CMSA2									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-4
Date Collected: 12/08/15 13:48
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 18:34	CEJ	TAL SAV
	Instrument ID: CMSA2									
Total/NA	Analysis	8260B	DL	2	5 mL	5 mL	414672	12/16/15 12:18	CEJ	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: MW-36
Date Collected: 12/08/15 14:15
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414672	12/16/15 16:15	CEJ	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: MW-25
Date Collected: 12/08/15 14:30
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 18:55	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-11
Date Collected: 12/08/15 15:08
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 19:15	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: MW-26
Date Collected: 12/08/15 15:40
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 11:28	CEJ	TAL SAV
	Instrument ID: CMSS									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: DRW-1
Date Collected: 12/07/15 15:55
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	5 mL	5 mL	414485	12/15/15 17:53	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: DRW-2
Date Collected: 12/07/15 16:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 15:10	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: DRW-3
Date Collected: 12/07/15 16:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 15:30	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: SRW-1
Date Collected: 12/07/15 16:10
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 15:51	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: SW-1
Date Collected: 12/07/15 14:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 16:11	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: SW-2
Date Collected: 12/07/15 15:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 16:32	CEJ	TAL SAV
	Instrument ID: CMSA2									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SW-3
Date Collected: 12/07/15 15:15
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 16:52	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: SW-4
Date Collected: 12/07/15 15:25
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 17:12	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: SW-5
Date Collected: 12/07/15 15:35
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 17:33	CEJ	TAL SAV
	Instrument ID: CMSA2									

Client Sample ID: SW-6
Date Collected: 12/08/15 15:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 11:50	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-28
Date Collected: 12/08/15 16:31
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 12:13	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-22
Date Collected: 12/08/15 16:10
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 12:36	CEJ	TAL SAV
	Instrument ID: CMSS									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: SRW-3
Lab Sample ID: 680-119967-24
Date Collected: 12/09/15 16:30
Matrix: Water
Date Received: 12/11/15 12:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 12:58	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-23
Lab Sample ID: 680-119967-25
Date Collected: 12/09/15 10:51
Matrix: Water
Date Received: 12/11/15 12:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 13:21	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-6
Lab Sample ID: 680-119967-26
Date Collected: 12/09/15 10:16
Matrix: Water
Date Received: 12/11/15 12:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 13:44	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-17
Lab Sample ID: 680-119967-27
Date Collected: 12/09/15 12:07
Matrix: Water
Date Received: 12/11/15 12:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 14:06	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-16
Lab Sample ID: 680-119967-28
Date Collected: 12/09/15 14:11
Matrix: Water
Date Received: 12/11/15 12:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 14:29	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-15
Lab Sample ID: 680-119967-29
Date Collected: 12/09/15 15:03
Matrix: Water
Date Received: 12/11/15 12:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	414674	12/16/15 15:14	CEJ	TAL SAV
	Instrument ID: CMSS									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: Dup-1
Date Collected: 12/09/15 00:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	414674	12/16/15 15:37	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-12
Date Collected: 12/09/15 12:25
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-31
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 14:51	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-2
Date Collected: 12/09/15 14:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-32
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	5 mL	5 mL	414674	12/16/15 15:59	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-1
Date Collected: 12/09/15 15:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-33
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	414912	12/17/15 19:41	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-3
Date Collected: 12/09/15 15:48
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-34
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 16:45	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-9
Date Collected: 12/09/15 16:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 17:07	CEJ	TAL SAV
	Instrument ID: CMSS									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: MW-9
Date Collected: 12/09/15 16:45
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	5	5 mL	5 mL	414912	12/17/15 19:18	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: MW-14
Date Collected: 12/09/15 17:05
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-36
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	414674	12/16/15 18:38	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: VER-1
Date Collected: 12/10/15 10:44
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-37
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414674	12/16/15 16:22	CEJ	TAL SAV
	Instrument ID: CMSS									
Total/NA	Analysis	8260B	DL	5	5 mL	5 mL	414912	12/17/15 18:55	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: VER-2
Date Collected: 12/10/15 11:50
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-38
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414912	12/17/15 18:10	CEJ	TAL SAV
	Instrument ID: CMSS									

Client Sample ID: VER-3
Date Collected: 12/10/15 12:44
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-39
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414912	12/17/15 18:33	CEJ	TAL SAV
	Instrument ID: CMSS									

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Client Sample ID: VER-4
Date Collected: 12/10/15 14:22
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414672	12/16/15 16:36	CEJ	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: MW-38
Date Collected: 12/10/15 15:02
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-41
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414672	12/16/15 16:58	CEJ	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: MW-39
Date Collected: 12/10/15 15:52
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-42
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414672	12/16/15 17:19	CEJ	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: Trip Blank
Date Collected: 12/10/15 00:00
Date Received: 12/11/15 12:08

Lab Sample ID: 680-119967-43
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	414485	12/15/15 13:07	CEJ	TAL SAV
	Instrument ID: CMSA2									

Laboratory References:
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Serial Number 103604

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: UNC Airport Rd	PROJECT NO.	PROJECT LOCATION (STATE): NC	PAGE 1 OF 4
TAL (LAB) PROJECT MANAGER	P.O. NUMBER: NC00239.0021.0000	CONTRACT NO.	STANDARD REPORT DELIVERY ☒
CLIENT (SITE) PM: Dave Twamley	CLIENT PHONE: 919-854-1282	CLIENT FAX	DATE DUE
CLIENT NAME: ARCADIS	CLIENT E-MAIL: dave.twamley@arcadis-us.com		EXPEDITED REPORT DELIVERY (SURCHARGE) ○
CLIENT ADDRESS: 801 Corporate Center Dr. #300 Raleigh, NC 27607			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

REQUIRED ANALYSIS: 8260

PRESERVATIVE: HCl

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	8260	REMARKS
12/8/15	1040	MW-33	G	X				X	
	1111	MW-32						X	
	1022	MW-35						X	
	1105	MW-5						X	
	1207	MW-31						X	
	1208	MW-~~32~~ 30 BD 12/15/15						X	
	1348	MW-4						X	
	1415	MW-36						X	
	1430	MW-25						X	
	1508	MW-11						X	
	1540	MW-26						X	
12/7/15	1555	DRW-1						X	

RELINQUISHED BY: (SIGNATURE)	DATE 12/10/15	TIME 17:15	RELINQUISHED BY: (SIGNATURE)	DATE	DATE / TIME
RECEIVED BY: (SIGNATURE) Fed Ex	DATE 12/10/15	TIME 17:15	RECEIVED BY: (SIGNATURE)	DATE	DATE / TIME

680-119967 Chain of Custody

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	12/11/15	12:08	YES ○ NO ○		680-119967	28/32

TAL8240-680 (1008)

Serial Number 103605

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

(X) TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

( ) Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: UNC Airport Rd.	PROJECT NO.	PROJECT LOCATION (STATE)
TAL (LAB) PROJECT MANAGER	P.O. NUMBER: NCCU239.0020.0002	CONTRACT NO.
CLIENT (SITE) PM: Dave Twamley	CLIENT PHONE: 919-854-1282	CLIENT FAX
CLIENT NAME: Arcadis	CLIENT E-MAIL: Dave.Twamley@arcadis.com	
CLIENT ADDRESS: 801 Corporate Center Dr. #300 Raleigh, NC 27607		
COMPANY CONTRACTING THIS WORK (if applicable)		

PAGE 2 OF 4

STANDARD REPORT DELIVERY (X)

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ( )

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: 8260

PRESERVATIVE: HCl

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	8260	REMARKS
12/7/15	1600	DRW-2	G	X				X	
	1605	DRW-3						X	
	1610	SRW-1						X	
	1445	SW-1						X	
	1500	SW-2						X	
	1515	SW-3						X	
	1525	SW-4						X	
	1535	SW-5						X	
	1545	SW-6						X	
12/8/15	1631	MW-28						X	
12/8/15	1610	MW-22						X	
12/8/15	1630	SRW-3						X	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12/10/15	17:15						

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
FedEx	12/10/15	17:15						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	12/11/15	12:00	YES ( ) NO ( )		L8V-11996	2.8/3.2

TAL8240-680 (1008)

Serial Number 103606

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

X TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

◯ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: UNC Airport Rd.	PROJECT NO.	PROJECT LOCATION (STATE): NC	PAGE 3 OF 4
TAL (LAB) PROJECT MANAGER	P.O. NUMBER: MC0A234. 0020-0002	CONTRACT NO.	STANDARD REPORT DELIVERY X
CLIENT (SITE) PM: Dave Twamley	CLIENT PHONE: 919-854-1282	CLIENT FAX	DATE DUE ____
CLIENT NAME: ARCADIS	CLIENT E-MAIL: Dave.Twamley@arcadis.com		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 801 Corporate Center Dr. #300 Raleigh, NC 27607			DATE DUE ____
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	8260 (HCl)										REMARKS
								PRESERVATIVE										
12/9/15	1051	MW-23	G	X				X										
	1016	MW-6						X										
	1207	MW-17						X										
	1411	MW-16						X										
	1503	MW-15						X										
	—	Dup-1						X										
		~~MW-7~~						X										
	1225	MW-12						X										
	1405	MW-2						X										
	1500	MW-1						X										
	1548	MW-3						X										
	1645	MW-9						X										

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12/10/15	17:15						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
FedEx	12/10/15	17:15						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	12/11/15	12:08	YES ◯ NO ◯		L0820119967	2.8/3.2

TAL8240-680 (1008)

Serial Number 103607

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: UNC Airport Rd.	PROJECT NO.	PROJECT LOCATION (STATE): NC	PAGE 4 OF 4
TAL (LAB) PROJECT MANAGER	P.O. NUMBER: NC0023970.0020.0000	CONTRACT NO.	STANDARD REPORT DELIVERY ✓ DATE DUE
CLIENT (SITE) PM: Dave Twamley	CLIENT PHONE: 919-854-1282	CLIENT FAX	EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE
CLIENT NAME: Arcadis	CLIENT E-MAIL: Dave.twamley@arcadis.com		
CLIENT ADDRESS			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:
COMPANY CONTRACTING THIS WORK (if applicable)			

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS: 8260

PRESERVATIVE: HCl

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	8260	REMARKS
12/9/15	1705	MW-14	G	X				X	
12/10/15	1044	VER-1						X	
12/10/15	1150	VER-2						X	
12/10/15	1244	VER-3						X	
12/10/15	1422	VER-4						X	
12/10/15	1502	MW-38						X	
12/10/15	1552	MW-39						X	
--	--	TRIP BLANK						X	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12/10/15	17:15						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fed Ex	12/10/15	17:15						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	12/11/15	12:00	YES ○ NO ○		680-119967	2.8/R2

TAL8240-680 (1008)

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 680-119967-1

Login Number: 119967
List Number: 1
Creator: Kicklighter, Marilyn D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: UNC Airport Road (Waste Disposal Area)

TestAmerica Job ID: 680-119967-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-15 *

* Certification renewal pending - certification considered valid.

APPENDIX C

Laboratory Analytical Data Reports for Air Discharge Samples

Research Triangle Park Laboratories, Inc.
7201 ACC Blvd., Suite 104
Raleigh, NC 27617

919 510-0228 Telephone
919 510-0141 Fax
Web Site: www.rtp-labs.com

PA Registration #68-1664
DEA Registered

May 5, 2015

ARCADIS
801 Corporate Center, Suite 300
Raleigh, NC 27607

Attn: Dave Twamley/Alan Pinnix

PROJECT: "UNC Airport Road"; Contract #: NC000239.0019.0001B
RTP Labs Project ID: 15-037

Enclosed with this letter is the report on the chemical analysis for the Tedlar bag sample received April 20, 2015 for normal turnaround. The sample was analyzed by EPA Method TO-15 GC/MS for 60 VOC target compounds and included benzene; chloroform; 1,2-dichloroethane; methylene chloride; 1,1,2,2-tetrachloroethane; trichloroethylene; trichlorofluoromethane and vinyl chloride.

Sincerely,

Alston Sykes, Principal Chemist

Attachments: GC/MS report, COC form

Research Triangle Park Laboratories, Inc.
7201 ACC Blvd., Suite 104
Raleigh, NC 27617

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EPA Method TO-15 GC/MS VOLATILE ORGANICS

Data File: c:\varianws\wsdatafiles\voc110812\15-037-01.sms **Acquisition Date:** 4/21/2015

Comment: Arcadis UNC Air Stripper 4/20/15; 50mL..

CAS NO.	COMPOUND	CONCENTRATION	UNITS	MDL and Reporting Limit
75-71-8	Dichlorodifluoromethane (Freon 12)	Not Found	ppbv	1
76-14-2	1,2-Chloro-1,1,2,2-Tetrafluoroethane	Not Found	ppbv	1
74-87-3	Chloromethane	23.24	ppbv	1
75-01-4	Vinyl chloride	Not Found	ppbv	1
106-99-0	1,3-Butadiene	Not Found	ppbv	1
74-83-9	Bromomethane	Below MDL	ppbv	1
75-00-3	Chloroethane	8.19	ppbv	1
75-69-4	Trichloromonofluoromethane	Not Found	ppbv	1
75-35-4	1,1-dichloroethene	Not Found	ppbv	1
76-13-1	1,1,2-trichloro-1,2,2-trifluoroethane	Not Found	ppbv	1
64-17-5	Ethanol	8.18	ppbv	1
75-15-0	Carbon disulfide	Not Found	ppbv	1
67-63-0	Isopropyl alcohol	18.68	ppbv	1
75-09-2	Methylene chloride	2.30	ppbv	1
67-64-1	Acetone	24.68	ppbv	1
156-60-5	t-1,2-dichloroethene	Not Found	ppbv	1
11-05-3	Hexane	10.56	ppbv	1
1634-04-4	Methyl-t-butyl ether (MTBE)	Not Found	ppbv	1
75-34-3	1,1-Dichloroethane	Not Found	ppbv	1
108-05-4	Vinyl acetate	Not Found	ppbv	1
156-59-2	cis-1,2-dichloroethene	Not Found	ppbv	1
110-82-7	Cyclohexane	2.67	ppbv	1
67-66-3	Chloroform	1.12	ppbv	1
141-78-6	Ethyl Acetate	Not Found	ppbv	1
109-99-9	Tetrahydrofuran	3.17	ppbv	1
71-55-6	1,1,1-trichloroethane	Not Found	ppbv	1
56-23-5	Carbon Tetrachloride	Not Found	ppbv	1
78-93-3	2-Butanone	Not Found	ppbv	1
142-82-5	Heptane	6.73	ppbv	1
71-43-2	Benzene	4.07	ppbv	1
107-06-2	1,2-dichloroethane	15.25	ppbv	1
79-01-6	Trichloroethylene	2.55	ppbv	1
78-87-5	1,2-dichloropropane	Not Found	ppbv	1
75-27-4	Bromodichloromethane	Not Found	ppbv	1
123-91-1	1,4-dioxane	1.64	ppbv	1
10061-01-5	cis-1,3-dichloropropene	Not Found	ppbv	1
108-88-3	Toluene	6.78	ppbv	1
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Found	ppbv	1
1006-02-6	t-1,3-dichloropropene	Not Found	ppbv	1
127-18-4	Tetrachloroethylene	Not Found	ppbv	1
79-00-5	1,1,2-trichloroethane	Not Found	ppbv	1
124-48-1	Dibromochloromethane	Not Found	ppbv	1
106-93-4	1,2-dibromoethane	Not Found	ppbv	1
591-78-6	2-Hexanone	Not Found	ppbv	1
100-41-4	Ethylbenzene	Below MDL	ppbv	1
108-90-7	Chlorobenzene	2.60	ppbv	1
1330-20-7	m/p-Xylene	2.31	ppbv	1
95-47-6	o-Xylene	Below MDL	ppbv	1
100-42-5	Styrene	Not Found	ppbv	1
75-25-2	Tribromomethane	1.53	ppbv	1
79-34-5	1,1,2,2-tetrachloroethane	Not Found	ppbv	1
622-96-8	1-ethyl-4-methylbenzene	Not Found	ppbv	1
108-67-8	1,3,5-trimethylbenzene	Not Found	ppbv	1
95-63-6	1,2,4-trimethylbenzene	Not Found	ppbv	1
541-73-1	1,3-dichlorobenzene	78.95	ppbv	1
106-46-7	1,4-dichlorobenzene	81.95	ppbv	1
100-44-7	Benzyl chloride	Not Found	ppbv	1
95-50-1	1,2-dichlorobenzene	Not Found	ppbv	1
87-68-3	1,1,2,3,4,4-hexachloro-1,3-butadiene	Not Found	ppbv	1
120-82-1	1,2,4-trichlorobenzene	Not Found	ppbv	1

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Raleigh, North Carolina 27617
Phone: 919-510-0228 Fax: 919-510-0141

Web Site: www.rtp-labs.com

Chain of Custody Record

ISO 17025 Compliant/DEA Registered Analytical Lab

Client (Billing for Credit Card): ARCADIS
Company or Name on Report:
Phone # (Required): 919-854-1282
Fax #:
Date: 4/20/15

Address: 801 Corporate Center Dr. Ste. 300
E-Mail (Required): david.twamley@arcadis-us.com
Page 1 of 1

City: Raleigh
State: NC
Zip Code: 27607

Contract/PO#/Credit Card #/Expiration Date: NC000239.0019.0001B
Contact Name: Dave Twamley/Alan Pinnix

Requested Analyses: 51-01

(RTP Labs Use) Project Number ID: 15-037

Additional Info or Comments: UNC-Airport Road

	Sample Description/Batch/Manf Date	Sample Date	TIME AM/PM	Matrix: Air Ambient	Matrix: Air Source	Matrix: Liquid/Solid	EPA Compliance	Preservatives	# of Containers	Requested Analyses	Environmental Air Samples Only (Summa Canisters): Field Initial Inches Hg or psig	Field Final Inches Hg or psig	Lab Receipt Inches Hg or psig	Lab Final Inches Hg or psig	RTP Labs Sample or Fraction ID
1	Air Stripper	4/20/15	0935		X				1	X					01
2															
3															
4															
5															
6															
7															
8															
9															
10															

Turn Around Time Requested for Analysis: Business days after having received samples with completed documentation; *Rush Multipliers (Xx)
☒ Normal 15 days ☐ 10 days*(1.5x) ☐ 5 days*(2.0x) ☐ 3 days*(3x)

Data Package: Std ☐
Raw Data Deliverable: ☐ 1.1x surcharge

QC Requirements: Screen ☐ Standard ☐
EPA Level IV Compliance ☐
Requires approved QAPP sent to lab

Signature: [signature] Date: 4/20/15 Time: 1535
Received By (RTP Labs): [signature] Date: 4/20/15 Time: 1535

By submitting samples you agree to RTP Labs' Terms & Conditions and that you are following Federal hazardous & controlled substances regulations. Chain_RTP2012 revision 5/1/2012

Research Triangle Park Laboratories, Inc.
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DEA Registered

December 21, 2015

ARCADIS
801 Corporate Center, Suite 300
Raleigh, NC 27607

Attn: Dave Twamley/Alan Pinnix

PROJECT: "UNC Airport Road"; Contract #: NC000239.0020.00001
RTP Labs Project ID: 15-156

Enclosed with this letter is the report on the chemical analysis for the Tedlar bag sample received December 7, 2015 for normal turnaround. The sample was analyzed by EPA Method TO-15 GC/MS for 60 VOC target compounds and included benzene; chloroform; 1,2-dichloroethane; methylene chloride; 1,1,2,2-tetrachloroethane; trichloroethylene; trichlorofluoromethane and vinyl chloride.

Sincerely,

Alston Sykes, Principal Chemist

Attachments: GC/MS report, COC form

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PA Registration #68-1664
DEA Registered

EPA Method TO-15 GC/MS VOLATILE ORGANICS

Data File: c:\varianws\wsdatafiles\voc110812\15-156-01.sms **Acquisition Date:** 12/11/2015

Comment: Arcadis UNC Airport Rd, AS Discharge 12/7/15; 50mL, DF=10

CAS NO.	COMPOUND	CONCENTRATION	UNITS	MDL and Reporting Limit
75-71-8	Dichlorodifluoromethane (Freon 12)	Not Found	ppbv	1
76-14-2	1,2-Chloro-1,1,2,2-Tetrafluoroethane	Not Found	ppbv	1
74-87-3	Chloromethane	25.63	ppbv	1
75-01-4	Vinyl chloride	Not Found	ppbv	1
106-99-0	1,3-Butadiene	Not Found	ppbv	1
74-83-9	Bromomethane	Not Found	ppbv	1
75-00-3	Chloroethane	31.17	ppbv	1
75-69-4	Trichloromonofluoromethane	Not Found	ppbv	1
75-35-4	1,1-dichloroethene	Not Found	ppbv	1
76-13-1	1,1,2-trichloro-1,2,2-trifluoroethane	Not Found	ppbv	1
64-17-5	Ethanol	7.03	ppbv	1
75-15-0	Carbon disulfide	Not Found	ppbv	1
67-63-0	Isopropyl alcohol	9.99	ppbv	1
75-09-2	Methylene chloride	4.64	ppbv	1
67-64-1	Acetone	21.53	ppbv	1
156-60-5	t-1,2-dichloroethene	Not Found	ppbv	1
11-05-3	Hexane	30.59	ppbv	1
1634-04-4	Methyl-t-butyl ether (MTBE)	Not Found	ppbv	1
75-34-3	1,1-Dichloroethane	Not Found	ppbv	1
108-05-4	Vinyl acetate	Not Found	ppbv	1
156-59-2	cis-1,2-dichloroethene	Not Found	ppbv	1
110-82-7	Cyclohexane	9.38	ppbv	1
67-66-3	Chloroform	2.53	ppbv	1
141-78-6	Ethyl Acetate	3.56	ppbv	1
109-99-9	Tetrahydrofuran	Not Found	ppbv	1
71-55-6	1,1,1-trichloroethane	Not Found	ppbv	1
56-23-5	Carbon Tetrachloride	Not Found	ppbv	1
78-93-3	2-Butanone	Not Found	ppbv	1
142-82-5	Heptane	230.33	ppbv	1
71-43-2	Benzene	4.84	ppbv	1
107-06-2	1,2-dichloroethane	15.26	ppbv	1
79-01-6	Trichloroethylene	2.42	ppbv	1
78-87-5	1,2-dichloropropane	Not Found	ppbv	1
75-27-4	Bromodichloromethane	Not Found	ppbv	1
123-91-1	1,4-dioxane	Below MDL	ppbv	1
10061-01-5	cis-1,3-dichloropropene	Not Found	ppbv	1
108-88-3	Toluene	17.71	ppbv	1
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Found	ppbv	1
1006-02-6	t-1,3-dichloropropene	Not Found	ppbv	1
127-18-4	Tetrachloroethylene	Not Found	ppbv	1
79-00-5	1,1,2-trichloroethane	Not Found	ppbv	1
124-48-1	Dibromochloromethane	Not Found	ppbv	1
106-93-4	1,2-dibromoethane	Not Found	ppbv	1
591-78-6	2-Hexanone	Not Found	ppbv	1
100-41-4	Ethylbenzene	4.44	ppbv	1
108-90-7	Chlorobenzene	3.07	ppbv	1
1330-20-7	m/p-Xylene	16.01	ppbv	1
95-47-6	o-Xylene	5.73	ppbv	1
100-42-5	Styrene	Not Found	ppbv	1
75-25-2	Tribromomethane	Below MDL	ppbv	1
79-34-5	1,1,2,2-tetrachloroethane	Not Found	ppbv	1
622-96-8	1-ethyl-4-methylbenzene	2.37	ppbv	1
108-67-8	1,3,5-trimethylbenzene	1.08	ppbv	1
95-63-6	1,2,4-trimethylbenzene	3.36	ppbv	1
541-73-1	1,3-dichlorobenzene	63.83	ppbv	1
106-46-7	1,4-dichlorobenzene	66.47	ppbv	1
100-44-7	Benzyl chloride	Not Found	ppbv	1
95-50-1	1,2-dichlorobenzene	Not Found	ppbv	1
87-68-3	1,1,2,3,4,4-hexachloro-1,3-butadiene	Not Found	ppbv	1
120-82-1	1,2,4-trichlorobenzene	Not Found	ppbv	1

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Phone: 919-510-0228 Fax: 919-510-0141

Chain of Custody Record

Web Site: www.rtp-labs.com

ISO 17025 Compliant/DEA Registered Analytical Lab

RTPLabs

Client (Billing for Credit Card): ARCADIS	Company or Name on Report: Alan Pinnix	Phone # (Required): 919-854-1282	Fax #: 919-854-5448
Address: 801 Corporate Center Dr.		E-Mail (Required): Alan.Pinnix@arcadis-us.com	Date: 12/7/15
City: Raleigh	State: NC	Zip Code: 27607	Page 1 of 1
Contract/PO#/Credit Card #/Expiration Date: NC000239.0020.00001	Contact Name: Alan Pinnix, Dave Twamley		(RTP Labs Use) Project Number ID: 15-156

Requested Analyses: TO-15

Additional Info or Comments: UNC Airport Road Waste Disposal Area

	Sample Description/Batch/Manf Date	Sample Date	TIME AM / PM	Matrix: Air Ambient	Air Source	Liquid/Solid	EPA Compliance	Preservatives	# of Containers	TO-15	Environmental Air Samples Only (Summa Canisters): Field Initial (Inches Hg or psig)	Field Final	Lab Receipt	Lab Fina psig	RTP Labs Sample or Fraction ID
1	AS Discharge	12/7/15	1215		X				1	X					01
2															
3															
4															
5															
6															
7															
8															
9															
10															

Turn Around Time Requested for Analysis: Business days after having received samples with completed documentation; *Rush Multipliers (Xx)

☒ Normal 15 days ☐ 10 days*(1.5x) ☐ 5 days*(2.0x) ☐ 3 days*(3x)

Data Package: Std ☒

Raw Data Deliverable: ☐ 1.1x surcharge

QC Requirements: Screen ☐ Standard ☐

EPA Level IV Compliance ☐
Requires approved QAPP sent to lab

Signature: Dave Twamley Date: 12/7/15 Time: 1400

Received By (RTP Labs): Date: 12-7-15 Time: 14:00

By submitting samples you agree to RTP Labs' Terms & Conditions and that you are following Federal hazardous & controlled substances regulations.

Chain_RTP2012 revision 5/1/2012

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