

**FINAL  
FACILITY-WIDE GROUNDWATER MONITORING PROGRAM  
RVAAP-66 FACILITY-WIDE GROUNDWATER  
REPORT ON THE AUGUST 2013 SAMPLING EVENT**

**RAVENNA ARMY AMMUNITION PLANT  
RAVENNA, OHIO**

**March 5, 2014**

**GSA Contract Number GS-10F-0293K  
Delivery Order W912QR-11-F-0266**

*Prepared for*



**U.S. Army Corps of Engineers  
600 Martin Luther King Jr. Place  
Louisville, Kentucky 40202**

*Prepared by*



**Environmental Quality Management, Inc.  
1800 Carillon Boulevard  
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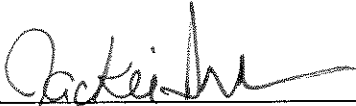


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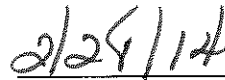


**CONTRACTOR'S STATEMENT OF INDEPENDENT TECHNICAL REVIEW**

Environmental Quality Management, Inc. (EQM) has completed the *Final Facility-Wide Groundwater Monitoring Program Report on the August 2013 Sampling Event*. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in this project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions, methods, procedures, and materials used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing United States Corps of Engineers policy.



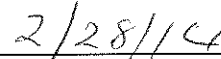
Jackie Doan, CQM, CQA, CHMM, CEAC  
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Date



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Senior Project Manager



Date



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## LIST OF GENERAL ACRONYMS

ADR	Automatic Data Review
amsl	above mean sea level
AOC	Area of Concern
ARNG	Army National Guard
°C	degree Celsius
CCV	continuing calibration verification
CRJMTC	Camp Ravenna Joint Military Training Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
DDE	dichlorodiphenyldichloroethylene
DFFOs	Director's Final Findings and Orders
DoD	Department of Defense
EQM	Environmental Quality Management, Inc.
EPA	Environmental Protection Agency
ft	feet
FWGWMP	Facility-Wide Groundwater Monitoring Program
FWGWMPPP	Facility-Wide Groundwater Monitoring Program Plan
FWSAP	Facility-Wide Sampling and Analysis Plan
GC	Gas chromatograph
GOCO	Government-Owned, Contractor-Operated
GSA	Government Services Administration
GW	groundwater
HNO <sub>3</sub>	nitric acid
HMX	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
HPLC	high-performance liquid chromatography
H <sub>2</sub> SO <sub>4</sub>	sulfuric acid
IDW	Investigation-Derived Waste
IRP	Installation Restoration Program
LCS	laboratory control sample
LS	Louisville District Quality Systems Manual Supplement
MCL	Maximum Contaminant Level
MDL	method detection limit
mg/L	milligram per liter
µg/L	microgram per liter
MMRP	Military Munitions Response Program
MRL	method reporting limit
MS	mass spectrometer
MS/MSD	matrix spike/matrix spike duplicate
mw	monitoring well
NaOH	sodium hydroxide
N/A	not analyzed
NM	not measured
NS	no standard
NTU	nephelometric turbidity unit



## LIST OF GENERAL ACRONYMS

(continued)

OHARNG	Ohio Army National Guard
%	percent
PBA	Performance Based Acquisition
pCi/L	picocuries per liter
PCB	polychlorinated biphenyl
PETN	pentaerythritol tetranitrate
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
QSM	Quality Services Manual
RCRA	Resource Conservation and Recovery Act
RBC	Risk-Based Cleanup
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
RI	Remedial Investigation
RL	reporting limit
RSL	Regional Screening Level
RVAAP	Ravenna Army Ammunition Plant
SDG	sample delivery group
SRC	Site-Related Contaminant
SVOC	semivolatile organic compound
s.u.	standard units
TAL	target analyte list
TOC	top of casing
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USP&FO	United States Property and Fiscal Officer
UV	ultraviolet
VOC	volatile organic compound



## **LIST OF AREA OF CONCERN ACRONYMS**

ASY	Atlas Scrap Yard
B12	Building 1200
BKG	Background
CBL	C-Block
CBP	Central Burn Pits
CP	Cobbs Pond
DA2	Demolition Area #2
EBG	Erie Burning Grounds
FBQ	Fuze and Booster Quarry
FWG	Facility-Wide Groundwater
LNW	Landfill North of Winklepeck
LL	Load Line
MBS	Mustard Burial Site
NACA	National Advisory Committee for Aeronautics
NTA	NACA Test Area
RQL	Ramsdell Quarry Landfill
SCF	Sharon Conglomerate Formation
WBG	Winklepeck Burning Grounds



## EXECUTIVE SUMMARY

Past Department of Defense (DoD) activities at the Ravenna Army Ammunition Plant (RVAAP) in Ravenna, Ohio, date to 1940 and include the manufacturing, loading, handling, and storage of military explosives and ammunition. Residual contamination from these early activities at RVAAP has been identified in groundwater beneath the facility. Currently, the approximately 21,683-acre facility is primarily used for military training.

The United States (U.S.) Army Corps of Engineers (USACE) is performing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) closure at the former RVAAP under the Installation Restoration Program (IRP) and the Military Munitions Response Program (MMRP). The overall goal is to remediate the RVAAP installation as all of the property has been transferred to the Army National Guard (ARNG) and is being used by the Ohio Army National Guard (OHARNG) as a military training site. One of the activities conducted under the IRP includes monitoring of an extensive network (now 281 wells) of groundwater monitoring wells at the RVAAP facility. To date, all 281 Facility-Wide Groundwater Monitoring Program (FWGWMP) wells at the facility have been sampled and analyzed a minimum of four quarters.

In 2004, the U.S. Army and the Ohio Environmental Protection Agency (EPA) finalized the FWGWMP Plan, which details the requirements of the program for the 243 existing wells. The FWGWMP was initiated in 2005 with three consecutive quarters of FWGWMP well sampling. In addition, five Resource Conservation and Recovery Act (RCRA) wells located at Ramsdell Quarry Landfill (RQLmw-007, RQLmw-008, and RQLmw-009) and Demolition Area 2 (DETmw-003 and DETmw-004) are sampled on a semiannual basis.

The current wells to be sampled and the analytes to be analyzed from each well were approved in the FWGWMP Addendum dated August 1, 2013. The current Monitoring Well Schedule is presented in Appendix A. The list in Appendix A presents the list of new wells and the existing semiannual wells to be sampled.

The following activities were conducted by Environmental Quality Management, Inc. (EQM) during the reporting period:

- Performed groundwater sampling at the 53 wells identified in Appendix A.
- Gauged water levels/total depth and performed well inspections for 280 of the 281 groundwater monitoring wells at the facility (well WBGmw-012 could not be located due to heavy vegetation – this well will be measured and inspected during the January 2014 sampling event).
- Performed laboratory analysis of the collected samples.
- Verified, validated, and reduced the laboratory analytical data produced for the event (exclusive of the quality assurance samples analyzed by RTI Laboratories).
- Prepared the Investigation-Derived Waste (IDW) Characterization and Disposal Plan for the IDW collected during monitoring activities.



During the August 2013 sampling event, several analytes were detected at levels at/or above their respective Maximum Contaminant Levels (MCLs) and/or United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). The summary of exceedances is as follows.

### **Explosive and Propellant Compounds**

As shown in Table 3-2, the following explosives or propellants were detected at levels above their corresponding MCLs or RSLs during the August 2013 sampling event:

- 2,4-dinitrotoluene in LL1mw-083 (2.9 micrograms per liter [µg/L] J), LL1mw-084 (1.4 µg/L J), LL2mw-059 (0.21 µg/L), LL2mw-267 (0.30 µg/L) and FBQmw-174 (0.45 µg/L). There is no MCL for 2,4-dinitrotoluene. The RSL is 0.2 µg/L.
- 2,4,6-Trinitrotoluene in LL1mw-083 (4.5 µg/L J), LL1mw-084 (12 µg/L J), LL3mw-238 (79 µg/L), LL3mw-241 (3.3 µg/L) and FBQmw-174 (18 µg/L). There is no MCL for 2,4,6-trinitrotoluene. The RSL is 2.2 µg/L.
- 2,6-Dinitrotoluene in LL1mw-083 (1.5 µg/L J), LL1mw-084 (0.95 µg/L J), LL3mw-238 (0.52 µg/L J), LL3mw-241 (0.083 µg/L J), and RQLmw-008 (0.14 µg/L J). There is no MCL for 2,6-dinitrotoluene. The RSL is 0.042 µg/L.
- 4-Amino-2,6-Dinitrotoluene in LL1mw-084 (36 µg/L), and LL3mw-238 (37 µg/L). There is no MCL for 4-amino-2,6-dinitrotoluene. The RSL is 30 µg/L.
- Nitrate-Nitrite in LL12mw-185 (130 µg/L), LL12mw-187 (1200 milligrams per liter [mg/L] J). The MCL for nitrate-nitrite is 1 mg/L. The RSL is 1.6 mg/L.
- Nitrobenzene in LL3mw-238 (0.17 µg/L J). There is no MCL for nitrobenzene. The RSL is 0.12 µg/L.
- RDX in DETmw-004 (2.3 µg/L), LL1mw-084 (2.1 µg/L J), LL2mw-267 (1.5 µg/L), LL3mw-238 (7.2 µg/L), LL3mw-241 (0.98 µg/L J), and WBGmw-006 (15 µg/L), WBGmw-009 (3.5 µg/L). There is no MCL for RDX. The RSL is 0.61 µg/L.

### **Inorganic Elements**

Several inorganic compounds were detected at levels exceeding the MCLs and/or RSLs. These included aluminum, arsenic, cobalt, cyanide, iron, manganese, and thallium in wells from all areas sampled. Table 4-1 in Section 4 presents a summary of all inorganic compounds and the associated wells that had detections exceeding MCLs and/or the RSLs.

### **Volatile Organic Compounds**

As shown in Table 3-4, the only volatile organic compounds (VOCs) detected at levels exceeding their corresponding MCLs or RSLs during the August 2013 sampling event were:



- Carbon tetrachloride in LL10mw-003 (4.2 µg/L). The MCL for carbon tetrachloride is 5.0 µg/L. The RSL is 0.39 µg/L.
- Chloroform in LL10mw-003 (0.56 µg/L). There is no MCL for chloroform. The RSL is 0.19 µg/L.

### **Semivolatile Organic Compounds**

As shown in Table 3-5, the following semivolatile organic compounds (SVOCs) were detected at levels exceeding either their corresponding MCLs or RSLs:

- Benzo(a)anthracene in DETmw-003 (0.15 µg/L). There is no MCL for benzo(a)anthracene. The RSL is 0.029 µg/L.
- Benzo(a)pyrene in DETmw-003 (0.12 µg/L). The MCL for benzo(a)pyrene is 0.2 µg/L. The RSL is 0.0029 µg/L.
- Benzo(b)fluoranthene in DETmw-003 (0.12 µg/L). There is no MCL for Benzo(b)fluoranthene. The RSL is 0.029 µg/L.

### **Pesticides and Polychlorinated Biphenyls (PCBs)**

As shown in Table 3-6, the following pesticide was detected at levels exceeding either their MCLs or RSLs.

- beta-BHC in LL1mw-084 (0.069 µg/L, LL3mw-244 (0.025 µg/L J), and LL12mw-247 (0.18 µg/L J). There is no MCL for beta-BHC. The RSL is 0.022 µg/L.

### **Hexavalent Chromium**

The analytical results for hexavalent chromium are summarized in Table 3-7. Well LL3mw-244 had a detected concentration for hexavalent chromium of 0.361 µg/L which is elevated above the RSL of 0.031 µg/L (there is no MCL for hexavalent chromium).

### **Perchlorates**

During the August 2013 sampling event perchlorates were analyzed for at nine wells. Table 3-8 summarizes the results. As shown in Table 3-8 there were no detections elevated above the RSL (11 µg/L) or the MCL [EPA established an Interim Drinking Water Health Advisory of 15 µg/L in water (EPA 2009b)].



# **SECTION 1**

## **INTRODUCTION**

### **1.1 Facility Description**

Past Department of Defense (DoD) activities at the Ravenna Army Ammunition Plant (RVAAP) date to 1940 and include the manufacturing, loading, handling, and storage of military explosives and ammunition. Until 1999, the RVAAP was identified as a 21,419-acre installation. The property boundary was resurveyed by the Ohio Army National Guard (OHARNG) over a 2-year period from 2002 and 2003, and the actual total acreage of the property was found to be 21,683.289 acres. All of the former 21,683 acre RVAAP has been transferred to the United States Property and Fiscal Officer (USP&FO) for Ohio for use by the OHARNG.

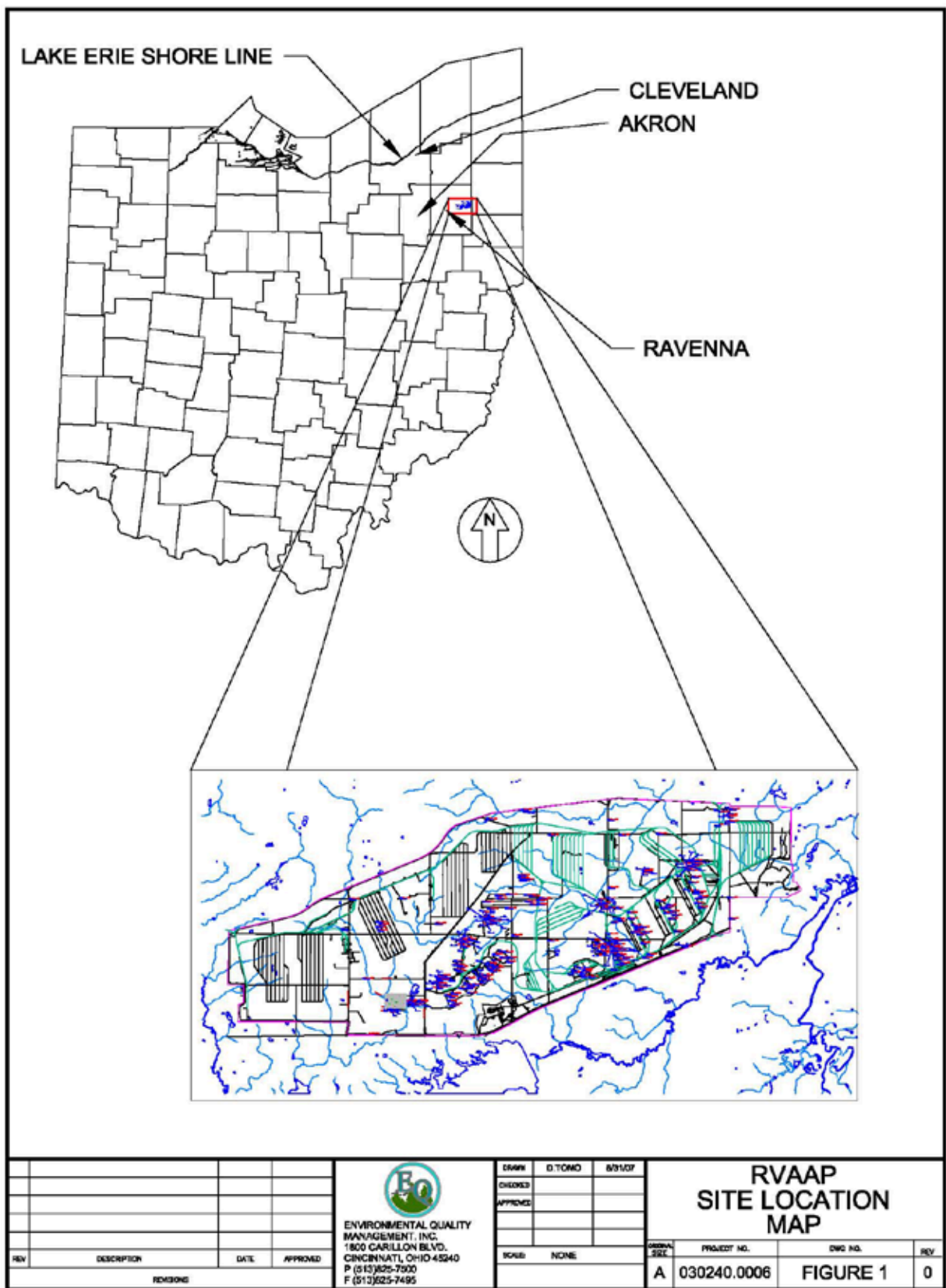
Administrative accountability for all property has been transferred to the Army National Guard (ARNG) with licensure to OHARNG for use as a military training site. The current RVAAP consists of 1,280 acres in several distinct parcels scattered throughout the confines of the OHARNG Camp Ravenna Joint Military Training Center (CRJMTC). The RVAAP and CRJMTC are collocated on contiguous parcels of property and the CRJMTC perimeter fence completely encloses the remaining parcels of the RVAAP. The CRJMTC is in northeastern Ohio within Portage and Trumbull Counties, approximately 4.8 kilometers (3 miles) east-northeast of the city of Ravenna and approximately 1.6 kilometers (1 mile) northwest of the city of Newton Falls (Figure 1-1). The RVAAP portions of the property are solely located within Portage County. The CRJMTC (inclusive of the RVAAP) is a parcel of property approximately 17.7 kilometers (11 miles) long and 5.6 kilometers (3.5 miles) wide bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garret, McCormick, and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east. Figures 1-1 and 1-2 present the RVAAP Site Location Map and RVAAP Facility Map. The CRJMTC is surrounded by several communities: Windham on the north; Garrettsville 9.6 kilometers (6 miles) to the northwest; Newton Falls 1.6 kilometers (1 mile) to the southeast; Charlestown to the southwest; and Wayland 4.8 kilometers (3 miles) to the south. When the RVAAP was operational CRJMTC did not exist and the entire 21,683-acre parcel was a government-owned, contractor-operated (GOCO) industrial facility. The RVAAP Installation Restoration Program (IRP) encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP, and, therefore, references to the RVAAP in this document are considered to be inclusive of the historical extent of the RVAAP, which is inclusive of the combined acreages of the current CRJMTC and RVAAP, unless otherwise specifically stated.

### **1.2 Project Description**

#### **1.2.1 Historical Monitoring**

In 2004, the United States (U.S.) Army and the Ohio Environmental Protection Agency (EPA) finalized the Facility-Wide Groundwater Monitoring Program (FWGWMP) Plan, which details the requirements of the program. The FWGWMP was initiated in 2005 with three consecutive quarters of FWGWMP well sampling. Quarterly sampling has continued through the current





**Figure 1-1. RVAAP General Location Map**



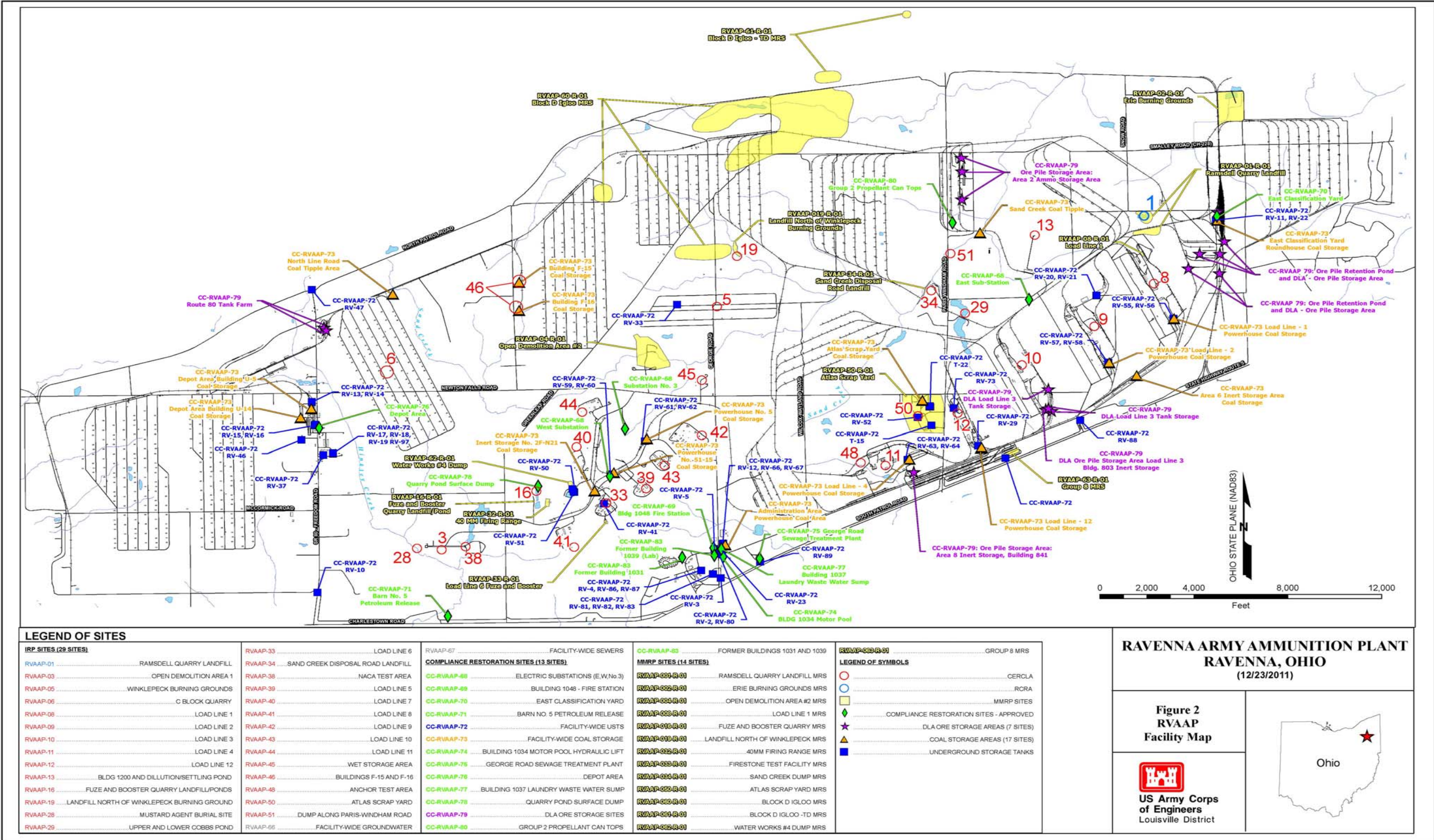


Figure 1-2. RVAAP Facility Map



monitoring event. The initial FWGWMP wells identified for monitoring were sampled once every quarter, with the exception of the five Resource Conservation and Recovery Act (RCRA) wells that include three Ramsdell Quarry Landfill (RQL) wells (RQLmw-007, -008, and -009) and two Demolition Area 2 (DA2) wells (DETmw-003 and DETmw-004). The RQL and DA2 wells are sampled semiannually.

As detailed in the original FWGWMP Plan (FWGWMP; September 2004), the initial monitoring program consisted of the sampling of 36 wells specified in Table 4-1 of the FWGWMP. Fourteen of these wells are “Background Wells,” and the remaining wells are situated at various Areas of Concern (AOCs) at RVAAP. The first sampling event for this project was conducted in April 2005. The results of the previous FWGWMP sampling events are presented in Section 5 of this report. The final assessment monitoring event for the initial well sampling and analysis was completed in October 2007.

On October 22, 2007, the U.S. Army Corps of Engineers (USACE) submitted to the Ohio EPA the *Preliminary Draft Proposal to Update the Facility-Wide Ground Water Monitoring Program* (USACE, October 2007) at the Ravenna Army Ammunition Plant. This proposal presented recommendations for modifications to the FWGWMP, the Director’s Final Findings and Orders (DFFOs), and the Conceptual Plan in Appendix E of the Findings and Orders as presented below.

Section 3.1.2.2 of the original FWGWMP (September 2004) establishes a protocol for adding and removing wells from the FWGWMP: “*Future wells installed as part of individual AOC investigations conducted under the ongoing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process at RVAAP will be evaluated for incorporation into the FWGWMP upon completion of at least four quarterly groundwater sampling events to be conducted as part of the Remedial Investigation (RI) phase at each AOC. The frequency of the initial sampling events may be other than quarterly if agreed upon by the Army and Ohio EPA.*” Based on this protocol the USACE notified the Ohio EPA on December 12, 2007 that the wells to be sampled would be changed effective with the January 2008 monitoring event. The Ohio EPA provided concurrence with this change in an email dated January 8, 2008. The Ohio EPA was notified of an additional change on February 27, 2008, increasing the number of wells to be sampled for the April 2008 event. The Ohio EPA was notified on March 21, 2008, that the number of FWGWMP wells to be sampled in April 2008 (and the July 2008, October 2008, and January 2009 events) would be increased to 132 plus the five RCRA wells sampled semiannually (in order to complete four quarters of sampling for each of the 132 wells).

Beginning with the April 2009 sampling event the remaining wells on the list contained in the *Draft Proposal to Update the Facility-Wide Ground Water Monitoring Program* (USACE, October 2007) were sampled.

A revised list of wells to be sampled during 2010-2011 was submitted to the Ohio EPA in early 2010. The list of wells to be sampled, as well as scheduling issues, were discussed with the Ohio EPA in a telephone conference and verified in a subsequent email on May 26, 2010.



Revisions to the list of wells to be sampled and the analytes to be analyzed from each well were discussed with the Ohio EPA in email correspondences in July 2011. For the groundwater monitoring event it was agreed to monitor the wells and analytes presented in Table 4-2 of the *Draft 2010 Addendum to the Facility-Wide Groundwater Monitoring Program Plan RVAAP-66 Facility-Wide Groundwater* (USACE, 2010).

### **1.2.2 Current Monitoring**

One of the activities conducted under the IRP includes monitoring of an extensive network (now 281 wells) of groundwater monitoring wells at the RVAAP facility. To date, 281 current FWGWMP wells at the facility have been sampled and analyzed a minimum of four quarters.

Details of the current program design and requirements are contained in the *Final Facility-Wide Groundwater Monitoring Program Plan RVAAP-66 Facility-Wide Groundwater Semiannual Monitoring Addendum* dated August 1, 2013. Additionally, this document supplements the *Final Facility-Wide Groundwater Monitoring Program Plan RVAAP-66 Facility-Wide Groundwater Addendum* (FWGWMP Addendum; EQM, January 2012), which includes three parts that pertain to the proposed work: Part I- Environmental Investigation Services Addendum, Part II- Quality Assurance Project Plan (QAPP) Addendum, and Part III- Site Safety and Health Plan (SSHP) Addendum. Additional details pertaining to performance of field and laboratory activities are contained in the *Final Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio* (FWSAP; SAIC, 2011).

The current wells to be sampled and the analytes to be analyzed from each well were approved in the FWGWMP Addendum dated August 1, 2013. The current Monitoring Well Schedule is presented in Appendix A. This list presents the list of new wells and the existing semiannual wells to be sampled.

## **1.3 Scope of Work for the August 2013 Sampling Event**

The USACE, under a Government Services Administration (GSA) Performance Based Acquisition (PBA) contract, retained Environmental Quality Management, Inc. (EQM) (Contract No. GS-10F-0293K – Delivery Order W912QR-11-F-0266) to obtain a signed Record of Decision (ROD) for the facility-wide groundwater (RVAAP-66) at the former RVAAP. One objective of this project is to continue monitoring under the RVAAP Facility-Wide Groundwater Monitoring Program. The following tasks were performed during the August 2013 sampling event in accordance with specifications contained in the Semiannual Addendum, FWGWMP Addendum, the FWSAP, and the Scope of Work written by the USACE:

- Performed groundwater sampling at the 53 wells identified in Appendix A.
- Gauged water levels/total depth and performed well inspections for 280 of the 281 groundwater monitoring wells at the facility (well WBGmw-012 could not be located due to heavy vegetation – this well will be measured and inspected during the January 2014 sampling event).



- Performed laboratory analysis of the collected samples.
- Verified, validated, and reduced the laboratory analytical data produced for the event (exclusive of the quality assurance samples analyzed by RTI Laboratories).
- Prepared the Investigation-Derived Waste (IDW) Characterization and Disposal Plan for the IDW collected during monitoring activities.
- Prepared and submitted the monitoring report for the sampling event.

## **1.4 Report Presentation**

This report presents the results of the August 2013 sampling event. The report is structured in the following way:

- Section 1.0 – Introduction.
- Section 2.0 – Description of Project Activities. This section describes project-specific details not contained in the FWSAP, FWGWMPP Addendum, and Semiannual Addendum. Additionally, details are provided on how the tasks described above were performed.
- Section 3.0 – Results of Investigation. The results of the sampling event are summarized, including groundwater elevation measurements, analytical results, and data verification/validation information.
- Section 4.0 – Summary of Results.
- Section 5.0 – References.
  
- Appendix A – Current Monitoring Well Schedule
- Appendix B – Water-Level Measurements/Field Log Book/Calibration Records/Sample and Purge Records/Daily Quality Control Reports
- Appendix C – Data Verification Reports/Laboratory Data Sheets
- Appendix D – Investigation-Derived Waste Characterization and Disposal Plan
- Appendix E – Reporting Limits that Currently Do Not Meet the RVAAP QAPP Project Action Requirements, MCLs, and/or USEPA RSLs
- Appendix F –Correspondence and Comments/Responses
- Plates



## **SECTION 2**

### **PROJECT ACTIVITIES**

#### **2.1 Groundwater Level Monitoring**

Depth to water from the top of the inner casing was measured in 280 of the 281 FWGWMP and wells during August 13-21, 2013 facility (well WBGmw-012 could not be located due to heavy vegetation – this well will be measured and inspected during the January 2014 sampling event). Water-level measurements were taken with a Herron Dipper-T or Enviro Inspector electronic water-level indicator. The depth to the bottom of the well from the top of the inner casing was also measured with the electronic water-level indicator. The annual inspection of all the wells was also conducted at that time (the results of the inspections will be discussed in the 2013 Annual Report).

Results of the groundwater level monitoring for all the RVAAP wells sampled during this monitoring event are presented in Section 3.1 and Appendix B. The monitoring well location map, identified as Plate 1, is included with this report. Potentiometric maps created from groundwater measurements from the RVAAP monitoring wells in August 2013 are presented on Plates 2, 3, 4, and 5. The potentiometric maps were generated from the August 2013 water-level measurements taken from 274 new and existing facility wells and the six deep Sharon Conglomerate wells. These maps are updated on a yearly basis. The water levels from the individual events are not included in these plates. Additionally, the groundwater elevations from the Sharon Conglomerate wells were evaluated and determined not to be representative of either the Homewood aquifer or the upper portion of the Sharon aquifer. These wells were installed with their screened intervals positioned at the basal portion of the Sharon Conglomerate. Therefore, the groundwater elevations collected from the basal Sharon Conglomerate wells were used to determine the potentiometric contours for these deep wells as presented in Plate 5.

To determine if groundwater elevations of basal Sharon Conglomerate wells (as determined in August 2013) are representative of the Sharon or Homewood Aquifers, the groundwater elevation data were compared. The groundwater elevation of water in the Homewood Aquifer (well LL10mw-003) is more than 78 feet higher than the nearest basal Sharon Conglomerate well (well SCFmw-001). This demonstrates that the Homewood aquifer and Sharon Conglomerate are not representative of the same hydraulic unit. If they were in the same hydraulic unit, the water levels would be expected to be much the same.

The groundwater elevations of the five wells from the upper portion of the Sharon Aquifer are 1.19 to 18.51 feet higher than the five basal Sharon Conglomerate groundwater elevations at the same locations. The average elevation difference is nearly 9 feet. Again, this groundwater elevation difference indicates that the basal Sharon Conglomerate and the upper portion of the Sharon are separate hydraulic units.



## 2.2 Groundwater Sampling

All identified monitoring wells were sampled from August 19-21, 2013. Wells were sampled using micropurge techniques or a bailer in accordance with the specifications contained in the approved addendum. The wells were micropurged until certain groundwater parameters (i.e., temperature, specific conductivity, pH, and dissolved oxygen) had stabilized with the exception of the one well noted below, which was sampled with a bailer. The groundwater parameters were measured using a Horiba U-22/U-52 with flow cell or equivalent. Groundwater parameter measurements obtained during micropurging are presented in Appendix B. Note the following issues encountered during the January 2103 sampling event:

A groundwater pH value of more than 9 standard units (s.u.) has been noted at LL1mw-086. Based on a comparison of the 2012 pH values, this well was redeveloped prior to the October 2012 event. As a result, the pH readings dropped from 10.06 to 7.31 s.u. The well's pH reading has increased since redevelopment to sampling [6.91 s.u. (October 2012), 7.59 s.u. (January 2013), 9.40 s.u. (August 2013)]. EQM will monitor the pH at this well in the future.

Additionally, during the January 2013 event, a groundwater pH value of greater than 9 s.u. was noted at FWGmw-002. During the August 2013 event the pH was 8.95 s.u. EQM has reviewed the historical purge records for this well. The higher pH in the well could be indicative of groundwater contamination; however, the historical trend of 7.62 to 8.95 s.u. indicates that this reading is potentially an anomaly. EQM will monitor the pH at this well in the future, if it is sampled as part of the FWGWMP network.

During the August 2013 event, a groundwater pH value of less than 4 s.u. was noted at RQLmw-011 and LL1mw-083. EQM has reviewed the historical purge records for these wells. The low pH in the wells could be indicative of groundwater contamination. The historical trend of LL1mw-083 (4.51 to 3.87 s.u.) indicates that this reading is not an anomaly or equipment error, the low pH levels are consistent with historical levels. This well is part of the current semiannual sampling set. The pH trends in this well will be evaluated as part of the ongoing RI. Historical pH levels in RQLmw-011 (3.3 to 6 s.u.) indicate that this reading appears to be an anomaly. This well is not part of the current semiannual well sampling set. EQM will monitor the pH at this well in the future, if it is sampled as part of the FWGWMP network.

High turbidity values [i.e., >700 nephelometric turbidity units (NTU)] were noted at two of the wells (FWGmw-011 (999 NTU), and LL1mw-087 (742 NTU) in August 2013. Neither of these wells exhibited significant elevated sediment levels (>0.5 ft.) during this sampling event.

It should be noted that high turbidity readings are not necessarily an indicator of nonrepresentative (i.e., formation) groundwater as stated in the Ohio EPA Technical Guidance Manual for groundwater: *“Turbidity, which is the visible presence of suspended mineral and organic particles in a ground water sample, also is not an indicator of ground water chemical stabilization and does not distinguish between stagnant casing water and formation water.”* EQM continued purging after the normal stabilization parameters had stabilized (turbidity is not a stabilization parameter) in an attempt to reach turbidity values that were within 10 percent (%)



of each other. Additionally, the groundwater samples for metals analysis were filtered as part of the FWGWMP sampling, thereby reducing the effect of suspended particles in the groundwater.

Groundwater samples were collected using bladder pump micropurge equipment with the exception of well DETmw-004. This well historically exhibits poor yield. Therefore, EQM used the bailer method for purging and sampling per the Semiannual Addendum. Equipment and sampling details are contained in Appendix B. Groundwater samples were collected in laboratory-supplied containers and stored in iced coolers for shipment in accordance with the specifications presented in the FWSAP, Semiannual Addendum, and FWGWMP. During the August 2013 sampling, all coolers were received by the laboratory at temperatures within the prescribed tolerance limits.

Filtered metals samples were collected through the bladder pump using an inline 0.45-micron filter emptying directly into pre-preserved sample bottles containing nitric acid. Perchlorate samples were also filtered. All sampling procedures for the filtered metals were conducted in accordance with the FWSAP.

## 2.3 Laboratory Analysis

Laboratory analyses on all primary samples and associated quality control (QC) samples were performed by Test America Laboratories, with the exception of hexavalent chromium, which was generated by ALS. Table 2-1 presents the analytical methods used to analyze the groundwater samples.

The August 2013 groundwater samples were analyzed for the following parameters depending upon the well as presented in Appendix A: explosives, propellants (nitrocellulose and nitroguanidine), cyanide, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), target analyte list (TAL) metals (filtered), pesticides, and polychlorinated biphenyls (PCBs). Depending upon the well location the following were also collected: Nitrate/Nitrites were collected at Load Line 12 wells. Three locations (LL3mw-244, LL12mw-247, and SCFmw-002) were analyzed for hexavalent chromium. Perchlorate (filtered) samples were also collected from several wells.

Quality control samples, including duplicates and matrix spike/matrix spike duplicates (MS/MSD) were collected from the following wells:

DA2mw-115 – Duplicate Sample	WBGmw-018 – Duplicate Sample
RQLmw-009 – Duplicate Sample	FWGmw-002 – Duplicate Sample
LL12mw-247 – Duplicate Sample	FWGmw-009 – MS/MSD
SCFmw-002 – Duplicate Sample (no hexavalent chromium analysis)	
SCFmw-002 0 MS/MSD (hexavalent chromium analysis only)	
RQLmw-008 – MS/MSD (no cyanide or PCBs)	
LL12mw-245 – MS/MSD (no VOCs or pesticides)	



**Table 2-1. Analytical Suite of Chemicals**

Constituents	Method <sup>1</sup>	Preservation
Polychlorinated biphenyls (PCBs)	Gas Chromatograph (GC) – Semivolatile Organics (SVOCs) (8082)	Cool, 4° C <sup>3</sup>
Pesticides	GC Semivolatile Organics (8081A)	Cool, 4° C
Base/Neutrals and Acids (SVOCs)	GC/Mass Spectrograph (MS) Semivolatile Organics (8270C)	Cool, 4° C
Volatile Organic Compounds (VOCs)	GC/MS Volatile Organics (8260B)	HCl, Cool, 4° C
Nitroguanidine (Propellant)	Organic compounds by UV/HPLC (8330 modified)	Cool, 4° C
Nitroaromatics & Nitramines (Explosives)	GC Semivolatile Organics Explosives (8330)	Cool, 4° C
Nitrocellulose as N (Propellant)	General Chemistry (WS-WC-0050)	Cool, 4° C
Nitrate/Nitrites	General Chemistry (353.2) <sup>2</sup>	H <sub>2</sub> SO <sub>4</sub> , Cool, 4° C
Cyanide (Total)	General Chemistry (9012A)	NaOH to pH > 12, Cool, 4° C
Metals (Magnesium, Manganese, Barium, Nickel, Potassium, Silver, Sodium, Vanadium, Chromium, Calcium, Cobalt, Copper, Arsenic, Lead, Selenium)	Inductively Coupled Plasma (6010B)	0.45µm filter, HNO <sub>3</sub> , to pH < 2, Cool, 4° C
Metals (Antimony, Iron, Beryllium, Thallium, Zinc, Cadmium, Aluminum)	Inductively Coupled Plasma Mass Spectrometry (6020)	0.45µm filter, HNO <sub>3</sub> , to pH < 2, Cool, 4° C
Mercury	Liquid Waste Cold Vapor Technique (7470A)	0.45µm filter, HNO <sub>3</sub> , to pH < 2, Cool, 4° C
Hexavalent Chromium	Method 218.6	0.45µm filter, Buffer solution, Cool, 4° C
Perchlorate	Method 6860	0.2µm filter, with prefilter, Cool, 4° C

1 = USEPA SW846

2 = EPA Methods for Chemical Analysis of Water and Waste

3 = degree Celsius

All samples were picked up from the facility and delivered to the laboratory in iced coolers by a TestAmerica courier under proper chain-of-custody procedures (FWSAP). Hexavalent chromium samples were shipped for analysis to ALS Environmental in Rochester, New York. Laboratory analyses on all quality assurance (QA) samples (i.e., split samples) were performed by RTI Laboratories in Livonia, Michigan. Ten QA samples were collected from the same wells where the duplicate samples were collected. All QA samples were shipped in iced coolers via overnight delivery service under proper chain-of-custody procedures. Table 2-2 presents, in tabular form, all analyses and associated QA/QC for the August 2013 monitoring event. The Daily Quality Control Reports are presented in Appendix B.



Laboratory results are summarized in Section 3.2. Laboratory data sheets, including chain-of-custodies and QA/QC information, are contained in Appendix C.

## **2.4 Data Verification/Validation**

Data from TestAmerica and ALS Environmental were verified in accordance with project specifications by EQM chemists Ms. Angye Dragotta and Mr. Eric Corbin using the Automatic Data Review (ADR) program. Data validation/verification is summarized in Section 3.3. The Data Verification/Validation Summary Reports are presented in Appendix C.

## **2.5 Investigation-Derived Waste**

An IDW Report was prepared for the sampling and water-level measurement activities discussed in Section 3. Purge water was collected at each well location in 5-gallon buckets and transferred to 55-gallon drums located inside Building 1036. No more than 4 gallons were purged from any well. Instruments and equipment were decontaminated after purging and sampling each monitoring well. Decontamination fluids were collected in a separate 55-gallon drum stored inside Building 1036. Pending analysis of the monitoring well samples, IDW fluids were stored in the 55-gallon drums until the IDW Report was approved by the Ohio EPA. The IDW was then disposed of in accordance with the FWSAP, FWGWMPP Addendum, and Semiannual Addendum requirements. The IDW Report is presented in Appendix D.



Table 2-2. QA Table for August 2013 Sampling Event

Sample Locations	Contractor Laboratory							Government Laboratory		Requested Laboratory Analysis												
	Primary Lab Sample ID	Date	Sample Type	Assoc. QC Dup Number	Assoc. QC Rinsate Number	Assoc. QC Trip Blank Number	MS/MSD	QA Lab Sample ID	Assoc. QC Trip Blank Number	VOCs	SVOC1	SVOC1&3	SVOC1&2&3	SVOC4	Pesticides	PCBs	Explosives & Propellants	Cyanide	Nitrite/Nitrate	Filtered Metals	Filtered Perchlorates	Filtered Cr+6
B12mw-013	FWGB12mw-013-0310-GW	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam4Trip									1	1						
BKGmw-010	FWGBKGmw-010C-0311-GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam4Trip															1	
DA2mw-114	FWGDA2mw-114-0312-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam1Trip				1				1	1	1	1	1		1		
DA2mw-115	FWGDA2mw-115-0313-GW/GF	8/20/2013	GW	DUP1-0336 <sup>a</sup>	EQUIPRinse2-0341	FWGTeam2Trip		FWGDA2mw-115-0332s-GW/GF <sup>a</sup>	TRIPBLANK	1				1	1	1	1	1		1		
DETmw-001	FWGDETMw-001C-0314-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip				1				1	1	1	1	1		1	1	
DETmw-002	FWGDETMw-002C-0315-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam1Trip				1				1	1	1	1	1		1	1	
DETmw-003	FWGDETMw-003C-0343-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip				1				1	1	1	1	1		1		
DETmw-004	FWGDETMw-004C-0344-GW/GF	8/20-21/13	GW		EQUIPRinse2-0341	FWGTeam2Trip				1				1	1	1	1	1		1		
EBGmw-131	FWGEBGmw-131-0316-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam4Trip				1				1	1	1	1	1		1		
FBQmw-174	FWGFBQmw-174C-0345-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam2Trip					1				1		1			1		
FWGmw-002	FWGFWGmw-002-0317-GF	8/19/2013	GW	DUP2-0337	EQUIPRinse1-0340			FWGFWGmw-002-0333s-GF													1	
FWGmw-004	FWGFWGmw-004-0346-GW/GF	8/19/2013	GW		EQUIPRinse1-0340						1				1		1	1		1		
FWGmw-006	FWGFWGmw-006-0318-GW	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam2Trip				1												
FWGmw-007	FWGFWGmw-007-0347-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam4Trip					1						1			1		
FWGmw-009	FWGFWGmw-009-0319-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam4Trip	Y			1				1	1	1	1	1		1	1	
FWGmw-011	FWGFWGmw-011-0348-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam4Trip					1						1			1		
FWGmw-012	FWGFWGmw-012-0349-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam4Trip					1						1			1		
FWGmw-015	FWGFWGmw-015-0350-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam1Trip					1						1			1		
FWGmw-016	FWGFWGmw-016-0351-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam1Trip					1						1			1		
LL10mw-003	FWGLL10mw-003C-0361-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam4Trip				1										1		
LL12mw-185	FWGLL12mw-185C-0362-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip													1	1		
LL12mw-187	FWGLL12mw-187C-0363-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam1Trip				1	1				1		1			1	1	
LL12mw-242	FWGLL12mw-242C-0364-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam1Trip				1	1				1		1			1	1	
LL12mw-245	FWGLL12mw-245C-0365-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip	Y <sup>b</sup>			1	1				1		1			1	1	
LL12mw-247	FWGLL12mw-247-0366-GW/GF	8/20/2013	GW	DUP3-0338	EQUIPRinse2-0341	FWGTeam1Trip		FWGLL12mw-247-0334s-GW/GF	TRIPBLANK	1	1				1		1			1	1	1
LL1mw-064	FWGLL1mw-064C-0352-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam4Trip					1				1		1			1		
LL1mw-065	FWGLL1mw-065C-0353-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip					1				1		1			1		
LL1mw-083	FWGLL1mw-083C-0354-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam1Trip					1				1		1			1		
LL1mw-084	FWGLL1mw-084C-0355-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam1Trip					1				1		1			1		
LL1mw-086	FWGLL1mw-086-0320-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip					1				1		1			1		
LL1mw-087	FWGLL1mw-087-0356-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam2Trip					1				1		1			1		
LL2mw-059	FWGLL2mw-059C-0357-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam1Trip				1	1						1			1		
LL2mw-265	FWGLL2mw-265C-0321-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam1Trip				1	1						1			1		
LL2mw-267	FWGLL2mw-267C-0358-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam3Trip					1						1			1		
LL3mw-238	FWGLL3mw-238C-0359-GW/GF	8/19/2013	GW		EQUIPRinse1-0340						1				1		1			1		
LL3mw-239	FWGLL3mw-239C-0322-GF	8/19/2013	GW		EQUIPRinse1-0340																1	
LL3mw-241	FWGLL3mw-241C-0360-GW/GF	8/19/2013	GW		EQUIPRinse1-0340						1				1		1			1		
LL3mw-244	FWGLL3mw-244-0323-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam3Trip					1				1		1			1		1
NTAmw-119	FWGNTAmw-119-0367-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam2Trip				1		1					1			1		
RQLmw-006	FWGRQLmw-006C-0368-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam3Trip				1				1	1	1	1	1		1	1	
RQLmw-007	FWGRQLmw-007C-0369-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam4Trip				1				1	1	1	1	1		1		
RQLmw-008	FWGRQLmw-008C-0370-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam1Trip	Y <sup>c</sup>			1				1	1	1	1	1		1		



Table 2-2. QA Table for August 2013 Sampling Event

Sample Locations	Contractor Laboratory							Government Laboratory		Requested Laboratory Analysis												
	Primary Lab Sample ID	Date	Sample Type	Assoc. QC Dup Number	Assoc. QC Rinsate Number	Assoc. QC Trip Blank Number	MS/MSD	QA Lab Sample ID	Assoc. QC Trip Blank Number	VOCs	SVOC1	SVOC1&3	SVOC1&2&3	SVOC4	Pesticides	PCBs	Explosives & Propellants	Cyanide	Nitrite/Nirate	Filtered Metals	Filtered Perchlorates	Filtered Cr+6
RQLmw-009	FWGRQLmw-009C-0371-GW/GF	8/19/2013	GW	DUP5-0377	EQUIPRinse1-0340	FWGTeam3Trip		FWGRQLmw-009C-0375s-GW/GF	TRIPBLANK	1				1	1	1	1	1		1		
RQLmw-010	FWGRQLmw-010C-0325-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam4Trip				1				1	1	1	1	1		1	1	
RQLmw-011	FWGRQLmw-011C-0326-GW/GF	8/19/2013	GW		EQUIPRinse1-0340	FWGTeam1Trip				1				1	1	1	1	1		1	1	
SCFmw-002	FWGSCFmw-002-0327-GW/GF	8/20/2013	GW	DUP6-0378 <sup>d</sup>	EQUIPRinse2-0341	FWGTeam2Trip	Y <sup>e</sup>	FWGSCFmw-002-0376s-GW/GF <sup>d</sup>			1				1		1			1		1
SCFmw-004	FWGSCFmw-004-0372-GW/GF	8/20/2013	GW		EQUIPRinse2-0341	FWGTeam2Trip					1				1		1			1		
WBGmw-006	FWGWBGmw-006C-0373-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam4Trip					1						1			1		
WBGmw-009	FWGWBGmw-009C-0374-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam1Trip					1						1			1		
WBGmw-018	FWGWBGmw-018-0328-GW/GF	8/21/2013	GW	DUP4-0339	EQUIPRinse3-0342	FWGTeam3Trip		FWGWBGmw-018-0335s-GW/GF	TRIPBLANK	1				1	1	1	1	1		1		
WBGmw-019	FWGWBGmw-019-0329-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam3Trip				1				1	1	1	1	1		1		
WBGmw-020	FWGWBGmw-020-0330-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam1Trip	Y			1				1	1	1	1	1		1		
WBGmw-021	FWGWBGmw-021-0331-GW/GF	8/21/2013	GW		EQUIPRinse3-0342	FWGTeam4Trip				1				1	1	1	1	1		1		

SVOCs (1=Phthalates, 2=Phenols, 3=PAHs, and 4=Full RVAAP RCRA suite)  
Cr+6 = Hexavalent chromium  
a = QC analysis for SVOC Explosive Propellants and Metals only  
b = No VOC or Pesticides for QC analysis  
s or Cyanide for QC analysis  
d = No Cr+6 for Duplicate and Split QC analysis  
e = MSMSD QC analysis for Cr+6 only



## SECTION 3

### RESULTS

#### 3.1 Groundwater Elevations

Groundwater elevations were measured in 280 RVAAP monitoring wells during August 13 - 21, 2013. Note that well WBGmw-012 could not be located due to overgrowth. The locations of monitoring wells at RVAAP are shown on Plate 1. The water-level measurement field sheets are presented in Appendix B. Additionally, groundwater elevation measurements are also obtained each time a groundwater sample is collected as part of the FWGWMP, although the measurements from the quarterly sampling events are not used to produce the potentiometric maps.

Water-level measurements were measured in accordance with procedures in Section 4.3.3.1 of the *Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio* (SAIC, February 2011). Water-level measurements were made from the top of the inner casing to the top of the groundwater surface using an electronic measuring tape. The depth to the bottom of the well from the top of the inner casing also was measured with the electronic measuring tape. Depth-to-water and groundwater elevations for the RVAAP wells sampled this quarter are presented in Table 3-1.

The monitoring well location map, identified as Plate 1, is included with this report. Facility-wide groundwater potentiometric maps (Plates 2, 3, 4, and 5) were created based on all RVAAP groundwater measurements taken during the August 2013 event and are also included in this report (Plates are located at the end of the report).

Plate 2 shows the potentiometric surface of unconsolidated soil at the facility from August 2013. Groundwater in the unconsolidated aquifer predominantly flows in an eastward direction; however, the unconsolidated zone shows numerous local flow variations influenced by topography and drainage patterns. The local variations in flow direction suggest: (1) groundwater in the unconsolidated deposits is generally in direct hydraulic communication with surface water; and (2) surface water drainage ways may also act as groundwater discharge locations. In addition, topographic ridges between surface water drainage features act as groundwater divides in the unconsolidated deposits. A groundwater mound is evident in the south-central portion of RVAAP, thereby creating localized radial flow. This feature is the result of a bedrock high associated with the underlying Homewood.

Plate 3 shows the potentiometric surface of the Homewood formation at the facility from August 2013. The Homewood is only found in the western portion of RVAAP and generally occurs as cap rock. It appears from the limited number of wells that have penetrated this formation that the general flow is to the east-southeast. However, a groundwater mound is present in the vicinity of the Fuze and Booster wells, which produces a localized radial flow pattern in this area of RVAAP that is at least partially influenced by a buried valley to the north and west.



Table 3-1. August 2013 FWGWMP Monitoring Well Measurements

Well	Monitoring Zone	Top of Casing (TOC) Elevation <sup>a</sup> (ft)	Annual Groundwater Elevation (ft) July/2012	Quarterly Groundwater Elevation (ft) Oct/2012	Semi Annual Groundwater Elevation (ft) Jan/2013	Annual Groundwater Elevation (ft) Aug/2013	Depth to Water below TOC (ft) Aug/2013	Reported Construction Depth from TOC <sup>a</sup> (ft)	Measured Depth from TOC (ft) Aug/2013	Differential - Reported Construction / Measured Depth (ft) Aug/2013	Description of Bottom Aug/2013
B12mw-013	Sharon	1004.48	985.56	982.74	982.03	986.85	17.63	24.25	24.16	0.09	hard
BKGmw-010	Sharon	1006.18	987.94	NM	NM	990.73	15.45	21.60	21.98	-0.38	hard
DA2mw-114	Sharon Shale	1031.90	1026.11	1026.17	1026.61	1026.20	5.70	21.80	21.75	0.05	medium
DA2mw-115	Sharon	1038.08	1031.34	1030.96	1031.54	1031.98	6.10	46.80	46.79	0.01	medium
DET-001B	Unconsolidated	1065.85	1041.36	NM	NM	1043.35	22.50	40.50	38.88	1.62	medium
DET-002	Unconsolidated	1061.24	1028.38	NM	NM	1028.55	32.69	40.00	41.99	-1.99	medium
DET-003	Unconsolidated	1036.81	1026.99	NM	1027.38	1027.18	9.63	13.00	15.99	-2.99	hard
DET-004	Unconsolidated	1038.68	1027.78	NM	1028.39	1027.80	10.88	12.00	13.80	-1.80	hard
EBGmw-131	Sharon	950.08	938.39	938.58	940.72	940.39	9.69	73.10	73.40	-0.30	hard
FBQmw-174	Homewood	1139.97	1122.33	NM	NM	1124.57	15.40	26.20	23.14	3.06	hard
FWGmw-002	Unconsolidated	973.10	949.10	948.91	949.96	949.81	23.29	70.05	69.80	0.25	hard
FWGmw-004	Unconsolidated	1037.15	1020.74	1020.40	1023.81	1024.06	13.09	22.60	22.45	0.15	hard
FWGmw-006	Unconsolidated	1184.33	1174.08	1172.64	1178.21	1178.02	6.31	19.25	19.24	0.01	hard
FWGmw-007	Unconsolidated	1075.41	1051.22	1050.57	1050.89	1051.69	23.72	32.35	32.16	0.19	hard
FWGmw-009	Unconsolidated	1102.14	1099.05	1099.84	frozen	1099.30	2.84	20.40	20.32	0.08	medium
FWGmw-011	Unconsolidated	941.61	937.13	938.99	940.88	938.77	2.84	17.80	17.69	0.11	hard
FWGmw-012	Sharon Shale	941.39	938.46	938.75	940.55	940.15	1.24	42.45	42.41	0.04	hard
FWGmw-015	Unconsolidated	1014.51	1005.77	1005.50	1009.89	1009.47	5.04	26.35	26.21	0.14	hard
FWGmw-016	Sharon	1014.39	996.09	995.67	997.50	998.12	16.27	67.50	67.45	0.05	hard
LL1mw-064	Unconsolidated	935.10	931.78	NM	933.88	933.89	1.21	21.10	21.07	0.03	hard
LL1mw-065	Unconsolidated	944.41	930.39	NM	937.32	933.65	10.76	23.40	22.96	0.44	hard
LL1mw-083	Sharon	995.20	963.14	NM	NM	964.15	31.05	41.70	41.41	0.29	hard
LL1mw-084	Sharon	998.73	968.24	NM	NM	971.62	27.11	39.30	38.93	0.37	hard
LL1mw-086	Unconsolidated	940.63	930.71	930.73	933.28	933.56	7.07	77.38	77.82	-0.44	soft
LL1mw-087	Unconsolidated	944.32	932.95	936.90	939.48	939.09	5.23	18.55	18.09	0.46	medium
LL2mw-059	Sharon	966.67	953.04	NM	952.98	953.84	12.83	21.80	21.84	-0.04	hard
LL2mw-265	Sharon	961.24	950.93	NM	951.18	951.93	9.31	23.80	24.52	-0.72	hard
LL2mw-267	Sharon	1014.81	1002.92	NM	NM	1005.87	8.94	22.00	22.12	-0.12	hard
LL3mw-238	Sharon	1006.91	987.96	NM	NM	991.77	15.14	22.90	23.44	-0.54	hard
LL3mw-239	Sharon	1003.50	977.36	NM	NM	980.68	22.82	36.80	37.00	-0.20	soft
LL3mw-241	Sharon	994.65	978.87	NM	986.00	985.54	9.11	25.10	25.67	-0.57	hard
LL3mw-244	Sharon	988.78	974.24	972.36	979.89	978.55	10.23	47.25	46.94	0.31	hard
LL10mw-003	Homewood	1130.28	1108.66	NM	1109.65	1110.42	19.86	28.90	28.55	0.35	hard
LL12mw-185	Unconsolidated	981.31	972.92	NM	973.18	974.96	6.35	23.20	23.23	-0.03	hard
LL12mw-187	Unconsolidated	979.94	968.89	NM	970.51	971.49	8.45	29.40	29.85	-0.45	hard
LL12mw-242	Unconsolidated	981.20	970.46	NM	972.76	973.37	7.83	28.30	28.64	-0.34	hard
LL12mw-245	Unconsolidated	980.04	971.68	NM	971.16	973.03	7.01	30.50	30.00	0.50	soft
LL12mw-247	Unconsolidated	984.25	977.46	978.24	979.79	979.76	4.49	22.60	22.60	0.00	hard



Table 3-1. August 2013 FWGWMP Monitoring Well Measurements

Well	Monitoring Zone	Top of Casing (TOC) Elevation <sup>a</sup> (ft)	Annual Groundwater Elevation (ft) July/2012	Quarterly Groundwater Elevation (ft) Oct/2012	Semi Annual Groundwater Elevation (ft) Jan/2013	Annual Groundwater Elevation (ft) Aug/2013	Depth to Water below TOC (ft) Aug/2013	Reported Construction Depth from TOC <sup>a</sup> (ft)	Measured Depth from TOC (ft) Aug/2013	Differential - Reported Construction / Measured Depth (ft) Aug/2013	Description of Bottom Aug/2013
NTAmw-119	Unconsolidated	1080.07	1067.17	1066.29	1067.32	1067.77	12.30	104.60	104.65	-0.05	hard
RQLmw-006	Sharon	995.39	961.56	NM	NM	961.91	33.48	41.40	42.03	-0.63	hard
RQLmw-007	Sharon	965.91	959.67	NM	958.95	960.86	5.05	18.20	18.48	-0.28	hard
RQLmw-008	Sharon	966.08	959.70	NM	959.24	960.58	5.50	18.50	18.67	-0.17	hard
RQLmw-009	Sharon	964.58	959.56	NM	958.92	960.18	4.40	18.40	18.80	-0.40	hard
RQLmw-010	Sharon	982.14	956.69	NM	NM	958.08	24.06	35.10	35.34	-0.24	hard
RQLmw-011	Sharon	976.57	954.38	NM	NM	955.97	20.60	34.60	35.36	-0.76	hard
SCFmw-002	Sharon Cong.	984.56	966.28	963.78	965.24	965.94	18.62	149.65	150.10	-0.45	medium
SCFmw-004	Sharon Cong.	944.17	943.72	NM	944.17	944.37	-0.20	112.47	112.50	-0.03	hard
WBGmw-006	Unconsolidated	1014.66	1004.67	NM	1007.22	1007.03	7.63	20.40	20.14	0.26	hard
WBGmw-009	Unconsolidated	1047.53	1032.35	NM	1033.68	1034.45	13.08	24.00	24.27	-0.27	medium
WBGmw-018	Unconsolidated	991.45	969.75	966.65	973.91	974.00	17.45	24.80	24.77	0.03	hard
WBGmw-019	Sharon	990.25	971.87	971.51	973.02	973.38	16.87	50.50	50.48	0.02	medium
WBGmw-020	Sharon	1044.31	1030.29	1029.47	1031.16	1031.69	12.62	43.80	43.59	0.21	medium
WBGmw-021	Sharon	1010.92	1000.27	1000.04	1001.69	1001.50	9.42	43.10	43.08	0.02	hard

*a* = Elevations are in feet above mean sea level (amsl)

NM = New wells added to the sampling schedule, not measured in all quarters

ft = feet

TOC= top of casing



Plate 4 shows the potentiometric surface of the upper Sharon formation at the facility from August 2013. The bedrock potentiometric map shows a regional eastward flow direction. However, a groundwater mound is evident in the vicinity of Load Line 2 on Plate 4, thereby creating localized radial flow. In addition, the upper portion of the Sharon is in direct communication with surface water at Sand Creek in the vicinity of Demolition Area #2.

Plate 5 shows the potentiometric surface of the basal Sharon formation from August 2013. Groundwater flow in the conglomeratic sandstone facies is to the east beneath RVAAP. The groundwater elevations from the deep Sharon Conglomerate wells were evaluated and determined not to be representative of the water table aquifer. These wells were installed with their screened intervals positioned at the basal portion of the Sharon Conglomerate sandstone.

### **3.2 Summary of Analytical Results**

Summaries of laboratory analytical results are presented in Tables 3-2, 3-3, 3-5, 3-6, 3-7, and 3-8. Appendix C presents the Laboratory Data Sheets. A brief summary of the detected compounds and elements are presented in the following sub-sections. The data presented in the tables are the validated and verified data. Data verification and validation is discussed in Section 3.3 and Appendix C.

As part of the ongoing RI for the facility-wide groundwater, detected and validated analytes from the monitoring wells will be subjected to a risk screening process that will be detailed in the *FWGWMP Remedial Investigation/Feasibility Study Work Plan*. Note that negotiations concerning the risk assessment methodologies including the existing background criteria are ongoing and the results of the negotiations will result in revisions to the risk process. As a result reference to the background criteria and the risk evaluation process have been removed from this document.

Additionally, please note the following:

- As discussed in Section 3.3 under the data validation process, data are qualified by EQM's validator following the guidelines and qualifier requirements set forth by the FWSAP, QAPP, and U.S. DoD Quality Services Manual (QSM) for Environmental Laboratories, Version 4.1, and the USACE, Louisville District, Quality Systems Manual Supplement (LS). As a result, the flags designated by EQM sometimes differ from those in the laboratory data sheets. The flags designated by the validator override any flagging of the data by the laboratory. For a complete explanation of the data qualifiers used for each constituent refer to Section 3.3 and the Data Verification Summary Reports found in Appendix C.
- For purposes of consistency, all detected concentrations that are elevated above both the method detection limit (MDL) and the above-referenced screening levels are called out in the following text. In the tables, the compounds and elements that were detected above the MDL are presented in bold numbers. This includes constituents flagged as estimated.



- Several analytical methods used to analyze a number of explosives, VOCs, SVOCs, metals, PCBs, and pesticides currently do not meet the RVAAP QAPP project action requirements, Maximum Contaminant Levels (MCL)s or USEPA Regional Screening Levels (RSL)s. The laboratory did not meet the requirements due to the following: 1) the detection limit is a statistically derived number that varies based on analytical method and instrumentation. 2) the RSL is independent from analytical method detection limits and is calculated from EPA toxicity values and exposure information. Tables listing the reporting limits that currently do not meet the RVAAP QAPP Project Action Requirements, MCLs, and/or RSLs are presented in Appendix F.
- Note that for this event wells were sampled for specific analytes as identified in the FWGWMPP Addendum.

### **3.2.1 Explosives and Propellants**

Explosive and propellant compound analytical results are summarized in Table 3-2. The following compounds were detected at concentrations above the MDLs:

- 1,3,5-Trinitrobenzene – LL1mw-083 (6.5 micrograms per liter [ $\mu\text{g/L}$ ] J), LL1mw-084 (2.4  $\mu\text{g/L}$  J), LL2mw-059 (0.28  $\mu\text{g/L}$  J), LL3mw-238 (30  $\mu\text{g/L}$ ), LL3mw-241 (4.3  $\mu\text{g/L}$ ). There is no MCL for 1,3,5-trinitrobenzene. The RSL is 460  $\mu\text{g/L}$ .
- 1,3-Dinitrobenzene – LL1mw-083 (0.28  $\mu\text{g/L}$  J), LL1mw-084 (0.35  $\mu\text{g/L}$  J). There is no MCL for 1, 3-dinitrobenzene. The RSL is 1.5  $\mu\text{g/L}$ .
- 2,4,6-Trinitrotoluene –FBQmw-174 (18  $\mu\text{g/L}$ ), LL1mw-083 (4.5  $\mu\text{g/L}$  J), LL1mw-084 (12  $\mu\text{g/L}$  J), LL2mw-267 (0.54  $\mu\text{g/L}$ ), LL3mw-238 (79  $\mu\text{g/L}$ ), and LL3mw-241 (3.3  $\mu\text{g/L}$ ). There is no MCL for 2,4,6-trinitrotoluene. The RSL is 2.2  $\mu\text{g/L}$ .
- 2,4-Dinitrotoluene –FBQmw-174 (0.45  $\mu\text{g/L}$ ), LL1mw-083 (2.9  $\mu\text{g/L}$  J), LL1mw-084 (1.4  $\mu\text{g/L}$  J), LL2mw-059 (0.21  $\mu\text{g/L}$ ), and LL2mw-267 (0.30  $\mu\text{g/L}$ ). There is no MCL for 2,4-dinitrotoluene. The RSL is 0.2  $\mu\text{g/L}$ .
- 2,6-Dinitrotoluene – LL1mw-083 (1.5  $\mu\text{g/L}$  J), LL1mw-084 (0.95  $\mu\text{g/L}$  J), LL3mw-238 (0.52  $\mu\text{g/L}$  J), and LL3mw-241 (0.083  $\mu\text{g/L}$  J). There is no MCL for 2,6-dinitrotoluene. The RSL is 0.042  $\mu\text{g/L}$ .
- 2-Amino-4,6-dinitrotoluene – FBQmw-174 (16  $\mu\text{g/L}$ ), LL1mw-083 (14  $\mu\text{g/L}$  J), LL1mw-084 (13  $\mu\text{g/L}$  J), LL2mw-059 (0.22  $\mu\text{g/L}$ ), LL2mw-267 (1.8  $\mu\text{g/L}$ ), LL3mw-238 (19  $\mu\text{g/L}$ ), LL3mw-241 (2.9  $\mu\text{g/L}$ ), LL3mw-244 (0.65  $\mu\text{g/L}$ ). There is no MCL for 2-amino-4,6-dinitrotoluene. The RSL is 30  $\mu\text{g/L}$ .
- 4-Amino-2,6-dinitrotoluene – LL1mw-083 (28  $\mu\text{g/L}$ ), LL1mw-084 (36  $\mu\text{g/L}$ ), LL2mw-059 (0.38  $\mu\text{g/L}$ ), LL2mw-267 (1.7  $\mu\text{g/L}$ ), LL3mw-238 (37  $\mu\text{g/L}$ ) LL3mw-241 (2.9  $\mu\text{g/L}$ ),



LL3mw-244 (0.61 µg/L). There is no MCL for 4-amino-2,6-dinitrotoluene. The RSL is 30 µg/L.

- 4-Nitrotoluene – LL3mw-238 (0.53 µg/L), LL12mw-008 (0.12 µg/L). There is no MCL for 4-nitrotoluene. The RSL is 3.7 µg/L.
- Nitrate-Nitrite – LL12mw-185 (130 milligrams per liter [mg/L]), LL12mw-187 (1200 mg/L J), LL12mw-242 (0.024 mg/L J), LL12mw-245 (0.11 mg/L J), LL12mw-247 (0.024 mg/L J), SCFmw-002 (0.009 mg/L). The MCL for nitrate-nitrite is 1 mg/L. The RSL is 1.6 mg/L.
- Nitrobenzene – LL3mw-238 (0.17 µg/L J). There is no MCL for nitrobenzene. The RSL is 0.12 µg/L.
- Nitrocellulose – LL12mw-187 (1.1 µg/L), NTAmw-119 (1.8 µg/L). There is no MCL for nitrocellulose. The RSL is 4.7E+04 µg/L.
- Nitroglycerin – RQLmw-008 (0.67 µg/L). There is no MCL for nitroglycerin. The RSL is 1.5 µg/L.
- PETN – FBQmw-174 (0.31 µg/L). There is no MCL for PETN. The RSL is 16 µg/L.
- HMX – DETmw-004 (3.5 µg/L), LL1mw-084 (0.97 µg/L J), LL3mw-238 (2.2 µg/L), LL3mw-241 (0.39 µg/L J), LL3mw-244 (0.066 µg/L), WBGmw-006 (5.6 µg/L), WBGmw-009 (1.2 µg/L), and WBGmw-018 (0.14 µg/L). There is no MCL for HMX. The RSL is 780 µg/L.
- RDX – DETmw-004 (2.3 µg/L), FBQmw-174 (0.31 µg/L), LL1mw-084 (2.1 µg/L J), LL2mw-267 (1.5 µg/L), LL3mw-238 (7.2 µg/L), LL3mw-241 (0.98 µg/L J), LL3mw-244 (0.34 µg/L J), WBGmw-006 (15 µg/L), WBGmw-009 (3.5 µg/L) and WBGmw-018 (0.35 µg/L). There is no MCL for RDX. The RSL is 0.61 µg/L.

As shown in Table 3-2, the following explosives or propellants were detected at levels above their corresponding MCLs or RSLs during the August 2013 sampling event:

- 2,4-Dinitrotoluene in FBQmw-174 (0.45 µg/L), LL1mw-083 (2.9 µg/L J), LL1mw-084 (1.4 µg/L J), LL2mw-059 (0.21 µg/L), and LL2mw-267 (0.30 µg/L).. There is no MCL for 2,4-dinitrotoluene. The RSL is 0.2 µg/L.
- 2,4,6-Trinitrotoluene in FBQmw-174 (18 µg/L), LL1mw-083 (4.5 µg/L J), LL1mw-084 (12 µg/L J), LL3mw-238 (79 µg/L), and LL3mw-241 (3.3 µg/L). There is no MCL for 2,4,6-trinitrotoluene. The RSL is 2.2 µg/L.



- 2,6-Dinitrotoluene in LL1mw-083 (1.5 µg/L J), LL1mw-084 (0.95 µg/L J), LL3mw-238 (0.52 µg/L J), LL3mw-241 (0.083 µg/L J), and RQLmw-008 (0.14 µg/L J). There is no MCL for 2,6-dinitrotoluene. The RSL is 0.042 µg/L.
- 4-Amino-2,6-dinitrotoluene in LL1mw-084 (36 µg/L), and LL3mw-238 (37 µg/L). There is no MCL for 4-amino-2,6-dinitrotoluene. The RSL is 30 µg/L.
- Nitrate-Nitrite in LL12mw-185 (130 mg/L), LL12mw-187 (1200 mg/L J). The MCL for nitrate-nitrite is 1 mg/L. The RSL is 1.6 mg/L.
- Nitrobenzene in LL3mw-238 (0.17 µg/L J). There is no MCL for nitrobenzene. The RSL is 0.12 µg/L.
- RDX in DETmw-004 (2.3 µg/L), LL1mw-084 (2.1 µg/L J), LL2mw-267 (1.5 µg/L), LL3mw-238 (7.2 µg/L), LL3mw-241 (0.98 µg/L J), and WBGmw-006 (15 µg/L), WBGmw-009 (3.5 µg/L). There is no MCL for RDX. The RSL is 0.61 µg/L.



**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				DA2mw-114	DA2mw-115	DETmw-001	DETmw-002	DETmw-003	DETmw-004	EBGmw-131
Sample ID		MCL	USEPA RSL	FWGDA2mw-114-0312-GW	FWGDA2mw-115-0313-GW	FWGDETmw-001C-0314-GW	FWGDETmw-002C-0315-GW	FWGDETmw-003C-0343-GW	FWGDETmw-004C-0344-GW	FWGEBGmw-131-0316-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20-21/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,3,5-Trinitrobenzene	µg/L	NS	460	0.053 U	0.055 U	0.059 U	0.053 U	0.053 U	0.058 U	0.051 U
1,3-Dinitrobenzene	µg/L	NS	1.5	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
2,4,6-Trinitrotoluene	µg/L	NS	2.2	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
2,4-Dinitrotoluene	µg/L	NS	0.20	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
2,6-Dinitrotoluene	µg/L	NS	0.042	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
2-Nitrotoluene	µg/L	NS	0.27	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
3-Nitrotoluene	µg/L	NS	1.3	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
4-Nitrotoluene	µg/L	NS	3.7	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
HMX	µg/L	NS	780	0.053 U	0.055 U	0.059 U	0.053 U	0.053 U	<b>3.5</b>	0.051 U
Nitrate-Nitrite	mg/L	1.0	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	µg/L	NS	0.12	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U
Nitrocellulose	mg/L	NS	4.7E+07	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Nitroglycerin	µg/L	NS	1.5	0.53 U	0.55 U	0.59 U	0.53 U	0.53 U	0.58 U	0.51 U
Nitroguanidine	µg/L	NS	1600	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
PETN	µg/L	NS	16	0.53 U	0.55 U	0.59 U	0.53 U	0.53 U	0.58 U	0.51 U
RDX	µg/L	NS	0.61	0.053 U	0.055 U	0.059 U	0.053 U	0.053 U	<b>2.3</b>	0.051 U
Tetryl	µg/L	NS	31	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.10 U

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                      N/A = Not Analyzed

**Bold** = detected compound above the MDL

RSL = USEPA Regional Screening Level, Nov 2013

MCL = Maximum Contaminant Level



**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				FBQmw-174	FWGmw-004	FWGmw-007	FWGmw-009	FWGmw-011	FWGmw-012	FWGmw-015
Sample ID		MCL	USEPA RSL	FWGFBQmw-174C-0345-GW	FWGFWGmw-004-0346-GW	FWGFWGmw-007-0347-GW	FWGFWGmw-009-0319-GW	FWGFWGmw-011-0348-GW	FWGFWGmw-012-0349-GW	FWGFWGmw-015-0350-GW
Date Collected				8/20/2013	8/19/2013	8/21/2013	8/21/2013	8/20/2013	8/20/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,3,5-Trinitrobenzene	µg/L	NS	460	0.051 U	0.050 U	0.051 U	0.050 U	0.053 U	0.053 U	0.051 U
1,3-Dinitrobenzene	µg/L	NS	1.5	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
2,4,6-Trinitrotoluene	µg/L	NS	2.2	<b>18</b>	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
2,4-Dinitrotoluene	µg/L	NS	0.20	<b>0.45</b>	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
2,6-Dinitrotoluene	µg/L	NS	0.042	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	<b>16</b>	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
2-Nitrotoluene	µg/L	NS	0.27	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
3-Nitrotoluene	µg/L	NS	1.3	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
4-Nitrotoluene	µg/L	NS	3.7	0.051 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
HMX	µg/L	NS	780	0.10 U	0.050 U	0.051 U	0.050 U	0.053 U	0.053 U	0.051 U
Nitrate-Nitrite	mg/L	1.0	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	µg/L	NS	0.12	1.0 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U
Nitrocellulose	mg/L	NS	4.7E+07	0.51 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Nitroglycerin	µg/L	NS	1.5	6.0 U	0.50 U	0.51 U	0.50 U	0.53 U	0.53 U	0.51 U
Nitroguanidine	µg/L	NS	1600	0.51 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
PETN	µg/L	NS	16	<b>0.31</b>	0.50 U	0.51 U	0.50 U	0.53 U	0.53 U	0.51 U
RDX	µg/L	NS	0.61	0.10 U	0.050 U	0.051 U	0.050 U	0.053 U	0.053 U	0.051 U
Tetryl	µg/L	NS	31	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                  N/A = Not Analyzed

**Bold** = detected compound above the MDL

RSL = USEPA Regional Screening Level, Nov 2013

MCL = Maximum Contaminant Level



**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				FWGmw-016	LL1mw-064	LL1mw-065	LL1mw-083	LL1mw-084	LL1mw-086	LL1mw-087
Sample ID		MCL	USEPA RSL	FWGFWGmw-016-0351-GW	FWGLL1mw-064C-0352-GW	FWGLL1mw-065C-0353-GW	FWGLL1mw-083C-0354-GW	FWGLL1mw-084C-0355-GW	FWGLL1mw-086-0320-GW	FWGLL1mw-087C-0356-GW
Date Collected				8/19/2013	8/20/2013	8/20/2013	8/20/2013	8/21/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,3,5-Trinitrobenzene	µg/L	NS	460	0.050 U	0.057 U	0.051 U	<b>6.5 J</b>	<b>2.4 J</b>	0.051 U	0.059 U
1,3-Dinitrobenzene	µg/L	NS	1.5	0.10 U	0.11 U	0.10 U	<b>0.28 J</b>	<b>0.35 J</b>	0.10 U	0.12 U
2,4,6-Trinitrotoluene	µg/L	NS	2.2	0.10 U	0.11 U	0.10 U	<b>4.5 J</b>	<b>12 J</b>	0.10 U	0.12 U
2,4-Dinitrotoluene	µg/L	NS	0.20	0.10 U	0.11 U	0.10 U	<b>2.9 J</b>	<b>1.4 J</b>	0.10 U	0.12 U
2,6-Dinitrotoluene	µg/L	NS	0.042	0.10 U	0.11 U	0.10 U	<b>1.5 J</b>	<b>0.95 J</b>	0.10 U	0.12 U
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	0.10 U	0.11 U	0.10 U	<b>14 J</b>	<b>13 J</b>	0.10 U	0.12 U
2-Nitrotoluene	µg/L	NS	0.27	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U
3-Nitrotoluene	µg/L	NS	1.3	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	0.10 U	0.11 U	0.10 U	<b>28</b>	<b>36</b>	0.10 U	0.12 U
4-Nitrotoluene	µg/L	NS	3.7	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U
HMX	µg/L	NS	780	0.050 U	0.057 U	0.051 U	0.051 U	<b>0.97 J</b>	0.051 U	0.059 U
Nitrate-Nitrite	mg/L	1.0	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	µg/L	NS	0.12	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U
Nitrocellulose	mg/L	NS	4.7E+07	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Nitroglycerin	µg/L	NS	1.5	0.50 U	0.57 U	0.51 U	0.51 U	0.52 U	0.51 U	0.59 U
Nitroguanidine	µg/L	NS	1600	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
PETN	µg/L	NS	16	0.50 U	0.57 U	0.51 U	0.51 U	0.52 U	0.51 U	0.59 U
RDX	µg/L	NS	0.61	0.050 U	0.057 U	0.051 U	0.051 U	<b>2.1 J</b>	0.051 U	0.059 U
Tetryl	µg/L	NS	31	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                      N/A = Not Analyzed

**Bold** = detected compound above the MDL

RSL = USEPA Regional Screening Level, Nov 2013

MCL = Maximum Contaminant Level



**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				LL2mw-059	LL2mw-265	LL2mw-267	LL3mw-238	LL3mw-241	LL3mw-244	LL12mw-185
Sample ID		MCL	USEPA RSL	FWGLL2mw-059C-0357-GW	FWGLL2mw-265C-0321-GW	FWGLL2mw-267C-0358-GW	FWGLL3mw-238C-0359-GW	FWGLL3mw-241C-0360-GW	FWGLL3mw-244C-0323-GW	FWGLL12mw-187C-0363-GW
Date Collected				8/20/2013	8/21/2013	8/21/2013	8/19/2013	8/19/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,3,5-Trinitrobenzene	µg/L	NS	460	<b>0.28 J</b>	0.051 U	0.051 U	<b>30</b>	<b>4.3</b>	0.054 U	N/A
1,3-Dinitrobenzene	µg/L	NS	1.5	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	N/A
2,4,6-Trinitrotoluene	µg/L	NS	2.2	0.10 U	0.10 U	<b>0.54</b>	<b>79</b>	<b>3.3</b>	0.11 U	N/A
2,4-Dinitrotoluene	µg/L	NS	0.20	<b>0.21</b>	0.10 U	<b>0.30</b>	0.11 U	0.10 U	0.11 U	N/A
2,6-Dinitrotoluene	µg/L	NS	0.042	0.10 U	0.10 U	0.10 U	<b>0.52 J</b>	<b>0.083 J</b>	0.11 U	N/A
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	<b>0.22</b>	0.10 U	<b>1.8</b>	<b>19</b>	<b>2.9</b>	<b>0.65</b>	N/A
2-Nitrotoluene	µg/L	NS	0.27	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	N/A
3-Nitrotoluene	µg/L	NS	1.3	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	N/A
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	<b>0.38</b>	0.10 U	<b>1.7</b>	<b>37</b>	<b>2.9</b>	<b>0.61</b>	N/A
4-Nitrotoluene	µg/L	NS	3.7	0.10 U	0.10 U	0.10 U	<b>0.53</b>	0.10 U	0.11 U	N/A
HMX	µg/L	NS	780	0.050 U	0.051 U	0.051 U	<b>2.2</b>	<b>0.39 J</b>	<b>0.066</b>	N/A
Nitrate-Nitrite	mg/L	1.0	1.6	N/A	N/A	N/A	N/A	N/A	N/A	<b>130</b>
Nitrobenzene	µg/L	NS	0.12	0.10 U	0.10 U	0.10 U	<b>0.17 J</b>	0.10 U	0.11 U	N/A
Nitrocellulose	mg/L	NS	4.7E+07	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A
Nitroglycerin	µg/L	NS	1.5	0.50 U	0.51 U	0.51 U	0.53 U	0.50 U	0.54 U	N/A
Nitroguanidine	µg/L	NS	1600	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	N/A
PETN	µg/L	NS	16	0.50 U	0.51 U	0.51 U	0.53 U	0.50 U	0.54 U	N/A
RDX	µg/L	NS	0.61	0.050 U	0.051 U	<b>1.5</b>	<b>7.2</b>	<b>0.98</b>	<b>0.34</b>	N/A
Tetryl	µg/L	NS	31	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	N/A

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                      N/A = Not Analyzed

**Bold** = detected compound above the MDL

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MCL = Maximum Contaminant Level



**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				LL12mw-187	L12mw-242	LL12mw-245	LL12mw-247	NTAmw-119	RQLmw-006	RQLmw-007
Sample ID		MCL	USEPA RSL	FWGLL12mw-187C-0363-GW	FWGLL12mw-242C-0364-GW	FWGLL12mw-245C-0365-GW	FWGLL12mw-247-0336-GW	FWGNTAmw-119-0367-GW	FWGRQLmw-006C-0368-GW	FWGRQLmw-007C-0369-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/21/2013	8/19/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,3,5-Trinitrobenzene	µg/L	NS	460	0.053 U	0.053 U	0.054 U	0.054 U	0.051 U	0.051 U	0.051 U
1,3-Dinitrobenzene	µg/L	NS	1.5	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
2,4,6-Trinitrotoluene	µg/L	NS	2.2	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
2,4-Dinitrotoluene	µg/L	NS	0.20	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
2,6-Dinitrotoluene	µg/L	NS	0.042	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
2-Nitrotoluene	µg/L	NS	0.27	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
3-Nitrotoluene	µg/L	NS	1.3	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
4-Nitrotoluene	µg/L	NS	3.7	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
HMX	µg/L	NS	780	0.053 U	0.053 U	0.054 U	0.054 U	0.051 U	0.051 U	0.051 U
Nitrate-Nitrite	mg/L	1.0	1.6	<b>1200</b>	<b>0.024</b>	<b>0.11</b>	<b>0.024</b>	N/A	N/A	N/A
Nitrobenzene	µg/L	NS	0.12	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U
Nitrocellulose	mg/L	NS	4.7E+07	<b>1.1 J</b>	1.0 UJ	1.0 UJ	1.0 UJ	<b>1.8</b>	1.0 U	1.0 U
Nitroglycerin	µg/L	NS	1.5	0.53 U	0.53 U	0.54 U	0.54 U	0.51 U	0.51 U	0.51 U
Nitroguanidine	µg/L	NS	1600	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
PETN	µg/L	NS	16	0.53 U	0.53 U	0.54 U	0.54 U	0.51 U	0.51 U	0.51 U
RDX	µg/L	NS	0.61	0.053 U	0.053 U	0.054 U	0.054 U	0.051 U	0.051 U	0.051 U
Tetryl	µg/L	NS	31	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                      N/A = Not Analyzed

**Bold** = detected compound above the MDL

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MCL = Maximum Contaminant Level



**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				RQLmw-008	RQLmw-009	RQLmw-010	RQLmw-011	SCFmw-002	SCFmw-004
Sample ID		MCL	USEPA RSL	FWGRQLmw-008C-0370-GW	FWGRQLmw-009C-0371-GW	FWGRQLmw-010C-0325-GW	FWGRQLmw-011C-0326-GW	FWGSCFmw-002-0327-GW	FWGSCFmw-004-0372-GW
Date Collected				8/19/2013	8/19/2013	8/19/2013	8/19/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
1,3,5-Trinitrobenzene	µg/L	NS	460	0.051 U	0.051 U	0.051 U	0.050 U	0.057 U	0.053 U
1,3-Dinitrobenzene	µg/L	NS	1.5	0.10 U	0.10 U	0.10 U	0.10 U	0.064 UJ	0.11 U
2,4,6-Trinitrotoluene	µg/L	NS	2.2	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
2,4-Dinitrotoluene	µg/L	NS	0.20	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
2,6-Dinitrotoluene	µg/L	NS	0.042	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
2-Nitrotoluene	µg/L	NS	0.27	0.10 UJ	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
3-Nitrotoluene	µg/L	NS	1.3	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
4-Nitrotoluene	µg/L	NS	3.7	<b>0.12</b>	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U
HMX	µg/L	NS	780	0.051 U	0.051 U	0.051 U	0.050 U	0.057 U	0.053 U
Nitrate-Nitrite	mg/L	1.0	1.6	N/A	N/A	N/A	N/A	<b>0.0090 J</b>	N/A
Nitrobenzene	µg/L	NS	0.12	0.10 U	0.10 U	0.10 U	0.10 U	2.6 U	0.11 U
Nitrocellulose	mg/L	NS	4.7E+07	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Nitroglycerin	µg/L	NS	1.5	<b>0.67</b>	0.51 U	0.51 U	0.50 U	0.57 U	0.53 U
Nitroguanidine	µg/L	NS	1600	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
PETN	µg/L	NS	16	0.51 U	0.51 U	0.51 U	0.50 U	0.57 U	0.53 U
RDX	µg/L	NS	0.61	0.051 U	0.051 U	0.051 U	0.050 U	0.057 U	0.053 U
Tetryl	µg/L	NS	31	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                      N/A = Not Analyzed

**Bold** = detected compound above the MDL

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**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

Station ID				WBGmw-006	WBGmw-009	WBGmw-018	WBGmw-019	WBGmw-020	WBGmw-021
Sample ID		MCL	USEPA RSL	FWGWBGmw-006C-0373-GW	FWGWBGmw-009C-0374-GW	FWGWBGmw-018-0328-GW	FWGWBGmw-019-0329-GW	FWGWBGmw-020-0330-GW	FWGWBGmw-021-0331-GW
Date Collected				8/21/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
1,3,5-Trinitrobenzene	µg/L	NS	460	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.050 U
1,3-Dinitrobenzene	µg/L	NS	1.5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2,4,6-Trinitrotoluene	µg/L	NS	2.2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2,4-Dinitrotoluene	µg/L	NS	0.20	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2,6-Dinitrotoluene	µg/L	NS	0.042	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2-Amino-4,6-dinitrotoluene	µg/L	NS	30	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2-Nitrotoluene	µg/L	NS	0.27	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
3-Nitrotoluene	µg/L	NS	1.3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
4-Amino-2,6-Dinitrotoluene	µg/L	NS	30	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
4-Nitrotoluene	µg/L	NS	3.7	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
HMX	µg/L	NS	780	<b>5.6</b>	<b>1.2</b>	<b>0.14</b>	0.051 U	0.051 U	0.050 U
Nitrate-Nitrite	mg/L	1.0	1.6	N/A	N/A	N/A	N/A	N/A	0.10 U
Nitrobenzene	µg/L	NS	0.12	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nitrocellulose	mg/L	NS	4.7E+07	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Nitroglycerin	µg/L	NS	1.5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.50 U
Nitroguanidine	µg/L	NS	1600	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
PETN	µg/L	NS	16	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.50 U
RDX	µg/L	NS	0.61	<b>15</b>	<b>3.5</b>	<b>0.35</b>	0.051 U	0.051 U	0.050 U
Tetryl	µg/L	NS	31	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

Notes:

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard                      N/A = Not Analyzed

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**Table 3-2. FWGWMP August 2013 Explosive and Propellant Analytical Results**

### Data Qualifiers

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the USACE Louisville Chemistry Guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U      The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.
  
- J      The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - Laboratory control sample (LCS) percent recoveries outside acceptance criteria.
  
- R      Data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample [e.g., the method reporting limit (MRL) verification standard was below quality control guidelines; associated sample results that were non-detect are unusable].
  
- UJ     This flag is a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated reporting limit (RL).
  
- B      The B flag is used for both organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the Contract Laboratory Program (CLP) “B” designation when used by the laboratory as an estimated value for inorganics.



### **3.2.2 Inorganic Elements**

The analytical results for inorganic elements are presented in Table 3-3. The inorganics detected in the samples included: aluminum, antimony, arsenic, barium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, thallium, vanadium, and zinc. The inorganic elements that were detected were compared against elements that are considered as essential nutrients to determine if they are to be considered as Site-Related Contaminants (SRCs). Calcium, magnesium, iron, potassium, and sodium were eliminated as potential SRCs because they are considered essential nutrients

Several inorganic compounds were detected at levels exceeding the MCLs and/or RSLs. Table 4-1 in Section 4 presents a summary of all inorganic compounds and the associated wells that had detections exceeding MCLs and/or the RSLs.

#### **Aluminum**

- LL1mw-083 (640 µg/L), LL1mw-084 (1300 µg/L), RQLmw-011 (2500 µg/L). The MCL for aluminum is 200 µg/L. The RSL is 16,000 µg/L.

#### **Arsenic**

- DETmw-001 (26 µg/L), DETmw-003 (12 µg/L), FWGmw-009 (9.8 µg/L J), FWGmw-016 (4.3 µg/L J), LL1mw-086 (3.7 µg/L J), LL2mw-059 (7.3 µg/L J), LL12mw-242 (19 µg/L), LL12mw-247 (6.3 µg/L J), RQLmw-006 (13 µg/L), RQLmw-007 (55 µg/L), RQLmw-008 (38 µg/L), RQLmw-009 (43 µg/L), SCFmw-002 (15 µg/L), WBGmw-021 (6.5 µg/L J). The MCL for arsenic is 10 µg/L. The RSL is 0.045 µg/L.

#### **Cobalt**

- LL1mw-083 (7.1 µg/L), LL1mw-084 (9.0 µg/L), LL2mw-059 (14 µg/L), LL2mw-265 (4.8 µg/L J), LL12mw-187 (9.9 µg/L), RQLmw-006 (9.2 µg/L), RQLmw-007 (7.1 µg/L), RQLmw-009 (6.0 µg/L), and RQLmw-011 (25 µg/L). There is no MCL for cobalt. The RSL is 4.7 µg/L.

#### **Cyanide**

- RQLmw-007 (0.008 µg/L J). The MCL for cyanide is 0.2 mg/L. The RSL is 0.0014 mg/L

#### **Iron**

- DA2mw-114 (920 µg/L), DA2mw-115 (720 µg/L), DETmw-001 (900 µg/L), DETmw-003 (1400 µg/L), EBGmw-131 (730 µg/L), FWGmw-009 (910 µg/L), FWGmw-011 (1900 µg/L), FWGmw-012 (2100 µg/L), FWGmw-016 (600 µg/L), LL1mw-064 (580 µg/L), LL1mw-086 (600 µg/L), LL2mw-059 (5300 µg/L), LL2mw-265 (2900 µg/L), LL2mw-267 (360 µg/L), LL12mw-242 (660 µg/L), NTAmw-119 (1500 µg/L), RQLmw-006 (54000 µg/L), RQLmw-007 (13000 µg/L), RQLmw-008 (89000 µg/L), RQLmw-009 (13000 µg/L), RQLmw-011 (4700 µg/L), SCFmw-002 (340 µg/L), WBGmw-019 (430 µg/L), WBGmw-020 (4000 µg/L), WBGmw-021 (570 µg/L). The MCL for iron is 300 µg/L. The RSL is 11000 µg/L.



## Manganese

- DA2mw-114 (82 µg/L), DA2mw-115 (110 µg/L), DETmw-001 (390 µg/L), DETmw-002 (56 µg/L), DETmw-003 (250 µg/L), EBGmw-131 (150 µg/L), FWGmw-009 (180 µg/L), FWGmw-011 (270 µg/L), FWGmw-012 (110 µg/L), FWGmw-015 (940 µg/L), FWGmw-016 (210 µg/L), LL1mw-064 (130 µg/L), LL1mw-065 (200 µg/L), LL1mw-083 (410 µg/L), LL1mw-084 (67 µg/L), LL1mw-086 (310 µg/L), LL1mw-087 (200 µg/L), LL2mw-059 (970 µg/L), LL2mw-265 (540 µg/L), LL2mw-267 (490 µg/L), LL12mw-185 (1700 µg/L), LL12mw-187 (2200 µg/L), LL12mw-242 (61 µg/L), LL12mw-245 (190 µg/L), LL12mw-247 (280 µg/L), NTAmw-119 (340 µg/L), RQLmw-006 (6800 µg/L), RQLmw-007 (2100 µg/L), RQLmw-008 (660 µg/L), RQLmw-009 (1500 µg/L), RQLmw-010 (1300 µg/L), RQLmw-011 (2300 µg/L), SCFmw-002 (70 µg/L), SCFmw-004 (740 µg/L J), WBGmw-006 (65 µg/L), WBGmw-019 (250 µg/L), WBGmw-020 (330 µg/L), WBGmw-021 (240 µg/L). The MCL for manganese is 50 µg/L. The RSL is 320 µg/L.

## Thallium

- LL12mw-245 (1.1 µg/L J), RQLmw-008 (1.2 µg/L J), RQLmw-011 (1.7 µg/L), WBGmw-009 (1.0 µg/L J). The MCL for thallium is 2 µg/L. The RSL is 0.16 µg/L

The facility-wide groundwater conditions are currently being evaluated under the remedial investigation/feasibility study. This will include an evaluation of aluminum, manganese, arsenic, cyanide, cobalt, iron, and thallium related to exceedances of MCLs/RSLs. To date there have been no elevated concentrations of the subject parameters found in the groundwater that would pose an immediate threat to human health or the environment.

### 3.2.3 Volatile Organic Compounds

The analytical results for VOCs are summarized in Table 3-4. The following VOCs were detected above the MDL for this sampling event.

- 1,2-Dichloroethene (total) – RQLmw-007 (0.18 µg/L J). There is no MCL for 1,2-dichloroethene. The RSL is 130 µg/L.
- Cis-1,2-dichloroethene – RQLmw-007 (0.18 µg/L J). The MCL for cis-1,2-dichloroethene is 70 µg/L. The RSL is 28 µg/L.
- Acetone – FWGmw-009 (1.2 µg/L B), LL12mw-059 (1.4 µg/L B), RQLmw-006 (3.4 µg/L J B), RQLmw-007 (1.2 µg/L J B), RQLmw-008 (2.3 µg/L J B), RQLmw-009 (3.2 µg/L J B), RQLmw-010 (2.5 µg/L J B). There is no MCL for acetone. The RSL is 12,000 µg/L.
- Carbon disulfide – DA2mw-115 (0.14 µg/L B), RQLmw-006 (0.16 µg/L B), NTAmw-119 (0.25 µg/L). There is no MCL for carbon disulfide. The RSL is 720 µg/L.



- Carbon tetrachloride – LL10mw-003 (4.2 µg/L). The MCL for carbon tetrachloride is 5.0 µg/L. The RSL is 0.39 µg/L.
- Chloroform – LL10mw-003 (0.56 µg/L). There is no MCL for chloroform. The RSL is 0.19 µg/L.

As shown in Table 3-4, the only VOCs detected at levels exceeding their corresponding MCLs or RSLs during the August 2013 sampling event were:

- Carbon tetrachloride in LL10mw-003 (4.2 µg/L). The MCL for carbon tetrachloride is 5.0 µg/L. The RSL is 0.39 µg/L.
- Chloroform in LL10mw-003 (0.56 µg/L). There is no MCL for chloroform. The RSL is 0.19 µg/L.

### **3.2.4 Semivolatile Organic Compounds**

The analytical results for SVOCs are summarized in Table 3-5. The following SVOCs were detected above the MDL for this sampling event.

- Anthracene – DETmw-003 (0.097 µg/L). There is no MCL for anthracene. The RSL is 1300 µg/L.
- Benzo(a)anthracene – DETmw-003 (0.15 µg/L). There is no MCL for benzo(a)anthracene. The RSL is 0.029 µg/L.
- Benzo(a)pyrene – DETmw-003 (0.12). The MCL for benzo(a)pyrene is 0.2 µg/L, The RSL is 0.0029 µg/L.
- Benzo(b)fluoranthene – DETmw-003 (0.12 µg/L). There is no MCL for benzo(b)fluoranthene. The RSL is 0.029 µg/L.
- Benzo(k)fluoranthene – DETmw-003 (0.13 µg/L). There is no MCL for benzo(k)fluoranthene. The RSL is 0.29 µg/L.
- Bis(2-ethylhexyl)phthalate – DA2mw-114 (0.35 µg/L B), DA2mw-115 (0.56 µg/L B), DETmw-001 (3.4 µg/L B), DETmw-002 (0.35 µg/L B), DETmw-003 (0.78 µg/L B), DETmw-004 (1.4 µg/L B), EBGmw-131 (0.38 µg/L), FBQmw-174 (0.82 µg/L B), FWGmw-009 (0.34 µg/L B), FWGmw-004 (0.25 µg/L B), FWGmw-007 (0.48 µg/L B), FWGmw-011 (13 µg/L), FWGmw-012 (0.74 µg/L B), FWGmw-015 (0.45 µg/L B), FWGmw-016 (0.32 µg/L B), LL1mw-064 (0.61 µg/L B), LL1mw-065 (0.5 µg/L B), LL1mw-083 (1.1 µg/L B), LL1mw-084 (1.8 µg/L B), LL1mw-086 (1.2 µg/L B), LL1mw-087 (0.86 µg/L B), LL2mw-059 (1.4 µg/L B), LL2mw-265 (1.5 µg/L B), LL2mw-267 (0.62 µg/L B), LL3mw-238 (0.39 µg/L B), LL3mw-241 (0.57 µg/L B), LL3mw-244 (0.46 µg/L B), LL12mw-187 (0.65 µg/L B), LL12mw-245 (0.68 µg/L B)



LL12mw-247 (0.55 µg/L J), NTAmw-119 (0.42 µg/L B), RQLmw-006 (0.51 µg/L B), RQLmw-007 (0.46 µg/L J), RQLmw-009 (0.37 µg/L B), RQLmw-010 (0.63 µg/L), RQLmw-011 (0.22 µg/L B), SCFmw-004 (0.95 µg/L B), WBGmw-006 (0.74 µg/L B), WBGmw-009 (0.64 µg/L B), WBGmw-018 (0.31 µg/L J B), WBGmw-019 (0.49 µg/L B), WBGmw-020 (0.54 µg/L B), and WBGmw-021 (0.65 µg/L B). The MCL for bis(2-ethylhexyl)phthalate is 6 µg/L. The RSL is 4.8 µg/L.

- Butyl benzyl phthalate – LL12mw-242 (0.35 µg/L J). There is no MCL for butyl benzyl phthalate. The RSL is 14 µg/L.
- Chrysene – DETmw-003 (0.11 µg/L). There is no MCL for chrysene. The RSL is 2.9 µg/L.
- Di-n-butyl phthalate – DA2mw-115 (0.64 µg/L J), DETmw-001 (0.70 µg/L J), DETmw-003 (0.99 µg/L), DETmw-004 (0.85 µg/L B), FBQmw-174 (1.1 µg/L B), FWGmw-011 (1.7 µg/L), FWGmw-012 (0.74 µg/L J), LL1mw-064 (0.91 µg/L J), LL1mw-083 (1.6 µg/L B), LL1mw-084 (1.1 µg/L B), LL1mw-086 (0.86 µg/L B), LL1mw-087 (0.84 µg/L J), LL2mw-059 (1.5 µg/L B), LL2mw-265 (1.4 µg/L B), LL2mw-267 (0.81 µg/L B), LL3mw-244 (0.69 µg/L J), LL12mw-187 (0.84 µg/L J), LL12mw-242 (1.4 µg/L), LL12mw-247 (0.67 µg/L J), RQLmw-007 (0.78 µg/L J), RQLmw-010 (1.0 µg/L), SCFmw-004 (0.84 µg/L J), WBGmw-009 (0.75 µg/L B), WBGmw-019 (0.84 µg/L), WBGmw-020 (0.76 µg/L B), WBGmw-021 (0.68 µg/L B), and NTAmw-119 (0.72 µg/L B). There is no MCL for di-n-butyl phthalate. The RSL is 670 µg/L.
- Fluoranthene – DETmw-003 (0.13 µg/L). There is no MCL for fluoranthene. The RSL is 630 µg/L.
- Fluorene – RQLmw-008 (0.19 µg/L). There is no MCL for fluorene. The RSL is 220 µg/L.
- Phenanthrene – DETmw-003 (0.12 µg/L). There is no MCL or RSL for phenanthrene.
- Pyrene – DETmw-003 (0.13 µg/L). There is no MCL for pyrene. The RSL is 87 µg/L.
- Naphthalene – NTAmw-119 (0.11 µg/L). There is no MCL for naphthalene. The RSL is 0.14 µg/L.

As shown in Table 3-5, the following SVOCs were detected at levels exceeding either their corresponding MCLs or RSLs:

- Benzo(a)anthracene in DETmw-003 (0.15 µg/L). There is no MCL for benzo(a)anthracene. The RSL is 0.029 µg/L.



- Benzo(a)pyrene in DETmw-003 (0.12 µg/L). The MCL for benzo(a)pyrene is 0.2 µg/L, The RSL is 0.0029 µg/L.
- Benzo(b)fluoranthene in DETmw-003 (0.12 µg/L). There is no MCL for benzo(b)fluoranthene. The RSL is 0.029 µg/L.

### **3.2.5 Pesticides and Polychlorinated Biphenyls**

The analytical results for pesticides and PCBs are summarized in Table 3-6. The following pesticides and PCBs were detected above the MDL for this sampling event.

- beta-BHC – DA2mw-115 (0.015 µg/L J), DETmw-002 (0.011 µg/L J), DETmw-003 (0.015 µg/L J), LL1mw-084 (0.069 µg/L), LL3mw-244 (0.025 µg/L J), LL12mw-245 (0.011 µg/L J), LL12mw-247 (0.18 µg/L J), RQLmw-006 (0.013 µg/L J B), RQLmw-008 (0.0093 µg/L J B), SCFmw-002 (0.014 µg/L J), SCFmw-004 (0.0087 µg/L J), and WBGmw-019 (0.011 µg/L J). There is no MCL for beta-BHC. The RSL is 0.022 µg/L.
- 4,4'-DDE – LL3mw-238 (0.02 µg/L J), RQLmw-008 (0.038 µg/L J). There is no MCL for 4,4'-DDE. The RSL is 0.2 µg/L.
- delta-BHC – FBQmw-174 (0.019 µg/L J). There is no MCL or RSL for delta-BHC.
- Endosulfon II – LL1mw-083 (0.014 µg/L J). There is no MCL for endosulfon II. The RSL is 78 µg/L.
- Endrin – LL3mw-241 (0.027 µg/L). The MCL for endrin is 2 µg/L. The RSL is 1.7 µg/L.
- Endrin Aldehyde – LL3mw-238 (0.011 µg/L J). There is no MCL or RSL for endrin aldehyde.
- Endrin Ketone – DETmw-001 (0.012 µg/L J). There is no MCL or RSL for endrin ketone.
- gamma-Chlordane – FBQmw-174 (0.037 µg/L). There is no MCL or RSL for gamma-chlordane.

As shown in Table 3-6, the following pesticide was detected at levels exceeding either their MCLs or RSLs.

- beta-BHC in LL1mw-084 (0.069 µg/L) and LL3mw-244 (0.025 µg/L J). There is no MCL for beta-BHC. The RSL is 0.022 µg/L.



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				DA2mw-114	DA2mw-115	DETmw-001	DETmw-002	DETmw-003	DETmw-004	EBGmw-131
Sample ID		MCL	USEPA RSL	FWGDA2mw-114-0312-GF	FWGDA2mw-115-0313-GF	FWGDETmw-001C-0314-GF	FWGDETmw-002C-0315-GF	FWGDETmw-003C-0343-GF	FWGDETmw-004C-0344-GF	FWGEBGmw-131-0316-GF
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20-21/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
Aluminum	µg/L	200	16000	60 U	60 U	60 U	60 U	60 U	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 J	1.0 U
Arsenic	µg/L	10	0.045	10 U	10 U	<b>26</b>	10 U	<b>12</b>	10 U	10 U
Barium	µg/L	2000	2900	<b>30</b>	<b>21</b>	<b>22</b>	<b>37</b>	<b>48</b>	<b>80</b>	<b>110</b>
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>110000</b>	<b>100000</b>	<b>78000</b>	<b>89000</b>	<b>84000</b>	<b>160000</b>	<b>72000</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyanide	mg/L	0.20	0.0014	0.010 UJ	0.010 UJ	0.010 U	0.010 UJ	0.010 U	0.010 UJ	0.010 UJ
Iron	µg/L	300	11000	<b>920</b>	<b>720</b>	<b>900</b>	<b>93 J</b>	<b>1400</b>	100 U	<b>730</b>
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>37000</b>	<b>29000</b>	<b>32000</b>	<b>32000</b>	<b>30000</b>	<b>31000</b>	<b>29000</b>
Manganese	µg/L	50	320	<b>82</b>	<b>110</b>	<b>390</b>	<b>56</b>	<b>250</b>	<b>5.7 B</b>	<b>150</b>
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Potassium	µg/L	NS	NS	<b>4100</b>	<b>3400</b>	<b>1900</b>	<b>3100</b>	<b>1800</b>	<b>1700</b>	<b>1400</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>13000</b>	<b>12000</b>	<b>10000</b>	<b>17000</b>	<b>11000</b>	<b>2900</b>	<b>2900</b>
Thallium	µg/L	2.0	0.16	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter      mg/L = milligram per liter

NS = no standard      N/A = not analyzed

**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				FBQmw-174	FWGmw-004	FWGmw-007	FWGmw-009	FWGmw-011	FWGmw-012	FWGmw-015
Sample ID		MCL	USEPA RSL	FWGFBQmw-174C-0345-GF	FWGFWGmw-004-0346-GF	FWGFWGmw-007-0347-GF	FWGFWGmw-009-0319-GF	FWGFWGmw-011-0348-GF	FWGFWGmw-012-0349-GF	FWGFWGmw-015-0350-GF
Date Collected				8/20/2013	8/19/2013	8/21/2013	8/21/2013	8/20/2013	8/20/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
Aluminum	µg/L	200	16000	60 U	60 U	60 U	<b>60 B</b>	60 U	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic	µg/L	10	0.045	10 U	10 U	10 U	<b>9.8 J</b>	10 U	10 U	10 U
Barium	µg/L	2000	2900	<b>14</b>	<b>23</b>	<b>18</b>	<b>56</b>	<b>42</b>	<b>25</b>	<b>14</b>
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>5700</b>	<b>96000</b>	<b>100000</b>	<b>89000</b>	<b>67000</b>	<b>23000</b>	<b>340000</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	<b>1.4 J</b>	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	<b>1.8 J</b>	<b>2.9 J</b>
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyanide	mg/L	0.20	0.0014	N/A	0.010 U	N/A	0.010 UJ	N/A	N/A	N/A
Iron	µg/L	300	11000	100 U	100 U	100 U	<b>910</b>	<b>1900</b>	<b>2100</b>	100 U
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>2000</b>	<b>47000</b>	<b>52000</b>	<b>24000</b>	<b>14000</b>	<b>5600</b>	<b>260000</b>
Manganese	µg/L	50	320	<b>16</b>	<b>2.4 B</b>	<b>47</b>	<b>180</b>	<b>270</b>	<b>110</b>	<b>940</b>
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	<b>5.8</b>	5.0 U	<b>2.3 J</b>	5.0 U	5.0 U	<b>2.4 J</b>	<b>2.5 J</b>
Potassium	µg/L	NS	NS	<b>1000</b>	<b>710 J</b>	<b>1800</b>	<b>1200</b>	<b>840 J</b>	<b>830 J</b>	<b>4000</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>810</b>	<b>4700</b>	<b>7000</b>	<b>8500</b>	<b>6300</b>	<b>6700</b>	<b>44000</b>
Thallium	µg/L	2.0	0.16	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter      mg/L = milligram per li

NS = no standard

N/A = not analyzed

**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				FWGmw-016	LL1mw-064	LL1mw-065	LL1mw-083	LL1mw-084	LL1mw-086	LL1mw-087
Sample ID		MCL	USEPA RSL	FWGFWGmw-016-0351-GF	FWGLL1mw-064C-0352-GF	FWGLL1mw-065C-0353-GF	FWGLL1mw-083C-0354-GF	FWGLL1mw-084C-0355-GF	FWGLL1mw-086-0320-GF	FWGLL1mw-087C-0356-GF
Date Collected				8/19/2013	8/20/2013	8/20/2013	8/20/2013	8/21/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
Aluminum	µg/L	200	16000	<b>27 J</b>	60 U	60 U	<b>640</b>	<b>1300</b>	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic	µg/L	10	0.045	<b>4.3 J</b>	10 U	10 U	10 U	10 U	<b>3.7 J</b>	10 U
Barium	µg/L	2000	2900	<b>55</b>	<b>53</b>	<b>50</b>	<b>17</b>	<b>18</b>	<b>39</b>	<b>28</b>
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	<b>0.51 J</b>	<b>1.4</b>	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>100000</b>	<b>58000</b>	<b>75000</b>	<b>26000</b>	<b>65000</b>	<b>47000</b>	<b>99000</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	4.0 U	4.0 U	4.0 U	<b>7.1</b>	<b>9.0</b>	4.0 U	<b>1.5 J</b>
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	<b>9.1 J</b>	10 U	10 U
Cyanide	mg/L	0.20	0.0014	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	µg/L	300	11000	<b>600</b>	<b>580</b>	<b>170</b>	100 U	50 U	<b>600</b>	100 U
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>28000</b>	<b>10000</b>	<b>19000</b>	<b>5400</b>	<b>3100</b>	<b>20000</b>	<b>29000</b>
Manganese	µg/L	50	320	<b>210</b>	<b>130</b>	<b>200</b>	<b>410</b>	<b>67</b>	<b>310</b>	<b>200</b>
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	5.0 U	5.0 U	5.0 U	<b>27</b>	<b>18</b>	5.0 U	5.0 U
Potassium	µg/L	NS	NS	<b>2100</b>	<b>740 J</b>	<b>1000</b>	<b>2800</b>	<b>3600</b>	<b>19000</b>	<b>610 J</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	<b>4.9 J</b>	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>11000</b>	<b>5500</b>	<b>12000</b>	<b>7800</b>	<b>5700</b>	<b>16000</b>	<b>8900</b>
Thallium	µg/L	2.0	0.16	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	<b>39 J</b>	<b>58</b>	50 U	50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter      mg/L = milligram per li

NS = no standard      N/A = not analyzed

**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				LL2mw-059	LL2mw-265	LL2mw-267	LL3mw-238	LL3mw-241	LL3mw-244	LL10mw-003
Sample ID		MCL	USEPA RSL	FWGLL2mw-059C-0357-GF	FWGLL2mw-265C-0321-GF	FWGLL2mw-267C-0358-GF	FWGLL3mw-238C-0359-GF	FWGLL3mw-241C-0360-GF	FWGLL3mw-244-0323-GF	FWGLL10mw-003C-0361-GF
Date Collected				8/20/2013	8/21/2013	8/21/2013	8/19/2013	8/19/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
Aluminum	µg/L	200	16000	60 U	60 U	60 U	<b>27 J</b>	60 U	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	<b>0.35 J</b>	1.0 U
Arsenic	µg/L	10	0.045	<b>7.3 J</b>	10 U	10 U	10 U	10 U	10 U	10 U
Barium	µg/L	2000	2900	<b>62</b>	<b>11</b>	<b>11</b>	<b>7.9</b>	<b>5.9</b>	<b>17</b>	5.0 U
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>29000</b>	<b>81000</b>	<b>32000</b>	<b>51000</b>	<b>19000</b>	<b>24000</b>	<b>56000</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	<b>14</b>	<b>4.8</b>	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyanide	mg/L	0.20	0.0014	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	µg/L	300	11000	<b>5300</b>	<b>2900</b>	<b>360</b>	100 U	100 U	100 U	100 U
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>11000</b>	<b>24000</b>	<b>17000</b>	<b>5700</b>	<b>6500</b>	<b>8200</b>	<b>17000</b>
Manganese	µg/L	50	320	<b>970</b>	<b>540</b>	<b>490</b>	<b>2.6 B</b>	<b>3.0 B</b>	5.0 U	5.0 U
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	<b>8.1</b>	<b>12</b>	<b>3.7 J</b>	5.0 U	<b>2.2 J</b>	5.0 U	5.0 U
Potassium	µg/L	NS	NS	<b>860 J</b>	<b>710 J</b>	<b>670 J</b>	<b>2800</b>	<b>1000</b>	<b>1300</b>	<b>690 J</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>4400</b>	<b>12000</b>	<b>19000</b>	<b>3300</b>	<b>3400</b>	<b>4000</b>	<b>8600</b>
Thallium	µg/L	2.0	0.16	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter      mg/L = milligram per li

NS = no standard

N/A = not analyzed

**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				LL12mw-185	LL12mw-187	L12mw-242	LL12mw-245	LL12mw-247	NTAmw-119	RQLmw-006
Sample ID		MCL	USEPA RSL	FWGLL12mw-185C-0362-GF	FWGLL12mw-187C-0363-GF	FWGLL12mw-242C-0364-GF	FWGLL12mw-245C-0365-GF	FWGLL12mw-247-0336-GF	FWGNTAmw-119-0367-GF	FWGRQLmw-006C-0368-GF
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/21/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
Aluminum	µg/L	200	16000	60 U	60 U	<b>50 J</b>	60 U	<b>160 J</b>	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic	µg/L	10	0.045	10 U	10 U	<b>19</b>	10 U	<b>6.3 J</b>	10 U	<b>13</b>
Barium	µg/L	2000	2900	<b>50</b>	<b>280</b>	<b>26</b>	<b>28</b>	<b>27</b>	<b>86</b>	<b>7.9</b>
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>710000</b>	<b>990000</b>	<b>71000</b>	<b>160000</b>	<b>100000</b>	<b>83000</b>	<b>62000</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	<b>1.9 J</b>	<b>9.9</b>	4.0 U	<b>1.6 J</b>	4.0 U	4.0 U	<b>9.2</b>
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyanide	mg/L	0.20	0.0014	N/A	N/A	N/A	N/A	N/A	N/A	0.010 UJ
Iron	µg/L	300	11000	100 U	100 U	<b>660</b>	<b>110</b>	<b>170</b>	<b>1500</b>	<b>54000</b>
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>290000</b>	<b>300000</b>	<b>48000</b>	<b>73000</b>	<b>54000</b>	<b>22000</b>	<b>28000</b>
Manganese	µg/L	50	320	<b>1700</b>	<b>2200</b>	<b>61</b>	<b>190</b>	<b>280</b>	<b>340</b>	<b>6800</b>
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	<b>6.6</b>	<b>15</b>	5.0 U	<b>7.4</b>	5.0 U	5.0 U	<b>19</b>
Potassium	µg/L	NS	NS	<b>9200</b>	<b>54000</b>	<b>1900</b>	<b>3500</b>	<b>2700</b>	<b>1300</b>	<b>1000</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>56000</b>	<b>33000</b>	<b>39000</b>	<b>26000</b>	<b>24000</b>	<b>7200</b>	<b>1500 B</b>
Thallium	µg/L	2.0	0.16	1.5 U	1.5 U	1.5 U	<b>1.1 J</b>	1.5 U	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter      mg/L = milligram per li

NS = no standard

N/A = not analyzed

**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				RQLmw-007	RQLmw-008	RQLmw-009	RQLmw-010	RQLmw-011	SCFmw-002	SCFmw-004
Sample ID		MCL	USEPA RSL	FWGRQLmw-007C-0369-GF	FWGRQLmw-008C-0370-GF	FWGRQLmw-009C-0371-GF	FWGRQLmw-010C-0325-GF	FWGRQLmw-011C-0326-GF	FWGSCFmw-002-0327-GF	FWGSCFmw-004-0372-GF
Date Collected				8/19/2013	8/19/2013	8/19/2013	8/19/2013	8/19/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
Aluminum	µg/L	200	16000	60 U	60 U	60 U	60 U	<b>2500</b>	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic	µg/L	10	0.045	<b>55</b>	<b>38</b>	<b>43</b>	10 U	10 U	<b>15</b>	10 U
Barium	µg/L	2000	2900	<b>53</b>	<b>140</b>	<b>53</b>	5.0 U	<b>21</b>	<b>42</b>	<b>83 J</b>
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>110000</b>	<b>71000</b>	<b>30000</b>	<b>76000</b>	<b>26000</b>	<b>84000</b>	<b>150000 J</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	<b>7.1</b>	<b>1.5 J</b>	<b>6.0</b>	4.0 U	<b>25</b>	4.0 U	4.0 U
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyanide	mg/L	0.20	0.0014	<b>0.008 J</b>	0.010 U	0.010 UJ	0.010 UJ	0.010 U	N/A	N/A
Iron	µg/L	300	11000	<b>13000</b>	<b>89000</b>	<b>13000</b>	100 U	<b>4700</b>	<b>340</b>	100 U
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	<b>2.3 J</b>	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>100000</b>	<b>71000</b>	<b>39000</b>	<b>35000</b>	<b>11000</b>	<b>27000</b>	<b>60000 J</b>
Manganese	µg/L	50	320	<b>2100</b>	<b>660</b>	<b>1500</b>	<b>1300</b>	<b>2300</b>	<b>70</b>	<b>740 J</b>
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	<b>14</b>	<b>2.9 J</b>	<b>6.8</b>	<b>5.4</b>	<b>61</b>	5.0 U	5.0 U
Potassium	µg/L	NS	NS	<b>7400</b>	<b>4500</b>	<b>4200</b>	<b>2800</b>	<b>4300</b>	<b>2300</b>	<b>2700</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>5200</b>	<b>6600 B</b>	<b>1700 B</b>	<b>4000</b>	<b>1800 B</b>	<b>22000</b>	<b>11000 J</b>
Thallium	µg/L	2.0	0.16	1.5 U	<b>1.2 J</b>	1.5 U	1.5 U	<b>1.7</b>	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	50 U	<b>35 J</b>	50 U	50 U

Notes:

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µg/L = microgram per liter      mg/L = milligram per li

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**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

Station ID				WBGmw-006	WBGmw-009	WBGmw-018	WBGmw-019	WBGmw-020	WBGmw-021
Sample ID		MCL	USEPA RSL	FWGWBGmw-006C-0373-GF	FWGWBGmw-009C-0374-GF	FWGWBGmw-018-0328-GF	FWGWBGmw-019-0329-GF	FWGWBGmw-020-0330-GF	FWGWBGmw-021-0331-GF
Date Collected				8/21/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
Aluminum	µg/L	200	16000	60 U	23 U	60 U	60 U	60 U	60 U
Antimony	µg/L	6.0	6.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic	µg/L	10	0.045	10 U	10 U	10 U	10 U	10 U	<b>6.5 J</b>
Barium	µg/L	2000	2900	<b>23</b>	<b>8.3</b>	<b>20</b>	<b>62</b>	<b>17</b>	<b>62</b>
Beryllium	µg/L	4.0	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	5.0	6.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	NS	NS	<b>71000</b>	<b>29000</b>	<b>15000</b>	<b>77000</b>	<b>31000</b>	<b>74000</b>
Chromium	µg/L	100	16000	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cobalt	µg/L	NS	4.7	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Copper	µg/L	1300	620	10 U	10 U	10 U	10 U	10 U	10 U
Cyanide	mg/L	0.20	0.0014	N/A	N/A	0.010 UJ	0.010 UJ	0.010 UJ	0.010 UJ
Iron	µg/L	300	11000	100 U	100 U	100 U	<b>430</b>	<b>4000</b>	<b>570</b>
Lead	µg/L	15	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Magnesium	µg/L	NS	NS	<b>24000</b>	<b>8900</b>	<b>3400</b>	<b>22000</b>	<b>11000</b>	<b>19000</b>
Manganese	µg/L	50	320	<b>65</b>	<b>17</b>	5.0 U	<b>250</b>	<b>330</b>	<b>240</b>
Mercury	µg/L	2.0	0.63	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	NS	300	5.0 U	5.0 U	5.0 U	5.0 U	<b>3.6 J</b>	5.0 U
Potassium	µg/L	NS	NS	<b>820 J</b>	<b>370 J</b>	<b>1100</b>	<b>1800</b>	590 J	<b>1200</b>
Selenium	µg/L	50	78	10 U	10 U	10 U	10 U	10 U	10 U
Silver	µg/L	100	71	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	µg/L	NS	NS	<b>6300</b>	<b>3500</b>	<b>1800</b>	<b>8300</b>	<b>4000</b>	<b>5100</b>
Thallium	µg/L	2.0	0.16	1.5 U	<b>1.0 J</b>	1.5 U	1.5 U	1.5 U	1.5 U
Vanadium	µg/L	NS	63	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	µg/L	5000	4700	50 U	50 U	50 U	50 U	50 U	50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter      mg/L = milligram per li

NS = no standard      N/A = not analyzed

**Bold** = detected compound above the MDL



**Table 3-3. FWGWMP August 2013 Inorganics Analytical Results**

**Data Qualifiers**

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the USACE Louisville Chemistry Guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U      The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.
  
- J      The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - LCS percent recoveries outside acceptance criteria.
  
- R      Data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample [e.g., the MRL verification standard was below quality control guidelines; associated sample results that were non-detect are unusable].
  
- UJ     This flag is a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated RL.
  
- B      The B flag is used for both organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the CLP “B” designation when used by the laboratory as an estimated value for inorganics.



**Table 3-4. FWGWMP August 2013 VOC Analytical Results**

Station ID				DA2mw-114	DA2mw-115	DETmw-001	DETmw-002	DETmw-003	DETmw-004	EBGmw-131
Sample ID		MCL	USEPA RSL	FWGDA2mw-114-0312-GW	FWGDA2mw-115-0313-GW	FWGDETmw-001C-0314-GW	FWGDETmw-002C-0315-GW	FWGDETmw-003C-0343-GW	FWGDETmw-004C-0344-GW	FWGEBGmw-131-0316-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20-21/13	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,1,1-Trichloroethane	µg/L	200	7500	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	µg/L	NS	0.066	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-Trichloroethane	µg/L	5.0	0.24	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	µg/L	NS	2.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene (total)	µg/L	7.0	260	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane	µg/L	NS	0.0065	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethane	µg/L	5.0	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene (total)	µg/L	NS	130	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	µg/L	5.0	0.38	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Butanone	µg/L	NS	4900	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-Hexanone	µg/L	NS	34	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-pentanone	µg/L	NS	1000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	µg/L	NS	12000	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Benzene	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromochloromethane	µg/L	NS	83	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	µg/L	NS	0.12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	µg/L	NS	7.9	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
Bromomethane	µg/L	NS	7.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Carbon disulfide	µg/L	NS	720	0.25 U	0.14 B	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Carbon tetrachloride	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	µg/L	10	72	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloroethane	µg/L	NS	21000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	µg/L	NS	0.19	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloromethane	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-dichloroethene	µg/L	70	28	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
cis-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dibromochloromethane	µg/L	NS	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethylbenzene	µg/L	700	1.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
m&p-xylenes	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene chloride	µg/L	5.0	9.9	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-xylene	µg/L	NS	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	µg/L	100	1100	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Tetrachloroethene	µg/L	5.0	9.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	µg/L	1000	860	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,2-dichloroethene	µg/L	100	86	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichloroethene	µg/L	5.0	0.44	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	µg/L	2.0	0.015	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Total Xylenes	µg/L	10000	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

µg/L = microgram per liter      mg/L = milligram per liter

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard

**Bold** = detected compound above the MDL



Table 3-4. FWGWMP August 2013 VOC Analytical Results

Station ID				FWGmw-006	FWGmw-009	LL2mw-059	LL2mw-265	LL10mw-003	LL12mw-187	L12mw-242
Sample ID		MCL	USEPA RSL	FWGFWGmw-006-0318-GW	FWGFWGmw-009-0319-GW	FWGLL2mw-059C-0357-GW	FWGLL2mw-265C-0321-GW	FWGLL10mw-003C-0361-GW	FWGLL12mw-187C-0363-GW	FWGLL12mw-242C-0364-GW
Date Collected				8/21/2013	8/21/2013	8/20/2013	8/21/2013	8/20/2013	8-/20	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,1,1-Trichloroethane	µg/L	200	7500	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	µg/L	NS	0.066	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-Trichloroethane	µg/L	5.0	0.24	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	µg/L	NS	2.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene (total)	µg/L	7.0	260	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane	µg/L	NS	0.0065	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethane	µg/L	5.0	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene (total)	µg/L	NS	130	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	µg/L	5.0	0.38	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Butanone	µg/L	NS	4900	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-Hexanone	µg/L	NS	34	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-pentanone	µg/L	NS	1000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	µg/L	NS	12000	1.1 U	<b>1.2 B</b>	<b>1.4 B</b>	1.1 U	1.1 U	1.1 U	1.1 U
Benzene	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromochloromethane	µg/L	NS	83	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	µg/L	NS	0.12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	µg/L	NS	7.9	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
Bromomethane	µg/L	NS	7.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Carbon disulfide	µg/L	NS	720	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Carbon tetrachloride	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	<b>4.2</b>	0.25 U	0.25 U
Chlorobenzene	µg/L	10	72	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloroethane	µg/L	NS	21000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	µg/L	NS	0.19	0.25 U	0.25 U	0.25 U	0.25 U	<b>0.56</b>	0.25 U	0.25 U
Chloromethane	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-dichloroethene	µg/L	70	28	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
cis-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dibromochloromethane	µg/L	NS	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethylbenzene	µg/L	700	1.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
m&p-xylenes	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene chloride	µg/L	5.0	9.9	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-xylene	µg/L	NS	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	µg/L	100	1100	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Tetrachloroethene	µg/L	5.0	9.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	µg/L	1000	860	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,2-dichloroethene	µg/L	100	86	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichloroethene	µg/L	5.0	0.44	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	µg/L	2.0	0.015	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Total Xylenes	µg/L	10000	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

µg/L = microgram per liter mg/L = milligram per liter

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard

**Bold** = detected compound above the MDL



Table 3-4. FWGWMP August 2013 VOC Analytical Results

Station ID				LL12mw-245	LL12mw-247	NTAmw-119	RQLmw-006	RQLmw-007	RQLmw-008	RQLmw-009
Sample ID		MCL	USEPA RSL	FWGLL12mw-245C-0365-GW	FWGLL12mw-247-0336-GW	FWGNTAmw-119-0367-GW	FWGRQLmw-006C-0368-GW	FWGRQLmw-007C-0369-GW	FWGRQLmw-008C-0370-GW	FWGRQLmw-009C-0371-GW
Date Collected				8/20/2013	8/20/2013	8/21/2013	8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
1,1,1-Trichloroethane	µg/L	200	7500	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	µg/L	NS	0.066	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-Trichloroethane	µg/L	5.0	0.24	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	µg/L	NS	2.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene (total)	µg/L	7.0	260	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane	µg/L	NS	0.0065	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethane	µg/L	5.0	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene (total)	µg/L	NS	130	0.25 U	0.25 U	0.25 U	0.25 U	<b>0.18 J</b>	0.25 U	0.25 U
1,2-Dichloropropane	µg/L	5.0	0.38	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Butanone	µg/L	NS	4900	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-Hexanone	µg/L	NS	34	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-pentanone	µg/L	NS	1000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	µg/L	NS	12000	1.1 U	1.1 U	1.1 U	<b>3.4 JB</b>	<b>1.2 JB</b>	<b>2.3 JB</b>	<b>3.2 JB</b>
Benzene	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromochloromethane	µg/L	NS	83	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	µg/L	NS	0.12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	µg/L	NS	7.9	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
Bromomethane	µg/L	NS	7.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Carbon disulfide	µg/L	NS	720	0.25 U	0.25 U	<b>0.25</b>	0.16 B	0.25 U	0.25 U	0.25 U
Carbon tetrachloride	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	µg/L	10	72	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloroethane	µg/L	NS	21000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	µg/L	NS	0.19	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloromethane	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-dichloroethene	µg/L	70	28	0.25 U	0.25 U	0.25 U	0.25 U	<b>0.18 J</b>	0.25 U	0.25 U
cis-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dibromochloromethane	µg/L	NS	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethylbenzene	µg/L	700	1.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
m&p-xylenes	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene chloride	µg/L	5.0	9.9	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-xylene	µg/L	NS	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	µg/L	100	1100	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Tetrachloroethene	µg/L	5.0	9.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	µg/L	1000	860	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,2-dichloroethene	µg/L	100	86	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichloroethene	µg/L	5.0	0.44	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	µg/L	2.0	0.015	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Total Xylenes	µg/L	10000	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

µg/L = microgram per liter mg/L = milligram per liter

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard

**Bold** = detected compound above the MDL



**Table 3-4. FWGWMP August 2013 VOC Analytical Results**

Station ID				RQlmw-010	RQlmw-011	WBGmw-018	WBGmw-019	WBGmw-020	WBGmw-021
Sample ID		MCL	USEPA RSL	FWGRQLmw-010C-0325-GW	FWGRQLmw-011C-0326-GW	FWGWBGmw-018-0328-GW	FWGWBGmw-019-0329-GW	FWGWBGmw-020-0330-GW	FWGWBGmw-021-0331-GW
Date Collected				8/19/2013	8/19/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
1,1,1-Trichloroethane	µg/L	200	7500	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	µg/L	NS	0.066	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-Trichloroethane	µg/L	5.0	0.24	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	µg/L	NS	2.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene (total)	µg/L	7.0	260	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane	µg/L	NS	0.0065	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethane	µg/L	5.0	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene (total)	µg/L	NS	130	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	µg/L	5.0	0.38	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Butanone	µg/L	NS	4900	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-Hexanone	µg/L	NS	34	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-pentanone	µg/L	NS	1000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	µg/L	NS	12000	<b>2.5 JB</b>	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Benzene	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromochloromethane	µg/L	NS	83	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	µg/L	NS	0.12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	µg/L	NS	7.9	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
Bromomethane	µg/L	NS	7.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Carbon disulfide	µg/L	NS	720	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Carbon tetrachloride	µg/L	5.0	0.39	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	µg/L	10	72	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloroethane	µg/L	NS	21000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	µg/L	NS	0.19	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloromethane	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-dichloroethene	µg/L	70	28	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
cis-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dibromochloromethane	µg/L	NS	0.15	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethylbenzene	µg/L	700	1.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
m&p-xylenes	µg/L	NS	190	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene chloride	µg/L	5.0	9.9	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-xylene	µg/L	NS	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	µg/L	100	1100	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Tetrachloroethene	µg/L	5.0	9.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	µg/L	1000	860	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,2-dichloroethene	µg/L	100	86	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,3-Dichloropropene	µg/L	NS	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichloroethene	µg/L	5.0	0.44	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	µg/L	2.0	0.015	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Total Xylenes	µg/L	10000	190	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

µg/L = microgram per liter

mg/L = milligram per liter

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard

**Bold** = detected compound above the MDL



**Table 3-4. FWGWMP August 2013 VOC Analytical Results**

**Data Qualifiers**

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the USACE Louisville Chemistry Guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U      The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.
  
- J      The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - LCS percent recoveries outside acceptance criteria.
  
- R      Data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample [e.g., the MRL verification standard was below quality control guidelines; associated sample results that were non-detect are unusable].
  
- UJ     This flag is a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated RL.
  
- B      The B flag is used for both organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the CLP “B” designation when used by the laboratory as an estimated value for inorganics.



**Table 3-5. FWGWMP August 2013 SVOCs Analytical Results**

Station ID				FBQmw-174	FWGmw-004	FWGmw-007	FWGmw-011	FWGmw-012	FWGmw-015	FWGmw-016
Sample ID		MCL	USEPA RSL	FWGFBQmw- 174C-0345-GW	FWGFWGmw- 004-0346-GW	FWGFWGmw- 007-0347-GW	FWGFWGmw- 011-0348-GW	FWGFWGmw- 012-0349-GW	FWGFWGmw- 015-0350-GW	FWGFWGmw- 016-0351-GW
Date Collected				8/20/2013	8/19/2013	8/21/2013	8/20/2013	8/20/2013	8/19/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>0.82 B</b>	<b>0.25 B</b>	<b>0.48 B</b>	<b>13</b>	<b>0.74 B</b>	<b>0.45 B</b>	<b>0.32 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.51 U	0.53 U	0.48 U	0.49 U	0.48 U	0.48 U	0.50 U
Diethyl phthalate	µg/L	NS	11000	1.0 U	1.1 U	0.95 U	0.98 U	0.95 U	0.95 U	1.0 U
Dimethyl phthalate	µg/L	NS	NS	0.51 U	0.53 U	0.48 U	0.49 U	0.48 U	0.48 U	0.50 U
Di-n-butyl phthalate	µg/L	NS	670	<b>1.1 B</b>	1.1 U	0.95 U	<b>1.7</b>	<b>0.74 J</b>	0.95 U	1.0 U
Di-n-octyl phthalate	µg/L	NS	160	0.51 U	0.53 U	0.48 U	0.49 U	0.48 U	0.48 U	0.50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOCs Analytical Results**

Station ID				LL1mw-064	LL1mw-065	LL1mw-083	LL1mw-084	LL1mw-086	LL1mw-087	LL2mw-059
Sample ID		MCL	USEPA RSL	FWGLL1mw- 064C-0352-GW	FWGLL1mw- 065C-0353-GW	FWGLL1mw- 083C-0354-GW	FWGLL1mw- 084C-0355-GW	FWGLL1mw- 086-0320-GW	FWGLL1mw- 087C-0356-GW	FWGLL2mw- 059C-0357-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/21/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>0.61 B</b>	<b>0.50 B</b>	<b>1.1 B</b>	<b>1.8 B</b>	<b>1.2 B</b>	<b>0.86 B</b>	<b>1.4 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.50 U	0.49 U	0.48 U	0.49 U	0.48 U	0.54 U	0.50 U
Diethyl phthalate	µg/L	NS	11000	0.99 U	0.97 U	0.95 U	0.98 U	0.95 U	1.1 U	0.99 U
Dimethyl phthalate	µg/L	NS	NS	0.50 U	0.49 U	0.48 U	0.49 U	0.48 U	0.54 U	0.50 U
Di-n-butyl phthalate	µg/L	NS	670	<b>0.91 J</b>	0.97 U	<b>1.6 B</b>	<b>1.1 B</b>	<b>0.86 B</b>	<b>0.84 J</b>	<b>1.5 B</b>
Di-n-octyl phthalate	µg/L	NS	160	0.50 U	0.49 U	0.48 U	0.49 U	0.48 U	0.54 U	0.50 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOCs Analytical Results**

Station ID				LL2mw-265	LL2mw-267	LL3mw-238	LL3mw-241	LL3mw-244	L12mw-187	LL12mw-242
Sample ID		MCL	USEPA RSL	FWGLL2mw- 265C-0321-GW	FWGLL2mw- 267C-0358-GW	FWGLL3mw- 238C-0359-GW	FWGLL3mw- 241C-0360-GW	FWGLL3mw- 244-0323-GW	FWGLL12mw- 187C-0363-GW	FWGLL12mw- 242C-0364-GW
Date Collected				8/21/2013	8/21/2013	8/19/2013	8/19/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units									
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>1.5 B</b>	<b>0.62 B</b>	<b>0.39 B</b>	<b>0.57 B</b>	<b>0.46 B</b>	<b>0.65 B</b>	1.2 U
Butyl benzyl phthalate	µg/L	NS	14	0.49 U	0.48 U	0.53 U	0.52 U	0.48 U	0.48 U	<b>0.35 J</b>
Diethyl phthalate	µg/L	NS	11000	0.97 U	0.95 U	1.1 U	1.0 U	0.95 U	0.95 U	0.95 U
Dimethyl phthalate	µg/L	NS	NS	0.49 U	0.48 U	0.53 U	0.52 U	0.48 U	0.48 U	0.48 U
Di-n-butyl phthalate	µg/L	NS	670	<b>1.4 B</b>	<b>0.81 B</b>	1.1 U	1.0 U	<b>0.69 J</b>	<b>0.84 J</b>	<b>1.4</b>
Di-n-octyl phthalate	µg/L	NS	160	0.49 U	0.48 U	0.53 U	0.52 U	0.48 U	0.48 U	0.48 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOCs Analytical Results**

Station ID				LL12mw-245	LL12mw-247	SCFmw-002	SCFmw-004	WBGmw-006	WBGmw-009
Sample ID		MCL	USEPA RSL	FWGLL12mw- 245C-0365-GW	FWGLL12mw- 247-0336-GW	FWGSCFmw- 002-0327-GW	FWGSCFmw-004- 0372-GW	FWGWBGmw- 006C-0373-GW	FWGWBGmw- 009C-0374-GW
Date Collected				8/20/2013	8/20/2013	8/1/2000	8/20/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>0.68 B</b>	<b>0.55 B</b>	0.50 U	<b>0.95 B</b>	<b>0.74 B</b>	<b>0.64 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.48 U	0.48 U	0.99 U	0.53 U	0.49 U	0.48 U
Diethyl phthalate	µg/L	NS	11000	0.95 U	0.95 U	0.50 U	1.1 U	0.97 U	0.95 U
Dimethyl phthalate	µg/L	NS	NS	0.48 U	0.48 U	0.99 U	0.53 U	0.49 U	0.48 U
Di-n-butyl phthalate	µg/L	NS	670	0.95 U	<b>0.67 J</b>	0.50 U	<b>0.84 J</b>	0.97 U	<b>0.75 B</b>
Di-n-octyl phthalate	µg/L	NS	160	0.48 U	0.48 U	0.76 U	0.53 U	0.49 U	0.48 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



Table 3-5. FWGWMP August 2013 SVOCs Analytical Results

Station ID				NTAmw-119
Sample ID		MCL	USEPA RSL	FWGNTAmw-119-0367-GW
Date Collected				8/21/2013
Sample Type				Grab
Analyte	Units			
2,4-Dinitrotoluene	µg/L	NS	0.20	0.50 U
2,6-Dinitrotoluene	µg/L	NS	15	0.50 U
Acenaphthene	µg/L	NS	400	0.099 U
Acenaphthylene	µg/L	NS	NS	0.099 U
Anthracene	µg/L	NS	1300	0.099 U
Benzo(a)anthracene	µg/L	NS	0.029	0.099 U
Benzo(a)pyrene	µg/L	0.2	0.0029	0.099 U
Benzo(b)fluoranthene	µg/L	NS	0.029	0.099 U
Benzo(g,h,i)perylene	µg/L	NS	NS	0.099 U
Benzo(k)fluoranthene	µg/L	NS	0.29	0.099 U
bis(2-Ethylhexyl)phthalate	µg/L	6	4.8	<b>0.42 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.50 U
Chrysene	µg/L	NS	2.9	0.099 U
Dibenzo(a,h)anthracene	µg/L	NS	0.0029	0.099 U
Diethyl phthalate	µg/L	NS	11000	0.99 U
Dimethyl phthalate	µg/L	NS	NS	0.50 U
Di-n-butyl phthalate	µg/L	NS	670	<b>0.72 B</b>
Di-n-octyl phthalate	µg/L	NS	160	0.50 U
Fluoranthene	µg/L	NS	630	0.099 U
Fluorene	µg/L	NS	220	0.099 U
Indeno(1,2,3-cd)pyrene	µg/L	NS	0.029	0.099 U
Naphthalene	µg/L	NS	0.14	<b>0.11</b>
Nitrobenzene	µg/L	NS	0.12	0.099 U
Phenanthrene	µg/L	NS	NS	0.099 U
Pyrene	µg/L	NS	87	0.099 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

Station ID				DA2mw-114	DA2mw-115	DETmw-001	DETmw-002	DETmw-003	DETmw-004
Sample ID		MCL	USEPA RSL	FWGDA2mw- 114-0312-GW	FWGDA2mw- 115-0313-GW	FWGDETmw- 001C-0314-GW	FWGDETmw- 002C-0315-GW	FWGDETmw- 003C-0343-GW	FWGDETmw- 004C-0344-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20-21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
1,2,4-Trichlorobenzene	µg/L	70	0.99	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
1,2-Dichlorobenzene	µg/L	600	280	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
1,3-Dichlorobenzene	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
1,4-Dichlorobenzene	µg/L	75	0.42	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2,2-oxybis (1-chloropropane)	µg/L	NS	0.31	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2,4,5-Trichlorophenol	µg/L	NS	890	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2,4,6-Trichlorophenol	µg/L	NS	3.5	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2,4-Dichlorophenol	µg/L	NS	35	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2,4-Dimethylphenol	µg/L	NS	270	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2,4-Dinitrophenol	µg/L	NS	30	0.95 U	0.95 U	1.0 U	0.95 U	0.95 U	0.99 UJ
2-Chloronaphthalene	µg/L	NS	550	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2-Chlorophenol	µg/L	NS	71	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2-Methylnaphthalene	µg/L	NS	27	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
2-Methylphenol	µg/L	NS	720	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2-Nitroaniline	µg/L	NS	150	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
2-Nitrophenol	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
3,3'-Dichlorobenzidine	µg/L	NS	0.11	0.95 U	0.95 U	1.0 U	0.95 U	0.95 U	0.99 U
3- and 4-Methylphenol	µg/L	NS	720	0.95 U	0.95 U	1.0 U	0.95 U	0.95 U	0.99 U
3-Nitroaniline	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
4,6-Dinitro-2-methylphenol	µg/L	NS	1.2	3.8 U	3.8 U	4.1 U	3.8 U	3.8 U	4.0 U
4-Bromophenyl phenyl ether	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
4-Chloro-3-methylphenol	µg/L	NS	1100	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
4-Chloroaniline	µg/L	NS	0.32	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
4-Chlorophenyl phenyl ether	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
4-Nitroaniline	µg/L	NS	3.3	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
4-Nitrophenol	µg/L	NS	NS	3.8 U	3.8 U	4.1 U	3.8 U	3.8 U	4.0 U
Acenaphthene	µg/L	NS	400	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Acenaphthylene	µg/L	NS	NS	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Anthracene	µg/L	NS	1300	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.097</b>	0.099 U
Benzo(a)anthracene	µg/L	NS	0.029	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.15</b>	0.099 U
Benzo(a)pyrene	µg/L	0.2	0.0029	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.12</b>	0.099 U
Benzo(b)fluoranthene	µg/L	NS	0.029	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.12</b>	0.099 U



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

Station ID				DA2mw-114	DA2mw-115	DETmw-001	DETmw-002	DETmw-003	DETmw-004
Sample ID		MCL	USEPA RSL	FWGDA2mw-114-0312-GW	FWGDA2mw-115-0313-GW	FWGDETmw-001C-0314-GW	FWGDETmw-002C-0315-GW	FWGDETmw-003C-0343-GW	FWGDETmw-004C-0344-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20-21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
Benzo(g,h,i)perylene	µg/L	NS	NS	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Benzo(k)fluoranthene	µg/L	NS	0.29	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.13</b>	0.099 U
Benzoic acid	µg/L	NS	58000	19 U	19 U	20 U	19 U	19 U	20 U
Benzyl alcohol	µg/L	NS	1500	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
bis(2-Chloroethoxy)methane	µg/L	NS	46	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
bis(2-Chloroethyl)ether	µg/L	NS	0.012	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>0.35 B</b>	<b>0.56 B</b>	<b>3.4 B</b>	<b>0.35 B</b>	<b>0.78 B</b>	<b>1.4 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Carbazole	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Chrysene	µg/L	NS	2.9	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.11</b>	0.099 U
Dibenzo(a,h)anthracene	µg/L	NS	0.0029	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Dibenzofuran	µg/L	NS	5.8	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Diethyl phthalate	µg/L	NS	11000	0.95 U	0.95 U	1.0 U	0.95 U	0.95 U	0.99 U
Dimethyl phthalate	µg/L	NS	NS	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Di-n-butyl phthalate	µg/L	NS	670	0.95 U	<b>0.64 J</b>	<b>0.70 J</b>	0.95 U	<b>0.99</b>	<b>0.85 B</b>
Di-n-octyl phthalate	µg/L	NS	160	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Fluoranthene	µg/L	NS	630	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.13</b>	0.099 U
Fluorene	µg/L	NS	220	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Hexachlorobenzene	µg/L	1.0	0.042	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Hexachlorobutadiene	µg/L	NS	0.26	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Hexachlorocyclopentadiene	µg/L	50	22	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Hexachloroethane	µg/L	NS	0.79	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Indeno(1,2,3-cd)pyrene	µg/L	NS	0.029	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
Isophorone	µg/L	NS	67	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Naphthalene	µg/L	NS	0.14	0.095 U	0.095 U	0.10 U	0.095 U	0.095 U	0.099 U
N-Nitroso-di-n-propylamine	µg/L	NS	0.0093	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
N-Nitrosodiphenylamine	µg/L	NS	10	0.48 U	0.48 U	0.51 U	0.48 U	0.48 U	0.50 U
Pentachlorophenol	µg/L	1.0	0.035	0.95 U	0.95 U	1.0 U	0.95 U	0.95 U	0.99 U
Phenanthrene	µg/L	NS	NS	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.12</b>	0.099 U
Phenol	µg/L	NS	4500	0.95 U	0.95 U	1.0 U	0.95 U	0.95 U	0.99 U
Pyrene	µg/L	NS	87	0.095 U	0.095 U	0.10 U	0.095 U	<b>0.13</b>	0.099 U

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

Station ID				EBGmw-131	FWGmw-009	RQLmw-006	RQLmw-007	RQLmw-008	RQLmw-009
Sample ID		MCL	USEPA RSL	FWGEBGmw- 131-0316-GW	FWGFWGmw- 009-0319-GW	FWGRQLmw- 006C-0368-GW	FWGRQLmw- 007C-0369-GW	FWGRQLmw- 008C-0370-GW	FWGRQLmw- 009C-0371-GW
Date Collected				8/19/2013	8/21/2013	8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
1,2,4-Trichlorobenzene	µg/L	70	0.99	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichlorobenzene	µg/L	600	280	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
1,3-Dichlorobenzene	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
1,4-Dichlorobenzene	µg/L	75	0.42	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2,2-oxybis (1-chloropropane)	µg/L	NS	0.31	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2,4,5-Trichlorophenol	µg/L	NS	890	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2,4,6-Trichlorophenol	µg/L	NS	3.5	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2,4-Dichlorophenol	µg/L	NS	35	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2,4-Dimethylphenol	µg/L	NS	270	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2,4-Dinitrophenol	µg/L	NS	30	0.95 U	0.97 UJ	0.96 U	0.96 U	0.95 U	0.95 U
2-Chloronaphthalene	µg/L	NS	550	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2-Chlorophenol	µg/L	NS	71	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2-Methylnaphthalene	µg/L	NS	27	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
2-Methylphenol	µg/L	NS	720	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2-Nitroaniline	µg/L	NS	150	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
2-Nitrophenol	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
3,3'-Dichlorobenzidine	µg/L	NS	0.11	0.95 U	0.97 U	0.96 U	0.96 U	0.95 R	0.95 U
3- and 4-Methylphenol	µg/L	NS	720	0.95 U	0.97 U	0.96 U	0.96 U	0.95 U	0.95 U
3-Nitroaniline	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
4,6-Dinitro-2-methylphenol	µg/L	NS	1.2	3.8 U	3.9 U	3.8 U	3.8 U	3.8 U	3.8 U
4-Bromophenyl phenyl ether	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
4-Chloro-3-methylphenol	µg/L	NS	1100	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
4-Chloroaniline	µg/L	NS	0.32	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
4-Chlorophenyl phenyl ether	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
4-Nitroaniline	µg/L	NS	3.3	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
4-Nitrophenol	µg/L	NS	NS	3.8 U	3.9 U	3.8 U	3.8 U	3.8 U	3.8 U
Acenaphthene	µg/L	NS	400	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Acenaphthylene	µg/L	NS	NS	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Anthracene	µg/L	NS	1300	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Benzo(a)anthracene	µg/L	NS	0.029	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Benzo(a)pyrene	µg/L	0.2	0.0029	0.095 U	0.097 UJ	0.096 U	0.096 U	0.095 UJ	0.095 U
Benzo(b)fluoranthene	µg/L	NS	0.029	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

Station ID				EBGmw-131	FWGmw-009	RQLmw-006	RQLmw-007	RQLmw-008	RQLmw-009
Sample ID		MCL	USEPA RSL	FWGEBGmw-131-0316-GW	FWGFWGmw-009-0319-GW	FWGRQLmw-006C-0368-GW	FWGRQLmw-007C-0369-GW	FWGRQLmw-008C-0370-GW	FWGRQLmw-009C-0371-GW
Date Collected				8/19/2013	8/21/2013	8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
Benzo(g,h,i)perylene	µg/L	NS	NS	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Benzo(k)fluoranthene	µg/L	NS	0.29	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Benzoic acid	µg/L	NS	58000	19 U	19 U	19 U	19 U	19 U	19 U
Benzyl alcohol	µg/L	NS	1500	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
bis(2-Chloroethoxy)methane	µg/L	NS	46	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
bis(2-Chloroethyl)ether	µg/L	NS	0.012	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>0.38 J</b>	<b>0.34 B</b>	<b>0.51 B</b>	<b>0.46 J</b>	0.48 U	<b>0.37 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Carbazole	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Chrysene	µg/L	NS	2.9	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Dibenzo(a,h)anthracene	µg/L	NS	0.0029	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Dibenzofuran	µg/L	NS	5.8	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Diethyl phthalate	µg/L	NS	11000	0.95 U	0.97 U	0.96 U	0.96 U	0.95 U	0.95 U
Dimethyl phthalate	µg/L	NS	NS	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Di-n-butyl phthalate	µg/L	NS	670	0.95 U	0.97 U	0.96 U	<b>0.78 J</b>	0.95 U	0.95 U
Di-n-octyl phthalate	µg/L	NS	160	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Fluoranthene	µg/L	NS	630	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Fluorene	µg/L	NS	220	0.095 U	0.097 U	0.096 U	0.096 U	<b>0.19</b>	0.095 U
Hexachlorobenzene	µg/L	1.0	0.042	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Hexachlorobutadiene	µg/L	NS	0.26	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Hexachlorocyclopentadiene	µg/L	50	22	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Hexachloroethane	µg/L	NS	0.79	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Indeno(1,2,3-cd)pyrene	µg/L	NS	0.029	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Isophorone	µg/L	NS	67	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Naphthalene	µg/L	NS	0.14	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
N-Nitroso-di-n-propylamine	µg/L	NS	0.0093	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
N-Nitrosodiphenylamine	µg/L	NS	10	0.48 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Pentachlorophenol	µg/L	1.0	0.035	0.95 U	0.97 U	0.96 U	0.96 U	0.95 U	0.95 U
Phenanthrene	µg/L	NS	NS	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U
Phenol	µg/L	NS	4500	0.95 U	0.97 U	0.96 U	0.96 U	0.95 U	0.95 U
Pyrene	µg/L	NS	87	0.095 U	0.097 U	0.096 U	0.096 U	0.095 U	0.095 U

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

Station ID				RQLmw-010	RQLmw-011	WBGmw-018	WBGmw-019	WBGmw-020	WBGmw-021
Sample ID		MCL	USEPA RSL	FWGRQLmw-010C-0325-GW	FWGRQLmw-011C-0326-GW	FWGWBGMw-018-0328-GW	FWGWBGMw-019-0329-GW	FWGWBGMw-020-0330-GW	FWGWBGMw-021-0331-GW
Date Collected				8/19/2013	8/19/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
1,2,4-Trichlorobenzene	µg/L	70	0.99	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
1,2-Dichlorobenzene	µg/L	600	280	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
1,3-Dichlorobenzene	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
1,4-Dichlorobenzene	µg/L	75	0.42	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2,2-oxybis (1-chloropropane)	µg/L	NS	0.31	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2,4,5-Trichlorophenol	µg/L	NS	890	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2,4,6-Trichlorophenol	µg/L	NS	3.5	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2,4-Dichlorophenol	µg/L	NS	35	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2,4-Dimethylphenol	µg/L	NS	270	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2,4-Dinitrophenol	µg/L	NS	30	0.96 U	0.95 U	0.95 UJ	0.95 UJ	0.98 UJ	0.95 UJ
2-Chloronaphthalene	µg/L	NS	550	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2-Chlorophenol	µg/L	NS	71	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2-Methylnaphthalene	µg/L	NS	27	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
2-Methylphenol	µg/L	NS	720	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2-Nitroaniline	µg/L	NS	150	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
2-Nitrophenol	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
3,3'-Dichlorobenzidine	µg/L	NS	0.11	0.96 U	0.95 U	0.95 U	0.95 U	0.98 U	0.95 U
3- and 4-Methylphenol	µg/L	NS	720	0.96 U	0.95 U	0.95 U	0.95 U	0.98 U	0.95 U
3-Nitroaniline	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
4,6-Dinitro-2-methylphenol	µg/L	NS	1.2	3.8 U	3.8 U	3.8 U	3.8 U	3.9 U	3.8 U
4-Bromophenyl phenyl ether	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
4-Chloro-3-methylphenol	µg/L	NS	1100	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
4-Chloroaniline	µg/L	NS	0.32	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
4-Chlorophenyl phenyl ether	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
4-Nitroaniline	µg/L	NS	3.3	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
4-Nitrophenol	µg/L	NS	NS	3.8 U	3.8 U	3.8 U	3.8 U	3.9 U	3.8 U
Acenaphthene	µg/L	NS	400	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Acenaphthylene	µg/L	NS	NS	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Anthracene	µg/L	NS	1300	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Benzo(a)anthracene	µg/L	NS	0.029	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Benzo(a)pyrene	µg/L	0.2	0.0029	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Benzo(b)fluoranthene	µg/L	NS	0.029	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

Station ID				RQLmw-010	RQLmw-011	WBGmw-018	WBGmw-019	WBGmw-020	WBGmw-021
Sample ID		MCL	USEPA RSL	FWGRQLmw-010C-0325-GW	FWGRQLmw-011C-0326-GW	FWGWBGMw-018-0328-GW	FWGWBGMw-019-0329-GW	FWGWBGMw-020-0330-GW	FWGWBGMw-021-0331-GW
Date Collected				8/19/2013	8/19/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
Benzo(g,h,i)perylene	µg/L	NS	NS	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Benzo(k)fluoranthene	µg/L	NS	0.29	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Benzoic acid	µg/L	NS	58000	19 U	19 U	19 U	19 U	20 U	19 U
Benzyl alcohol	µg/L	NS	1500	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
bis(2-Chloroethoxy)methane	µg/L	NS	46	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
bis(2-Chloroethyl)ether	µg/L	NS	0.012	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
bis(2-Ethylhexyl)phthalate	µg/L	6.0	4.8	<b>0.63</b>	<b>0.22 B</b>	<b>0.31 JB</b>	<b>0.49 B</b>	<b>0.54 B</b>	<b>0.65 B</b>
Butyl benzyl phthalate	µg/L	NS	14	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Carbazole	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Chrysene	µg/L	NS	2.9	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Dibenzo(a,h)anthracene	µg/L	NS	0.0029	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Dibenzofuran	µg/L	NS	5.8	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Diethyl phthalate	µg/L	NS	11000	0.96 U	0.95 U	0.95 U	0.95 U	0.98 U	0.95 U
Dimethyl phthalate	µg/L	NS	NS	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Di-n-butyl phthalate	µg/L	NS	670	<b>1.0</b>	0.95 U	0.95 U	<b>0.84 B</b>	<b>0.76 B</b>	<b>0.68 B</b>
Di-n-octyl phthalate	µg/L	NS	160	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Fluoranthene	µg/L	NS	630	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Fluorene	µg/L	NS	220	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Hexachlorobenzene	µg/L	1.0	0.042	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Hexachlorobutadiene	µg/L	NS	0.26	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Hexachlorocyclopentadiene	µg/L	50	22	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Hexachloroethane	µg/L	NS	0.79	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Indeno(1,2,3-cd)pyrene	µg/L	NS	0.029	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Isophorone	µg/L	NS	67	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Naphthalene	µg/L	NS	0.14	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
N-Nitroso-di-n-propylamine	µg/L	NS	0.0093	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
N-Nitrosodiphenylamine	µg/L	NS	10	0.48 U	0.48 U	0.48 U	0.48 U	0.49 U	0.48 U
Pentachlorophenol	µg/L	1.0	0.035	0.96 U	0.95 U	0.95 U	0.95 U	0.98 U	0.95 U
Phenanthrene	µg/L	NS	NS	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U
Phenol	µg/L	NS	4500	0.96 U	0.95 U	0.95 U	0.95 U	0.98 U	0.95 U
Pyrene	µg/L	NS	87	0.096 U	0.095 U	0.095 U	0.095 U	0.098 U	0.095 U

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

µg/L = microgram per liter

NS = no standard

N/A = Not Analyzed

**Bold** = detected compound above the MDL



**Table 3-5. FWGWMP August 2013 SVOC Analytical Results**

**Data Qualifiers**

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the USACE Louisville Chemistry Guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U      The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.
  
- J      The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - LCS percent recoveries outside acceptance criteria.
  
- R      Data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample [e.g., the MRL verification standard was below quality control guidelines; associated sample results that were non-detect are unusable].
  
- UJ     This flag is a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated RL.
  
- B      The B flag is used for both organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the CLP “B” designation when used by the laboratory as an estimated value for inorganics.



**Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results**

Station ID				B12mw-013	DA2mw-114	DA2mw-115	DETmw-001	DETmw-002	DETmw-003
Sample ID		MCL	USEPA RSL	FWGB12mw-013-0313-GW	FWGDA2mw-114-0312-GW	FWGDA2mw-115-0313-GW	FWGDETmw-001C-0314-GW	FWGDETmw-002C-0315-GW	FWGDETmw-003C-0343-GW
Date Collected				8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
4,4'-DDD	µg/L	NS	0.027	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
4,4'-DDE	µg/L	NS	0.20	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
4,4'-DDT	µg/L	NS	0.20	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Aldrin	µg/L	NS	0.0040	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
alpha-BHC	µg/L	NS	0.0062	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
alpha-Chordane	µg/L	NS	NS	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
beta-BHC	µg/L	NS	0.022	0.019 U	0.019 U	<b>0.015 J</b>	0.019 U	<b>0.011 J</b>	<b>0.015 J</b>
delta-BHC	µg/L	NS	NS	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Dieldrin	µg/L	NS	0.0015	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Endosulfan I	µg/L	NS	78	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Endosulfan II	µg/L	NS	78	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Endosulfan sulfate	µg/L	NS	NS	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Endrin	µg/L	2.0	1.7	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Endrin aldehyde	µg/L	NS	NS	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Endrin ketone	µg/L	NS	NS	0.019 U	0.019 U	0.020 U	<b>0.012 J</b>	0.019 U	0.019 U
gamma-BHC	µg/L	0.20	0.036	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
gamma-Chlordane	µg/L	NS	NS	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Heptachlor	µg/L	0.40	0.0018	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Heptachlor epoxide	µg/L	0.20	0.0033	0.019 U	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U
Methoxychlor	µg/L	40	27	0.048 U	0.048 U	0.049 U	0.048 U	0.048 U	0.048 U
Toxaphene	µg/L	3.0	0.013	0.76 U	0.76 U	0.78 U	0.76 U	0.77 U	0.76 U
PCB- 1016	µg/L	0.50	0.96	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ
PCB- 1221	µg/L	0.50	0.0040	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ
PCB- 1232	µg/L	0.50	0.0040	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ
PCB- 1242	µg/L	0.50	0.034	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ
PCB- 1248	µg/L	0.50	0.034	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ
PCB- 1254	µg/L	0.50	0.034	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ
PCB- 1260	µg/L	0.50	0.034	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard      N/A = not analyzed

**Bold** = detected compound above the MDL

µg/L = microgram per liter



Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results

Station ID				DETMw-004	EBGmw-131	FBQmw-174	FWGmw-004	FWGmw-009	LL1mw-064
Sample ID		MCL	USEPA RSL	FWGDETMw-004C-0344-GW	FWGEBGmw-131-0316-GW	FWGFBQmw-174C-0345-GW	FWGFWGmw-004-0346-GW	FWGFWGmw-009-0319-GW	FWGLL1mw-064C-0352-GW
Date Collected				8/20-21/2013	8/19/2013	8/20/2013	8/19/2013	8/21/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
4,4'-DDD	µg/L	NS	0.027	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
4,4'-DDE	µg/L	NS	0.20	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
4,4'-DDT	µg/L	NS	0.20	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Aldrin	µg/L	NS	0.0040	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
alpha-BHC	µg/L	NS	0.0062	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
alpha-Chordane	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
beta-BHC	µg/L	NS	0.022	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
delta-BHC	µg/L	NS	NS	0.020 U	0.019 U	<b>0.019 J</b>	0.038 R	0.020 U	0.020 U
Dieldrin	µg/L	NS	0.0015	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Endosulfan I	µg/L	NS	78	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Endosulfan II	µg/L	NS	78	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Endosulfan sulfate	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Endrin	µg/L	2.0	1.7	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Endrin aldehyde	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Endrin ketone	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
gamma-BHC	µg/L	0.20	0.036	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
gamma-Chlordane	µg/L	NS	NS	0.020 U	0.019 U	<b>0.037</b>	0.021 U	0.020 U	0.020 U
Heptachlor	µg/L	0.40	0.0018	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Heptachlor epoxide	µg/L	0.20	0.0033	0.020 U	0.019 U	0.020 U	0.021 U	0.020 U	0.020 U
Methoxychlor	µg/L	40	27	0.051 U	0.048 U	0.051 U	0.053 U	0.049 U	0.050 U
Toxaphene	µg/L	3.0	0.013	0.81 U	0.76 U	0.82 U	0.85 U	0.78 UJ	0.79 U
PCB- 1016	µg/L	0.50	0.96	0.20 U	0.19 UJ	N/A	N/A	0.20 U	N/A
PCB- 1221	µg/L	0.50	0.0040	0.20 U	0.19 UJ	N/A	N/A	0.20 U	N/A
PCB- 1232	µg/L	0.50	0.0040	0.20 U	0.19 UJ	N/A	N/A	0.20 U	N/A
PCB- 1242	µg/L	0.50	0.034	0.40 U	0.38 UJ	N/A	N/A	0.39 U	N/A
PCB- 1248	µg/L	0.50	0.034	0.20 U	0.19 UJ	N/A	N/A	0.20 U	N/A
PCB- 1254	µg/L	0.50	0.034	0.20 U	0.19 UJ	N/A	N/A	0.20 U	N/A
PCB- 1260	µg/L	0.50	0.034	0.20 U	0.19 UJ	N/A	N/A	0.20 U	N/A

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard N/A = not analyzed

**Bold** = detected compound above the MDL

µg/L = microgram per liter



**Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results**

Station ID				LL1mw-065	LL1mw-083	LL1mw-084	LL1mw-086	LL1mw-087	LL3mw-238
Sample ID		MCL	USEPA RSL	FWGLL1mw-065C-0353-GW	FWGLL1mw-083C-0354-GW	FWGLL1mw-084C-0355-GW	FWGLL1mw-086-0320-GW	FWGLL1mw-087C-0356-GW	FWGLL3mw-238C-0359-GW
Date Collected				8/20/2013	8/20/2013	8/21/2013	8/20/2013	8/20/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
4,4'-DDD	µg/L	NS	0.027	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
4,4'-DDE	µg/L	NS	0.20	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	<b>0.020 J</b>
4,4'-DDT	µg/L	NS	0.20	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Aldrin	µg/L	NS	0.0040	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
alpha-BHC	µg/L	NS	0.0062	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
alpha-Chordane	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
beta-BHC	µg/L	NS	0.022	0.020 U	0.019 U	<b>0.069</b>	0.019 U	0.021 U	0.021 U
delta-BHC	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 R
Dieldrin	µg/L	NS	0.0015	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Endosulfan I	µg/L	NS	78	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Endosulfan II	µg/L	NS	78	0.020 U	<b>0.014 J</b>	0.020 U	0.019 U	0.021 U	0.021 U
Endosulfan sulfate	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Endrin	µg/L	2.0	1.7	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Endrin aldehyde	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	<b>0.011 J</b>
Endrin ketone	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
gamma-BHC	µg/L	0.20	0.036	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
gamma-Chlordane	µg/L	NS	NS	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Heptachlor	µg/L	0.40	0.0018	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	0.021 U
Heptachlor epoxide	µg/L	0.20	0.0033	0.020 U	0.019 U	0.020 U	0.019 U	0.021 U	1.0 UJ
Methoxychlor	µg/L	40	27	0.049 U	0.048 U	0.049 U	0.048 U	0.052 U	0.052 U
Toxaphene	µg/L	3.0	0.013	0.78 U	0.76 U	0.78 U	0.76 U	0.82 U	0.83 U
PCB- 1016	µg/L	0.50	0.96	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1221	µg/L	0.50	0.0040	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1232	µg/L	0.50	0.0040	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1242	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1248	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1254	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1260	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard      N/A = not analyzed

**Bold** = detected compound above the MDL

µg/L = microgram per liter



**Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results**

Station ID				LL3mw-241	LL3mw-244	LL12mw-187	L12mw-242	LL12mw-245	LL12mw-247
Sample ID		MCL	USEPA RSL	FWGLL3mw-241C-0360-GW	FWGLL3mw-244-0323-GW	FWGLL12mw-187C-0363-GW	FWGLL12mw-242C-0364-GW	FWGLL12mw-245C-0365-GW	FWGLL12mw-247-0336-GW
Date Collected				8/19/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
4,4'-DDD	µg/L	NS	0.027	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
4,4'-DDE	µg/L	NS	0.20	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
4,4'-DDT	µg/L	NS	0.20	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Aldrin	µg/L	NS	0.0040	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
alpha-BHC	µg/L	NS	0.0062	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
alpha-Chordane	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
beta-BHC	µg/L	NS	0.022	0.019 U	<b>0.025 J</b>	0.019 U	0.019 U	<b>0.011 J</b>	<b>0.18 J</b>
delta-BHC	µg/L	NS	NS	0.038 R	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Dieldrin	µg/L	NS	0.0015	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Endosulfan I	µg/L	NS	78	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Endosulfan II	µg/L	NS	78	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Endosulfan sulfate	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Endrin	µg/L	2.0	1.7	<b>0.027</b>	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Endrin aldehyde	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Endrin ketone	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
gamma-BHC	µg/L	0.20	0.036	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
gamma-Chlordane	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Heptachlor	µg/L	0.40	0.0018	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Heptachlor epoxide	µg/L	0.20	0.0033	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 UJ
Methoxychlor	µg/L	40	27	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 UJ
Toxaphene	µg/L	3.0	0.013	0.77 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 UJ
PCB- 1016	µg/L	0.50	0.96	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1221	µg/L	0.50	0.0040	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1232	µg/L	0.50	0.0040	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1242	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1248	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1254	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A
PCB- 1260	µg/L	0.50	0.034	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard                      N/A = not analyzed

**Bold** = detected compound above the MDL

µg/L = microgram per liter



**Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results**

Station ID				RQLmw-006	RQLmw-007	RQLmw-008	RQLmw-009	RQLmw-010	RQLmw-011
Sample ID		MCL	USEPA RSL	FWGRQLmw-006C-0368-GW	FWGRQLmw-007C-0369-GW	FWGRQLmw-008C-0370-GW	FWGRQLmw-009C-0371-GW	FWGRQLmw-010C-0325-GW	FWGRQLmw-011C-0326-GW
Date Collected				8/19/2013	8/19/2013	8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
4,4'-DDD	µg/L	NS	0.027	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
4,4'-DDE	µg/L	NS	0.20	0.019 U	0.019 U	<b>0.038 J</b>	0.019 U	0.019 U	0.019 U
4,4'-DDT	µg/L	NS	0.20	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aldrin	µg/L	NS	0.0040	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
alpha-BHC	µg/L	NS	0.0062	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
alpha-Chordane	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
beta-BHC	µg/L	NS	0.022	<b>0.013 JB</b>	0.019 U	<b>0.0093 JB</b>	0.019 U	0.019 U	0.019 U
delta-BHC	µg/L	NS	NS	0.019 R	0.019 U	0.041 R	0.019 R	0.019 U	0.019 R
Dieldrin	µg/L	NS	0.0015	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Endosulfan I	µg/L	NS	78	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Endosulfan II	µg/L	NS	78	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Endosulfan sulfate	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Endrin	µg/L	2.0	1.7	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Endrin aldehyde	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Endrin ketone	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
gamma-BHC	µg/L	0.20	0.036	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
gamma-Chlordane	µg/L	NS	NS	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Heptachlor	µg/L	0.40	0.0018	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Heptachlor epoxide	µg/L	0.20	0.0033	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Methoxychlor	µg/L	40	27	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Toxaphene	µg/L	3.0	0.013	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
PCB- 1016	µg/L	0.50	0.96	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U
PCB- 1221	µg/L	0.50	0.0040	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U
PCB- 1232	µg/L	0.50	0.0040	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U
PCB- 1242	µg/L	0.50	0.034	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	0.38 U
PCB- 1248	µg/L	0.50	0.034	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U
PCB- 1254	µg/L	0.50	0.034	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U
PCB- 1260	µg/L	0.50	0.034	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard      N/A = not analyzed

**Bold** = detected compound above the MDL

µg/L = microgram per liter



**Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results**

Station ID				SCFmw-002	SCFmw-004	WBGmw-018	WBGmw-019	WBGmw-020	WBGmw-021
Sample ID		MCL	USEPA RSL	FWGSCFmw-002-0327-GW	FWGSCFmw-004-0372-GW	FWGWBGmw-018-0328-GW	FWGWBGmw-019-0329-GW	FWGWBGmw-020-0330-GW	FWGWBGmw-021-0331-GW
Date Collected				8/20/2013	8/20/2013	8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Grab	Grab	Grab	Grab	Grab	Grab
Analyte	Units								
4,4'-DDD	µg/L	NS	0.027	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
4,4'-DDE	µg/L	NS	0.20	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
4,4'-DDT	µg/L	NS	0.20	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Aldrin	µg/L	NS	0.0040	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
alpha-BHC	µg/L	NS	0.0062	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
alpha-Chordane	µg/L	NS	NS	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
beta-BHC	µg/L	NS	0.022	<b>0.014 J</b>	<b>0.0087 J</b>	0.019 U	<b>0.011 J</b>	0.019 U	0.019 U
delta-BHC	µg/L	NS	NS	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Dieldrin	µg/L	NS	0.0015	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Endosulfan I	µg/L	NS	78	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Endosulfan II	µg/L	NS	78	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Endosulfan sulfate	µg/L	NS	NS	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Endrin	µg/L	2.0	1.7	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Endrin aldehyde	µg/L	NS	NS	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Endrin ketone	µg/L	NS	NS	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
gamma-BHC	µg/L	0.20	0.036	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
gamma-Chlordane	µg/L	NS	NS	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Heptachlor	µg/L	0.40	0.0018	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Heptachlor epoxide	µg/L	0.20	0.0033	0.019 U	0.020 U	0.019 U	0.019 U	0.019 U	0.019 U
Methoxychlor	µg/L	40	27	0.048 U	0.049 U	0.048 U	0.048 U	0.048 U	0.048 U
Toxaphene	µg/L	3.0	0.013	0.76 U	0.78 U	0.76 U	0.76 U	0.76 U	0.76 U
PCB- 1016	µg/L	0.50	0.96	N/A	N/A	0.19 U	0.19 U	0.19 U	0.19 U
PCB- 1221	µg/L	0.50	0.0040	N/A	N/A	0.19 U	0.19 U	0.19 U	0.19 U
PCB- 1232	µg/L	0.50	0.0040	N/A	N/A	0.19 U	0.19 U	0.19 U	0.19 U
PCB- 1242	µg/L	0.50	0.034	N/A	N/A	0.38 U	0.38 U	0.38 U	0.38 U
PCB- 1248	µg/L	0.50	0.034	N/A	N/A	0.19 U	0.19 U	0.19 U	0.19 U
PCB- 1254	µg/L	0.50	0.034	N/A	N/A	0.19 U	0.19 U	0.19 U	0.19 U
PCB- 1260	µg/L	0.50	0.034	N/A	N/A	0.19 U	0.19 U	0.19 U	0.19 U

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

NS = no standard                      N/A = not analyzed

**Bold** = detected compound above the MDL

µg/L = microgram per liter



**Table 3-6. FWGWMP August 2013 Pesticides and PCBs Analytical Results**

### Data Qualifiers

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the USACE Louisville Chemistry Guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U      The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.
  
- J      The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - LCS percent recoveries outside acceptance criteria.
  
- R      Data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample [e.g., the MRL verification standard was below quality control guidelines; associated sample results that were non-detect are unusable].
  
- UJ     This flag is a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated RL.
  
- B      The B flag is used for both organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the CLP “B” designation when used by the laboratory as an estimated value for inorganics.



### **3.2.6 Hexavalent Chromium**

The analytical results for hexavalent chromium are summarized in Table 3-7. Well LL3mw-244 had a detected concentration for hexavalent chromium of 0.361 µg/L, which is elevated above the RSL of 0.031 µg/L (there is no MCL for hexavalent chromium). Sample delivery group (SDG) R1306055 contains the chain of custody for the hexavalent chromium analyses.

**Table 3-7. FWGWMP August 2013 Hexavalent Chromium Analytical Results**

Sample ID	Well	Date Collected	Concentration
FWGLL12mw-247-0366-GF	LL12mw-247	8/20/2013	0.020 µg/L U
FWGLL3mw-244-0323-GF	LL3mw-244	8/20/2013	<b>0.361 µg/L J</b>
FWGSCFmw-002-0327-GF	SCFmw-002	8/20/2013	0.020 µg/L U

U The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.

J The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:

- Results detected above the laboratory MDL but less than the laboratory reporting limit.
- MS/MSD percent recoveries outside the acceptance criteria.
- LCS percent recoveries outside acceptance criteria.

### **3.2.7 Perchlorates**

During the August 2013 sampling event perchlorates were analyzed for in the nine wells. Table 3-8 summarizes the results. As shown in Table 3-8 there were no detections elevated above the RSL (11 µg/L) or the MCL [EPA established an Interim Drinking Water Health Advisory of 15 µg/L in water (EPA 2009b)].



**Table 3-8. FWGWMP August 2013 Perchlorate Analytical Results**

Sample ID	Date Collected	Perchlorate (ug/L)	
FWGBKGmw-010C-0311-GF	8/2/2013	<b>0.018</b>	<b>B</b>
FWGDETMw-001C-0314-GF	8/20/2013	0.020	U
FWGDETMw-002C-0315-GF	8/20/2013	<b>0.012</b>	<b>J</b>
FWGFWGmw-002-0317-GF	8/19/2013	0.020	U
FWGFWGmw-009-0319-GF	8/21/2013	0.020	U
FWGLL3mw-239C-0322-GF	8/19/2013	0.031	U
FWGRQLmw-006C-0368-GF	8/19/2013	0.020	U
FWGRQLmw-010C-0325-GF	8/19/2013	<b>0.018</b>	<b>B</b>
FWGRQLmw-011C-0326-GF	8/19/2013	0.020	U

Notes:

All samples were collected as a grab sample.

Maximum Contaminant Level for Perchlorate is 15 µg/L

USEPA Regional Screening Level (Nov 2013) for Perchlorate is 11 µg/L

µg/L = microgram per liter

**Bold** = detected compound above the MDL



**Table 3-8. FWGWMP August 2013 Perchlorates Analytical Results**

**Data Qualifiers**

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the USACE Louisville Chemistry Guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U      The analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.
  
- J      The identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - LCS percent recoveries outside acceptance criteria.
  
- R      Data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample [e.g., the MRL verification standard was below quality control guidelines; associated sample results that were non-detect are unusable].
  
- UJ     This flag is a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated r RL.
  
- B      The B flag is used for both organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the CLP “B” designation when used by the laboratory as an estimated value for inorganics.



### 3.3 Data Verification/Validation

As discussed in Sections 2.4 and 3.3, all primary chemical data were generated by Test America, with the exception of the analysis of hexavalent chromium, which was generated by ALS. RTI conducted the independent QA analysis; however, EQM is not required to verify RTI data. A multi-step process is conducted, which involves the lab, the ADR data program, and a data validator performing the data verification and validation of the data. During the First Step each lab analyzes the data and assigns a qualifier as necessary in full accordance with DoD QSM and LS guidelines.

Analytical data was then reviewed by qualified EQM personnel, and a report was generated according to Step 2 of the LS and the DoD QSM, with any deviations/outliers noted in the summary report. The USACE-supplied ADR program assigns qualifiers to the data, as necessary, consistent with the programmed criteria of the ADR software. Additionally, the data validator uses professional judgment to check the validity of the qualified data and either accepts, rejects, or re-qualifies the ADR results following strict DoD QSM and LS guidelines.

After this multi-step process has been completed, the resulting final ADR qualifiers may not match the original lab qualifiers that are presented on the laboratory data sheets. As a result of the data validation process, one or more of four possibilities may occur:

1. The lab assigns a B, J, or E to the data, and ADR and/or the data validator changes the qualifier to a J, UJ, U, B, or R.
2. The lab assigns no qualifier to the data, and ADR and/or the data validator assigns a J, UJ, U, B, or R to the data.
3. The lab assigns a B, J, or E to the data, and ADR and/or the data validator assigns no qualifier to the data.
4. The lab assigns a J qualifier or uses no qualifier, and ADR and/or the data validator accepts the lab designation.

For the August 2013 Sampling Event Report, the laboratory data, with laboratory-derived qualifiers that follow DoD QSM and LS criteria, are presented in Appendix C. The verification reports for the data are also presented in Appendix C, which includes the definitions of the ADR qualifiers. The data presented in Tables 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, and 3-8 are the result of the data that has been subjected to the multi-step process of verification and validation. These tables display the final assigned data qualifier in accordance with DoD QSM and LS criteria.

Data qualifier flags are used in an effort to describe the quality of each piece of data for each constituent. These flags are letter codes appended to the numerical data. The following data qualifiers are specified in the guidelines. For a complete explanation of qualifiers used for each constituent please refer to the Data Verification Summaries in Appendix C.

- U = the analyte was analyzed for but not detected. The numerical value preceding the U is the associated reporting limit.



- J = the identification of the analyte is acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e., the quantitative value is estimated). Examples include:
  - Results detected above the laboratory MDL but less than the laboratory reporting limit.
  - MS/MSD percent recoveries outside the acceptance criteria.
  - LCS percent recoveries outside acceptance criteria.
- R = data are considered to be rejected and shall not be used. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent from the sample (e.g., MRL verification standard was below quality control guidelines; associated sample results that were non-detect are unusable).
- UJ = a combination of the U and J qualifiers, which indicate that the analyte is not present. The reported value is considered to be an estimated reporting limit.
- B = used for organic and inorganic analyses when the analyte is found in the method blank or any of the field blanks. This designation overrides the CLP “B” designation when used by the laboratory as an estimated value for inorganics.

Fifty-three wells, including the five RCRA wells, were sampled during a 3-day sampling event from August 19-21, 2013. During the event, ten trip blanks were submitted to TestAmerica for volatile organic analysis.

Six field duplicates were collected during the sampling event in order to assess the quality and consistency of sample collection. Project requirements of 10% field duplicates were met for this sampling event. In addition, six laboratory splits were collected and analyzed in order to assess the quality and consistency of the laboratory analysis. The project requirements of taking 10% laboratory splits were met for this sampling event. One equipment rinsate blank was collected during each day of monitoring well sampling; a total of three equipment rinsate blanks were collected.

For the August 2013 sampling event, the following laboratory or field contamination was identified at detections greater than ½ MRL for the field QA/QC samples.

## **SDG 240-28100**

### Trip Blank Contamination

Acetone was detected in FWGTEAM1-TRIP at 1.2 µg/L and methylene chloride at 0.55 µg/L. FWGTeam3-Trip had acetone detected at 1.1 µg/L and methylene chloride at 0.52 µg/L. The acetone results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-006c-0368-GW and FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW and they were qualified, “B” as the detected concentrations were <5x blank contamination.

### Method Blanks

- Methylene chloride was detected in the method blank from batch 240-99810 at 0.893 µg/L. No qualifications were required as there were no detected concentrations of



methylene chloride reported for the bracketed field sample, FWGRQLmw-011c-0326-GW.

- bis(2-ethylhexyl)phthalate was detected in the method blank from batch 240-98336 at 0.593 µg/L. The bis(2-ethylhexyl)phthalate results for samples FWGFWGmw-004-0346-GW, FWGFWGmw-015-0350-GW, FWGFWGmw-016-0351-GW, FWGLL3mw-238c-0359-GW and FWGLL3mw-241c-0360-GW were qualified, “B”.
- Manganese was detected in the method blank at 2.75 µg/L. The manganese results for samples FWGFWGmw-004-0346-GF, FWGLL3mw-238C-0359-GF, and FWGLL3mw-241C-0360-GF were qualified, “B”.

#### Equipment Rinse- FWGEQUIPRINSE1-0340-GW

- Acetone was detected at 19 µg/L, carbon disulfide at 0.13 µg/L, toluene at 0.14 µg/L and 2-butanone at 1.5 µg/L. The acetone results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-006c-0368-GW and FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW and the carbon disulfide result for sample FWGRQLmw-006c-0368-GW were qualified, “B” as the detected concentrations were <5x blank contamination. There were no detected 2-butanone or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone or toluene contamination.
- Bis(2-ethylhexyl)phthalate was detected at 0.38 µg/L, diethylphthalate at 1.3 µg/L and benzyl alcohol at 0.44 µg/L. The bis(2-ethylhexyl)phthalate results for samples FWGRQLmw-011c-0326-GW, FWGRQLmw-006c-0368-GW, FWGRQLmw-009c-0371-GW and FWGRQLmw-DUP5-0377-GW were qualified, “B”. No qualifications were made for the diethylphthalate or benzyl alcohol contamination as there were no detected 2-butanone or benzyl alcohol concentrations reported for these analytes in the associated field samples.
- beta-BHC was detected at 0.018 µg/L. The beta-BHC results for samples FWGRQLmw-006c-0368-GW and FWGRQLmw-008C-0370-GW were qualified, “B”.
- Sodium was detected at 410 µg/L. The sodium results for samples FWGRQLmw-006c-0368-GF, FWGRQLmw-009c-0371-GF, FWGRQLmw-011c-0326-GF and FWGRQLmw-DUP5-0377-GF were qualified, “B”.

#### **SDG 240-28145**

##### Trip Blank Contamination

Methylene chloride was detected in FWGTEAM1-TRIP at 0.33 µg/L, in FWGTEAM2-TRIP at 0.59 µg/L, in FWGTEAM3-TRIP at 0.45 µg/L, FWGTeam4-Trip (collected 8/19/13) at 0.61 µg/L and FWGTeam4-Trip (collected 8/20/13) at 0.52 µg/L. No qualifications were made as there were no detected methylene chloride results reported less than 5x blank contamination.



### Method Blanks

- Toluene was detected at 0.164µg/L in the method blank from batch 240-99628. No qualifications were required as there were no detected toluene concentrations reported for the associated field samples.
- Bis(2-ethylhexyl)phthalate was detected in the method blank from batch 240-98943 at 0.376µg/L and at 0.601µg/L in the method blank from batch 240-984497. The bis(2-ethylhexyl)phthalate results for samples FWGFWGmw-012-0349-GW, FWGLL12mw-187-0363-GW, FWGLL12mw-242-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified, “B”.

### Equipment Rinse- FWGEQUIPRINSE1-0340-GW & FWGEQUIPRINSE2-0341-GW

- Acetone- FWGEQUIPRINSE1-0340-GW had acetone detected at 19 µg/L, carbon disulfide at 0.13 µg/L, toluene at 0.14 µg/L and 2-butanone at 1.5 µg/L. FWGEQUIPRINSE2-0341-GW had acetone detected at 21 µg/L, carbon disulfide at 1.3 µg/L and 2-butanone at 1.1 µg/L. The carbon disulfide result for sample FWGDA2mw-115-0313-GW and the acetone results for samples FWGRQLmw-007c-0369-GW and FWGRQLmw-010c-0325-GW were qualified, “B” as the detected concentrations were <5x blank contamination. There were no detected 2-butanone or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone or toluene contamination.
- Bis(2-ethylhexyl)phthalate was detected at 0.38µg/L, diethylphthalate at 1.3µg/L and benzyl alcohol at 0.44 µg/L in FWGEQUIPRINSE1-0340-GW. Bis(2-ethylhexyl)phthalate was detected at 0.53 µg/L, diethylphthalate at 1.4µg/L, phenol at 0.61µg/L and benzyl alcohol at 0.66 µg/L in FWGEQUIPRINSE2-0341-GW. The bis(2-ethylhexyl)phthalate results for samples FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDA2mw-DUP1-0336-GW, FWGDETMw-001c-0314-GW, FWGDETMw-002c-0315-GW, FWGDETMw-003c-0343-GW FWGFWGmw-012-0349-GW, FWGLL12mw-187-0363-GW, FWGLL12mw-242-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified, “B”. No qualifications were made for the diethylphthalate, phenol or benzyl alcohol contamination as there were no detected 2-butanone, phenol or benzyl alcohol concentrations reported for the associated field samples.
- FWGEQUIPRINSE1-0340-GW had beta-BHC detected at 0.018 µg/L. No qualifications were required as there were no detected beta-BHC concentrations reported for the samples associated with FWGEQUIPRINSE1-0340-GW.



- FWGEQUIPRINSE1-0340-GW had sodium detected at 410 µg/L. No qualifications were required as the detected sodium results associated FWGEQUIPRINSE1-0340-GW with were greater than 5x blank contamination.

## **SDG 240-28186**

### Trip Blank Contamination

Methylene chloride was detected in FWGTEAM1-TRIP at 0.47 µg/L, in FWGTEAM2-TRIP at 0.69 µg/L and in FWGTEAM3-TRIP at 0.77 µg/L. FWGTeam4-Trip had acetone detected at 1.4 µg/L and methylene chloride at 0.85 µg/L. The methylene chloride results for samples FWGEQUIPRINSE3-0342-GW and the acetone results for samples FWGFWGmw-009-0319-GW, FWGLL2mw-059C-0357-GW and FWGWBGmw-DUP4-0339-GW were qualified, “B” as the detected concentrations were <5x blank contamination.

### Method Blanks

- Toluene was detected at 0.164 µg/L in the method blank from batch 240-99628 and methylene chloride was detected in the method blank from batch 240-99810 at 0.893 µg/L. The methylene chloride results for samples FWGEQUIPRINSE3-0342-GW and FWGTEAM4-TRIP were qualified, “B”. No qualifications were required for the toluene contamination as there were no detected toluene concentrations reported for the associated field samples.
- Bis(2-ethylhexyl)phthalate was detected in the method blank from batch 240-98675 at 0.425µg/L and di-n-butyl phthalate at 0.720µg/L. Bis(2-ethylhexyl)phthalate was detected in the method blank from batch 240-98883 at 0.25 µg/L. The bis(2-ethylhexyl)phthalate and di-n-butyl phthalate results for samples FWGLL1mw-084C-0355-GW, FWGLL1mw-083C-0354-GW, FWGFBQmw-174C-0345-GW, FWGLL1mw-086-0320-GW, FWGLL2mw-267C-0358-GW, FWGDETMw-004C-0344-GW, FWGWBGmw-006C-0373-GW, FWGWBGmw-009C-0374-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-021-0331-GW, FWGEQUIPRINSE3-0342-GW, FWGWBGmw-DUP4-0328-GW, FWGLL2mw-265c-0321-GW, FWGLL2mw-059c-0357-GW, FWGWBGmw-020-0330-GW, FWGNTAmw-119-0367-GW and FWGWBGmw-019-0329-GW were qualified, “B”. The bis(2-ethylhexyl)phthalate results for samples FWGFWGmw-009-0319-GW, FWGWBGmw-018-0328-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-006C-0373-GW and FWGFWGmw-007-0347-GW were qualified, “B”.
- Manganese was detected in the method blank from batch 240-98698 at 2.16 µg/L. The manganese result for sample FWGDETMw-004c-0344-GF was qualified “B”, as the detected result was < 5x blank contamination.
- Aluminum was detected in the method blank from batch 240-98698 at 107 µg/L. The aluminum result for sample FWGWBGmw-009c-0374-GF was qualified, “B” as the detected aluminum result was < 5x blank contamination.



### Equipment Rinse- FWGEQUIPRINSE3-0342-GW

- Acetone was detected at 9.9 µg/L, chloroform at 0.52 µg/L, 2-butanone at 1.7µg/L, toluene at 0.18 µg/L and methylene chloride at 0.81 µg/L. The acetone results for samples FWGFWGmw-009-0319-GW, FWGLL2mw-059C-0357-GW and FWGWBGmw-DUP4-0339-GW were qualified, “B” as the detected concentrations were <5x blank contamination. There were no detected acetone, 2-butanone, chloroform or toluene results reported for the associated field samples, so no qualifications were made for the acetone, 2-butanone, chloroform or toluene contamination.
- Bis(2-ethylhexyl)phthalate was detected at 0.41 µg/L and di-n-butyl phthalate at 1 µg/L. The bis(2-ethylhexyl)phthalate and di-n-butyl phthalate results for samples FWGLL1mw-084C-0355-GW, FWGLL1mw-083C-0354-GW, FWGFBQmw-174C-0345-GW, FWGLL1mw-086-0320-GW, FWGLL2mw-267C-0358-GW, FWGDETmw-004C-0344-GW, FWGWBGmw-006C-0373-GW, FWGWBGmw-009C-0374-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-021-0331-GW, FWGWBGmw-DUP4-0328-GW, FWGLL2mw-265c-0321-GW, FWGLL2mw-059c-0357-GW, FWGWBGmw-020-0330-GW, FWGNTAmw-119-0367-GW and FWGWBGmw-019-0329-GW were qualified, “B”. The bis(2-ethylhexyl)phthalate results for samples FWGFWGmw-009-0319-GW, FWGWBGmw-018-0328-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-006C-0373-GW and FWGFWGmw-007-0347-GW were qualified, “B”.

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#### Equipment Rinse- FWGEQUIPRinse2-0341-GW

- Hexavalent chromium was detected at 0.043 µg/L. No qualification of the data was required as the detected hexavalent chromium concentrations were greater than 5x blank contamination.

For a discussion of method blank contamination please reference the Data Verification Reports and the Laboratory Case Narrative in Appendix C. Laboratory analyses were performed in analytical batches of ≤20 in order to maximize efficiency and group quality control requirements. Method blanks and laboratory control samples were analyzed at a frequency of 1:20 (5%) samples or in each analytical batch, whichever was greater. Sufficient volume was provided to the laboratory in order to assess matrix spike analysis on project samples at a frequency of 1:10 (10%) samples. Matrix spike/matrix spike duplicate analysis was performed by the laboratory as batch quality control at a frequency of 1:20 (5%).

Field quality control and laboratory quality control results were evaluated as part of the verification assessment provided in Appendix C. Project requirements were met for the frequency and quality of these samples.

Table 3-9 presents the percent, by analytical method, of data that were acceptable (based on data not rejected) for use. The rejected data points were due to the following reasons:

- The 3,3'-dichlorobenzidine result for sample FWGRQLmw-008c-0370-GW was qualified as unusable, “R”, as the matrix spike and spike duplicate recoveries were below control limits of 20-110% for 3,3'-dichlorobenzidine at 0% in the MS and MSD. Matrix



spike outliers are typically caused by matrix inference, so no corrective actions are required other than qualifying the data as estimated or unusable based on other batch and instrument QC results or professional judgment of the data reviewer.

- The continuing calibration verification (CCV) analyzed 8/23/13 @ 2336 did not recover for delta-BHC. The delta-BHC results for samples FWGRQLmw-008C-0370-GW, FWGRQLmw-011C-0326-GW, FWGLL3mw-238C-0359-GW, FWGLL3mw-241C-0360-GW, FWGFWGmw-004-0346-GW, FWGRQLmw-009C-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGRQLmw-006C-0368-GW and FWGEQUIPRINSE1-0340-GW were qualified as unusable, “R”. No additional corrective actions will be taken at this time for the continuing calibration verification (CCV) failure. CCV failures typically are handled at the bench level as directed by the DOD quality systems manual (QSM) Table F-4, “Problem must be corrected. Results may not be reported without a valid CCV.” The CCV outlier was missed by the laboratory analyst reviewing data. The EQM data reviewer qualified the data as unusable as a result of the laboratory oversight.

This does not, however, have any negative effect on the usability of other parameters analyzed under the same method. Rejected data do call into question the interpretation of that particular data for a given monitoring event and it is important to correct any problems to prevent a reoccurrence for future sampling events.

**Table 3-9. Percent of Acceptable Data**

<b>Analytical Method</b>	<b>Total Number of Analytes</b>	<b>Number of Rejects</b>	<b>Percent Completeness</b>
218.6	5	0	100.0
353.2	7	0	100.0
6010B	784	0	100.0
6020	448	0	100.0
6860	13	0	100.0
7470A	56	0	100.0
8081A	903	9	99.0
8082	168	0	100.0
8260B	1716	0	100.0
8270C - SVOC 1&3	25	0	100.0
8270C -SVOC1	174	0	100.0
8270C-SVOC4	1512	1	99.9
8330	864	0	100.0
9012A	24	0	100.0
SW8330 Modified	54	0	100.0
WS-WC-0050	54	0	100.0
<b>TOTAL</b>	<b>6807</b>	<b>10</b>	<b>99.9</b>

All qualified data are discussed in the Data Verification Reports contained in Appendix C. All other data meet the requirements specified in the DoD QSM, LS criteria, and the QAPP associated with this site.



## SECTION 4

### SUMMARY OF RESULTS

#### **Explosive and Propellant Compounds**

As shown in Table 3-2, the following explosives or propellants were detected at levels above their corresponding MCLs or RSLs during the August 2013 sampling event:

- 2,4-Dinitrotoluene in FBQmw-174 (0.45 µg/L), LL1mw-083 (2.9 µg/L J), LL1mw-084 (1.4 µg/L J), LL2mw-059 (0.21 µg/L), and LL2mw-267 (0.30 µg/L).. There is no MCL for 2,4-dinitrotoluene. The RSL is 0.2 µg/L.
- 2,4,6-Trinitrotoluene in FBQmw-174 (18 µg/L), LL1mw-083 (4.5 µg/L J), LL1mw-084 (12 µg/L J), LL3mw-238 (79 µg/L), and LL3mw-241 (3.3 µg/L). There is no MCL for 2,4,6-trinitrotoluene. The RSL is 2.2 µg/L.
- 2,6-Dinitrotoluene in LL1mw-083 (1.5 µg/L J), LL1mw-084 (0.95 µg/L J), LL3mw-238 (0.52 µg/L J), LL3mw-241 (0.083 µg/L J), and RQLmw-008 (0.14 µg/L J). There is no MCL for 2,6-dinitrotoluene. The RSL is 0.042 µg/L.
- 4-Amino-2,6-dinitrotoluene in LL1mw-084 (36 µg/L), and LL3mw-238 (37 µg/L). There is no MCL for 4-amino-2,6-dinitrotoluene. The RSL is 30 µg/L.
- Nitrate-Nitrite in LL12mw-185 (130 mg/L), LL12mw-187 (1200 mg/L J). The MCL for nitrate-nitrite is 1 mg/L. The RSL is 1.6 mg/L.
- Nitrobenzene in LL3mw-238 (0.17 µg/L J). There is no MCL for nitrobenzene. The RSL is 0.12 µg/L.
- RDX in DETmw-004 (2.3 µg/L), LL1mw-084 (2.1 µg/L J), LL2mw-267 (1.5 µg/L), LL3mw-238 (7.2 µg/L), LL3mw-241 (0.98 µg/L J), and WBGmw-006 (15 µg/L), WBGmw-009 (3.5 µg/L). There is no MCL for RDX. The RSL is 0.61 µg/L.

#### **Inorganic Elements**

Several inorganic compounds were detected at levels exceeding the MCLs and/or RSLs. These included aluminum, arsenic, cobalt, cyanide, iron, manganese, and thallium in wells from all areas sampled. Table 4-1 in Section 4 presents a summary of all inorganic compounds and the associated wells that had detections exceeding MCLs and/or the RSLs.

#### **Volatile Organic Compounds**

As shown in Table 3-4, the only VOCs detected at levels exceeding their corresponding MCLs or RSLs during the August 2013 sampling event were:



- Carbon tetrachloride in LL10mw-003 (4.2 µg/L). The MCL for carbon tetrachloride is 5.0 µg/L. The RSL is 0.39 µg/L.
- Chloroform in LL10mw-003 (0.56 µg/L). There is no MCL for chloroform. The RSL is 0.19 µg/L.

### **Semivolatile Organic Compounds**

As shown in Table 3-5, the following SVOCs were detected at levels exceeding either their corresponding MCLs or RSLs:

- Benzo(a)anthracene in DETmw-003 (0.15 µg/L). There is no MCL for benzo(a)anthracene. The RSL is 0.029 µg/L.
- Benzo(a)pyrene in DETmw-003 (0.12 µg/L). The MCL for benzo(a)pyrene is 0.2 µg/L, The RSL is 0.0029 µg/L.
- Benzo(b)fluoranthene in DETmw-003 (0.12 µg/L). There is no MCL for benzo(b)fluoranthene. The RSL is 0.029 µg/L.

### **Pesticides and Polychlorinated Biphenyls (PCBs)**

As shown in Table 3-6, the following pesticide was detected at levels exceeding either their MCLs or RSLs.

- beta-BHC in LL1mw-084 (0.069 µg/L) and LL3mw-244 (0.025 µg/L). There is no MCL for beta-BHC. The RSL is 0.022 µg/L.

### **Hexavalent Chromium**

The analytical results for hexavalent chromium are summarized in Table 3-7. Well LL3mw-244 had a detected concentration for hexavalent chromium of 0.361 which is elevated above the RSL of 0.031 µg/L (there is no MCL for hexavalent chromium).

### **Perchlorates**

During the August 2013 sampling event perchlorates were analyzed for in the 9 wells. Table 3-8 summarizes the results. As shown in Table 3-8 there were no detections elevated above the RSL (11 µg/L) or the MCL [EPA established an Interim Drinking Water Health Advisory of 15 µg/L in water (EPA 2009b)].



Table 4-1. Inorganic Elements Detected at Concentrations Exceeding the MCLs or RSLs

Area	Well Number	Analyte	Aug-13 Level (µg/L)	MCL (µg/L)	USEPA RSLs (µg/L)
Demolition Area #2	DA2mw-114	IRON	920	300	11000
		MANGANESE	82	50	320
	DA2mw-115	IRON	720	300	11000
		MANGANESE	110	50	320
	DETmw-001	ARSENIC	26	10	0.045
		IRON	900	300	11000
	DETmw-002	MANGANESE	390	50	320
		MANGANESE	56	50	320
	DETmw-003	ARSENIC	12	10	0.045
		BENZO(A)ANTHRACENE	0.15	NS	0.029
		BENZO(A)PYRENE	0.12	0.2	0.0029
		BENZO(B)FLUORANTHENE	0.12	NS	0.029
		IRON	1400	300	11000
		MANGANESE	250	50	320
	DETmw-004	RDX	2.3	NS	0.61
Erie Burning Grounds	EBGmw-131	IRON	730	300	11000
Fuze & Booster Quarry	FBQmw-174	2,4-DINITROTOLUENE	0.45	NS	0.2
Facility-Wide	FWGmw-009	ARSENIC	9.8 J	10	0.045
		IRON	910	300	11000
	FWGmw-009	MANGANESE	180	50	320
		BIS(2-ETHYLHEXYL)PHTHALATE	13	6	4.8
	FWGmw-011	IRON	1900	300	11000
		MANGANESE	270	50	320
	FWGmw-012	IRON	2100	300	11000
		MANGANESE	110	50	320
	FWGmw-015	MANGANESE	940	50	320
		ARSENIC	4.3 J	10	0.045
	FWGmw-016	IRON	600	300	11000
		MANGANESE	210	50	320
Load Line 1	LL1mw-064	IRON	580	300	11000
		MANGANESE	130	50	320
	LL1mw-065	MANGANESE	200	50	320
	LL1mw-083	2,4,6-TRINITROTOLUENE	4.5 J	NS	2.2
		2,4-DINITROTOLUENE	2.9 J	NS	0.2
		2,6-DINITROTOLUENE	1.5 J	NS	0.042
		ALUMINUM	640	200	16000
		COBALT	7.1	NS	4.7
		MANGANESE	410	50	320
	LL1mw-084	2,4,6-TRINITROTOLUENE	12 J	NS	2.2
		2,4-DINITROTOLUENE	1.4 J	NS	0.2
		2,6-DINITROTOLUENE	0.95 J	NS	0.042
		4-AMINO-2,6-DINITROTOLUENE	36	NS	30
		ALUMINUM	1300	200	16000
		BETA-BHC	0.069	NS	0.022
		COBALT	9.0	NS	4.7
		MANGANESE	67	50	320
		RDX	2.1 J	NS	0.61
	LL1mw-086	ARSENIC	3.7 J	10	0.045
		IRON	600	300	11000
		MANGANESE	310	50	320
	LL1mw-087	MANGANESE	200	50	320
Load Line 2	LL2mw-059	2,4-DINITROTOLUENE	0.21	NS	0.2
		ARSENIC	7.3 J	10	0.045
		COBALT	14	NS	4.7
		IRON	5300	300	11000
		MANGANESE	970	50	320



Table 4-1. Inorganic Elements Detected at Concentrations Exceeding the MCLs or RSLs

Area	Well Number	Analyte	Aug-13 Level (µg/L)	MCL (µg/L)	USEPA RSLs (µg/L)
Load Line 2	DA2mw-114	IRON	920	300	11000
		MANGANESE	82	50	320
	LL2mw-265	COBALT	4.8	NS	4.7
		IRON	2900	300	11000
	LL2mw-267	MANGANESE	540	50	320
		2,4-DINITROTOLUENE	0.30	NS	0.2
		IRON	360	300	11000
		MANGANESE	490	50	320
		RDX	1.5	NS	0.61
		2,4,6-TRINITROTOLUENE	79	NS	2.2
Load Line 3	LL3mw-238	2,6-DINITROTOLUENE	0.52 J	NS	0.042
		4-AMINO-2,6-DINITROTOLUENE	37	NS	30
		NITROBENZENE	0.17 J	NS	0.12
		RDX	7.2	NS	0.61
		2,4,6-TRINITROTOLUENE	3.3	NS	2.2
	LL3mw-241	2,6-DINITROTOLUENE	0.083 J	NS	0.042
		RDX	0.98	NS	0.61
	LL3mw-244	BETA-BHC	0.025 J	NS	0.022
Load Line 10	LL10mw-003	CARBON TETRACHLORIDE	4.2	5	0.39
		CHLOROFORM	0.56	NS	0.19
Load Line 12	LL12mw-185	MANGANESE	1700	50	320
		NITRATE-NITRITE'	130	1	1.6
	LL12mw-187	COBALT	9.9	NS	4.7
		MANGANESE	2200	50	320
	LL12mw-242	NITRATE-NITRITE'	1200	1	1.6
		ARSENIC	19	10	0.045
		IRON	660	300	11000
	LL12mw-245	MANGANESE	61	50	320
		THALLIUM	1.1 J	2	0.16
	LL12mw-247	MANGANESE	190	50	320
NACA Test Area	NTAmw-119	MANGANESE	280	50	320
		IRON	1500	300	11000
		MANGANESE	340	50	320
Ramsdell Quarry	RQLmw-006	NAPHTHALENE	0.11	NS	0.14
		ARSENIC	13	10	0.045
		COBALT	9.2	NS	4.7
		IRON	54000	300	11000
	RQLmw-007	MANGANESE	6800	50	320
		ARSENIC	55	10	0.045
		COBALT	7.1	NS	4.7
		CYANIDE'	0.0080 J	0.2	0.0014
	RQLmw-008	IRON	13000	300	11000
		MANGANESE	2100	50	320
		2,6-DINITROTOLUENE	0.14 J	NS	0.042
		ARSENIC	38	10	0.045
	RQLmw-009	IRON	89000	300	11000
		MANGANESE	660	50	320
		THALLIUM	1.2 J	2	0.16
		ARSENIC	43	10	0.045
	RQLmw-010	COBALT	6.0	NS	4.7
		IRON	13000	300	11000
		MANGANESE	1500	50	320
		MANGANESE	1300	50	320
	RQLmw-011	ALUMINUM	2500	200	16000
		COBALT	25	NS	4.7
		IRON	4700	300	11000
		MANGANESE	2300	50	320



**Table 4-1. Inorganic Elements Detected at Concentrations Exceeding the MCLs or RSLs**

Area	Well Number	Analyte	Aug-13 Level (µg/L)	MCL (µg/L)	USEPA RSLs (µg/L)
	DA2mw-114	IRON	920	300	11000
		MANGANESE	82	50	320
Sharon Conglomerate	SCFmw-002	ARSENIC	15	10	0.045
		IRON	340	300	11000
	SCFmw-004	MANGANESE	70	50	320
		MANGANESE	740 J	50	320
Winklepack Burning Grounds	WBGmw-006	MANGANESE	65	50	320
		RDX	15	NS	0.61
	WBGmw-009	RDX	3.5	NS	0.61
		IRON	430	300	11000
	WBGmw-019	MANGANESE	250	50	320
		IRON	4000	300	11000
	WBGmw-020	MANGANESE	330	50	320
		ARSENIC	6.5 J	10	0.045
	WBGmw-021	IRON	570	300	11000
		MANGANESE	240	50	320

Notes:

MCL = Maximum Contaminant Level

RSL = USEPA Regional Screening Level, Nov 2013

1 = mg/L = milligram per liter

µg/L= micrograms per liter

NS = no standard

J = estimated result. Results have been qualified "J." For more details refer to Data Verification/Validation Reports.

All inorganics are filtered; all organics are not filtered.



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**APPENDIX A**

**CURRENT MONITORING WELL SCHEDULE**



### August 2013 Semiannual Well Sampling List

Well ID Number	RVAAP Location	Sampling Rationale
BKGmw-010	Background Well	Needed perchlorate analysis to complete full suite of sampling
B12mw-013	Building 1200	Complete 4 quarters of sampling
DA2mw-114	Demolition Area #2	Semiannual Well
DA2mw-115	Demolition Area #2	Semiannual Well
DETmw-001	Demolition Area #2	Complete 4 quarters of sampling
DETmw-002	Demolition Area #2	Complete 4 quarters of sampling
DETmw-003	Demolition Area #2	Semiannual RCRA Well
DETmw-004	Demolition Area #2	Semiannual RCRA Well
EBGmw-131	Erie Burning Grounds	Complete 4 quarters of sampling
FBQmw-174	Fuze & Booster Quarry	Semiannual Well
FWGmw-002	Facility-Wide wells	Needed perchlorate analysis to complete full suite of sampling
FWGmw-004	Facility-Wide wells	Semiannual Well
FWGmw-006	Facility-Wide wells	VOC sampling due to historical benzen detections
FWGmw-007	Facility-Wide wells	Semiannual Well
FWGmw-009	Facility-Wide wells	Complete 4 quarters of sampling
FWGmw-011	Facility-Wide wells	Semiannual Well
FWGmw-012	Facility-Wide wells	Semiannual Well
FWGmw-015	Facility-Wide wells	Semiannual Well
FWGmw-016	Facility-Wide wells	Semiannual Well
LL1mw-064	Load Line 1	Semiannual Well
LL1mw-065	Load Line 1	Semiannual Well
LL1mw-083	Load Line 1	Semiannual Well
LL1mw-084	Load Line 1	Semiannual Well
LL1mw-086	Load Line 1	Semiannual Well
LL1mw-087	Load Line 1	Semiannual Well
LL2mw-059	Load Line 2	Semiannual Well
LL2mw-265	Load Line 2	Semiannual Well
LL2mw-267	Load Line 2	Semiannual Well
LL3mw-238	Load Line 3	Semiannual Well
LL3mw-239	Load Line 3	Needed perchlorate analysis to complete full suite of sampling
LL3mw-241	Load Line 3	Semiannual Well
LL3mw-244	Load Line 3	Semiannual Well
LL10mw-003	Load Line 10	Semiannual Well
LL12mw-185	Load Line 12	Semiannual Well
LL12mw-187	Load Line 12	Semiannual Well
LL12mw-242	Load Line 12	Semiannual Well
LL12mw-245	Load Line 12	Semiannual Well
LL12mw-247	Load Line 12	Semiannual Well
NTAmw-119	NACA Testing Area	Semiannual Well
RQLmw-006	Ramsdell Quarry Landfill	Complete 4 quarters of sampling
RQLmw-007	Ramsdell Quarry Landfill	Semiannual RCRA Well
RQLmw-008	Ramsdell Quarry Landfill	Semiannual RCRA Well
RQLmw-009	Ramsdell Quarry Landfill	Semiannual RCRA Well
RQLmw-010	Ramsdell Quarry Landfill	Complete 4 quarters of sampling
RQLmw-011	Ramsdell Quarry Landfill	Complete 4 quarters of sampling
SCFmw-002	Sharon Conglomerate Formation	Semiannual Well
SCFmw-004	Sharon Conglomerate Formation	Semiannual Well
WBGmw-006	Winklepeck Burning Grounds	Semiannual Well
WBGmw-009	Winklepeck Burning Grounds	Semiannual Well
WBGmw-018	Winklepeck Burning Grounds	Complete 4 quarters of sampling
WBGmw-019	Winklepeck Burning Grounds	Complete 4 quarters of sampling
WBGmw-020	Winklepeck Burning Grounds	Semiannual Well
WBGmw-021	Winklepeck Burning Grounds	Semiannual Well



## **APPENDIX B**

### **WATER-LEVEL MEASUREMENTS/FIELD LOG BOOK/CALIBRATION RECORDS/ SAMPLE AND PURGE RECORDS/DAILY QUALITY CONTROL REPORTS**



## **Signature Page**



## August 2013 FWGWMP Monitoring Well Event Field Personnel Abbreviations and Signatures Page

### Field Personnel

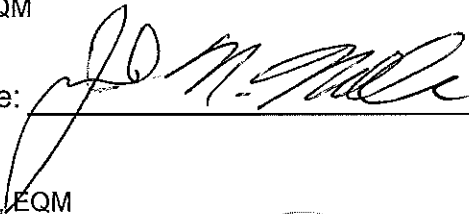
Name	Affiliation	Initials
Bryan Deskins	EQM	BD
Angela S. Dragotta	EQM	AD/ASD
Colleen A. Lear	EQM	CL/CAL
Erik Corbin	EQM	EC
John Miller	EQM	JM
Stephen Stuergeron	EQM	SS
Suzanne Rittinger	EQM	SR
Ryan Russell	EQM	RR
Scott A. Spesshardt	EQM	SAS

### Project and Field Leads

Name, Title, Affiliation

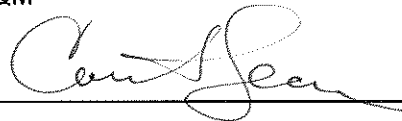
John Miller, Project Manager / QC Check, EQM

Signature: \_\_\_\_\_



Colleen A. Lear, Field Manager / QC Check, EQM

Signature: \_\_\_\_\_



Erik Corbin, Sample Manager, EQM

Signature: \_\_\_\_\_





**Comprehensive Water Level  
Measurements**



## COMPREHENSIVE WATER LEVEL MEASUREMENTS

RVAAP FACILITY-WIDE GROUNDWATER MONITORING PROGRAM

August 2013

Well Number	Location	Date	Time	Depth to Water*	Depth to Bottom	Description of bottom	Instrument/Serial Number
B12mw-013	Building 1200	8/19/2013	14:35	17.63	24.16	hard	heron
BKGmw-010	Background	8/19/2013	14:55	15.45	21.98	hard	heron
DA2mw-114	Demo.Area 2	8/20/2013	16:30	5.7	21.75	medium	heron
DA2mw-115	Demo.Area 2	8/20/2013	14:45	6.1	46.79	medium	heron
DETmw-001	Demo.Area 2	8/20/2013	15:05	22.5	38.88	medium	heron
DETmw-002	Demo.Area 2	8/20/2013	14:50	32.69	41.99	medium	heron
DETmw-003	Demo.Area 2	8/20/2013	14:40	9.63	15.99	hard	heron
DETmw-004	Demo.Area 2	8/20/2013	14:30	10.88	13.80	hard	heron
EBGmw-131	Erie Burning Grounds	8/19/2013	13:00	9.69	73.40	hard	heron
FBQmw-174	Fuze and Booster Quarry	8/14/2013	10:32	15.4	23.14	hard	OH02911
FWGmw-002	Facilitywide	8/19/2013	14:05	23.29	69.80	hard	heron
FWGmw-004	Facilitywide	8/14/2013	12:30	13.09	22.45	hard	heron
FWGmw-006	Facilitywide	8/19/2013	16:20	6.31	19.24	hard	heron
FWGmw-007	Facilitywide	8/20/2013	10:40	23.72	32.16	hard	heron
FWGmw-009	Facilitywide	8/20/2013	11:00	2.84	20.32	medium	heron
FWGmw-011	Facilitywide	8/19/2013	13:30	2.84	17.69	hard	heron
FWGmw-012	Facilitywide	8/19/2013	13:35	1.24	42.41	hard	heron
FWGmw-015	Facilitywide	8/14/2013	12:15	5.04	26.21	hard	heron
FWGmw-016	Facilitywide	8/14/2013	12:20	16.27	67.45	hard	heron
LL1mw-064	Loadline 1	8/19/2013	13:25	1.21	21.07	hard	heron
LL1mw-065	Loadline 1	8/13/2013	11:48	10.76	22.96	hard	1659
LL1mw-083	Loadline 1	8/13/2013	13:58	31.05	41.41	hard	1659
LL1mw-084	Loadline 1	8/13/2013	13:45	27.11	38.93	hard	1659
LL1mw-086	Loadline 1	8/13/2013	11:56	7.07	77.82	soft	1659
LL1mw-087	Loadline 1	8/13/2013	11:27	5.23	18.09	medium	1659
LL2mw-059	Loadline 2	8/13/2013	11:30	12.83	21.84	hard	OH02911
LL2mw-265	Loadline 2	8/13/2013	11:37	9.31	24.52	hard	OH02911
LL2mw-267	Loadline 2	8/13/2013	12:52	8.94	22.12	hard	OH02911

\*All measurements from top of casing

NR = Not Recorded



## COMPREHENSIVE WATER LEVEL MEASUREMENTS

RVAAP FACILITY-WIDE GROUNDWATER MONITORING PROGRAM

August 2013

Well Number	Location	Date	Time	Depth to Water*	Depth to Bottom	Description of bottom	Instrument/Serial Number
LL3mw-238	Loadline 3	8/13/2013	13:55	15.14	23.44	hard	OH02911
LL3mw-239	Loadline 3	8/13/2013	13:48	22.82	37.00	soft	OH02911
LL3mw-241	Loadline 3	8/13/2013	15:00	9.11	25.67	hard	OH02911
LL3mw-244	Loadline 3	8/13/2013	13:08	10.23	46.94	hard	OH02911
LL10mw-003	Loadline 10	8/14/2013	11:35	19.86	28.55	hard	1659
LL12mw-185	Loadline 12	8/13/2013	12:12	6.35	23.23	hard	Heron
LL12mw-187	Loadline 12	8/13/2013	12:15	8.45	29.85	hard	Heron
LL12mw-242	Loadline 12	8/13/2013	12:08	7.83	28.64	hard	Heron
LL12mw-245	Loadline 12	8/13/2013	12:50	7.01	30.00	soft	Heron
LL12mw-247	Loadline 12	8/13/2013	13:45	4.49	22.60	hard	Heron
NTAmw-119	NACA Test Area	8/20/2013	8:30	12.3	104.65	hard	heron
RQLmw-006	Ramsdell Quarry Landfill	8/13/2013	15:09	33.48	42.03	hard	1659
RQLmw-007	Ramsdell Quarry Landfill	8/13/2013	17:05	5.05	18.48	hard	1659
RQLmw-008	Ramsdell Quarry Landfill	8/13/2013	16:55	5.50	18.67	hard	1659
RQLmw-009	Ramsdell Quarry Landfill	8/13/2013	16:50	4.40	18.80	hard	1659
RQLmw-010	Ramsdell Quarry Landfill	8/13/2013	16:39	24.06	35.34	hard	1659
RQLmw-011	Ramsdell Quarry Landfill	8/13/2013	15:36	20.60	35.36	hard	1659
SCFmw-002	Sharon Conglomerate	8/13/2013	13:56	18.62	150.10	medium	Heron
SCFmw-004	Sharon Conglomerate	8/20/2013	10:30	-0.2	112.5	hard	QED
WBGmw-006	Winklepeck Burning Grounds	8/21/2013	9:18	7.63	20.14	hard	heron
WBGmw-009	Winklepeck Burning Grounds	8/21/2013	9:10	13.08	24.27	medium	heron
WBGmw-018	Winklepeck Burning Grounds	8/21/2013	9:00	17.45	24.77	hard	heron
WBGmw-019	Winklepeck Burning Grounds	8/21/2013	8:55	16.87	50.48	medium	heron
WBGmw-020	Winklepeck Burning Grounds	8/21/2013	9:05	12.62	43.59	medium	heron
WBGmw-021	Winklepeck Burning Grounds	8/21/2013	9:15	9.42	43.08	hard	heron

\*All measurements from top of casing

NR = Not Recorded



## Logbook



RVAAP  
Book #2



"Return the favor"

ALL-WEATHER  
ENVIRONMENTAL  
FIELD BOOK

No. 550



RVAAP #2. Enviro

USACE





Location RVAAP Date 8-13-13  
 Project / Client RVAAP-66 USACE CDM703  
Water Level Event IM SASAR

1000 mobilization / Onsite  
 1030 Prepare and unload  
 1100 H+S  
 Calibrations of meters  
 1213 check labels and bottles  
 and cooler's  
 Continue with the water  
 levels then began the  
 purge + sample event  
 Set up for next week.  
 Do inspections and  
 water levels.  
 1700 Offsite

Location RVAAP Date 8-13-13  
 Project / Client RVAAP-66 USACE IM SASAR  
Water level + Sample Event

Drum ID	Contents
EDM 2013-4	Decon/Rinse
EDM 2013-5	* Purge * Groundwater
EDM 2013-6	* Purge * Groundwater



70

Location RVAAP

Date 8-14-13

Project / Client RVAP-66 USACE Cidy 8565  
 WL Event WL Event JM SAC CAL

0730

Onsite

prepare and load for the

day of 8/14

Do inspections and  
 water levels paperwork  
 for 8-13-13

0800

Hrs

Check Range Control and  
 RVAP

Continue to do inspection  
 and water level event on  
 wells at RVAP.

Double check maintenance  
 issue on roads and areas.

1200

Partial Crews off

1400

check cooler/bottles/labels

Offsite

Location RVAAP

Date 8-19-13

Project / Client RVAP-66 JM SAC CAL EC ADSS  
 Sample Purge / WL Event RR BDR 70-80

1000

Onsite unload

prepare for the day

1100

Hrs

Calibrations

Notify RVAP and Range Control

Continue with water levels

and inspections.

Begin the sample /

subra event

prepare samples and coolers

prepare feed express

feed express

1800

lab pick up

1850

Offsite



Location RVAAP Date 8-20-13  
 Project / Client USACE JMWAL SAS AD  
SR ER SS EC BD

0730 Onsite  
 load and prepare for the day  
 0745 HHS  
 0800 Calibrations  
 0815 Notify RVAAP and Range Control  
 Continue with water levels  
 Continue with purge and  
 sample event.  
 Complete the inspections  
 and double check maintenance  
 Winkie Peak Burning ground site  
 Demolition 2 Spentimeter  
 Building 1200' area opened.  
 Building 2 partial work  
 set wells N/A 420 NACA  
 1730 Prepare samples for  
 FedEx express and for  
 lab pickup.  
 1830 Lab pickup  
 1900 Off site

Location RVAAD Date 8-21-13  
 Project / Client RVAAP GG USACE JMWAL SAS AD  
Summary BD SS EC RR SR

0730 ONSITE  
 0750 HHS, pack, calibration  
 prepare for the day  
 notify RVAAP and Range Control  
 Continue with purge and  
 sample event  
 Finalization of water levels  
 in sections and the well  
 maintenance.  
 1330 JM offsite.  
 CCR manage warehouse  
 and organizing remaining  
 wells.  
 1530 CCR offsite.  
 1600 low preparation  
 1630 load equipment  
 + prepare samples for pickup  
 clean warehouse  
 1800 Lab pickup  
 1830 Off site / Demob



## **Static Water Level Measurements**



# EQM MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

FIELD BOOK#: 2

DATE: 8/19/2013

Monitor Well Number	Location	Total Well Depth (ft)	Water Level Indicator	Sampler	Time	Depth to Static Water Level (ft)	Sounding	PID Reading (above bkgnd)
EBGmw-131	Erie Burning		2804	SAS	16:48	9.69		0
Cmt:Good,								
FWGmw-002	Facility-Wide		qed yellow	CAL	15:22	23.25		0
Cmt:Good,								
FWGmw-016	Facility-Wide		1266	EC	16:15	16.59		0
Cmt:Good,								
FWGmw-004	Facility-Wide		qed yellow	CAL	16:54	13.83		0
Cmt:Good,								
FWGmw-015	Facility-Wide		1266	EC	16:57	5.17		0
Cmt:Good,								
LL3mw-239	Loadline 3		qed	CAL	12:30	23.41		0
Cmt:Good,								
LL3mw-238	Loadline 3		qed yellow	CAL	13:14	15.8		0
Cmt:Good,								
LL3mw-241	Loadline 3		qed yellow	CAL	14:13	10.38		0
Cmt:Good,								
RQLmw-008	Ramsdell Qu		1266	EC	12:20	5.39		0
Cmt:Good,								
RQLmw-009	Ramsdell Qu		05767	AD	12:30	4.1		0
Cmt:Good,								
RQLmw-007	Ramsdell Qu		2804	SAS	12:48	5.19		0
Cmt:Good,								
RQLmw-011	Ramsdell Qu		1266	EC	14:15	20.8		0
Cmt:Good, verified low pH reading with pH test strips and historical readings								
RQLmw-010	Ramsdell Qu		2804	SAS	14:26	24.25		0
Cmt:Good,								
RQLmw-006	Ramsdell Qu		05767	AD	15:43	33.33		0
Cmt:Good,								



# EQM MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

FIELD BOOK#: 2

DATE: 8/20/2013

Monitor Well Number	Location	Total Well Depth (ft)	Water Level Indicator	Sampler	Time	Depth to Static Water Level (ft)	Sounding	PID Reading (above bkgnd)
BKGmw-010	Background		2804	SAS	9:05	15.56		0
Cmt:Good,								
B12mw-013	Building 120		2804	SAS	10:05	17.72		0
Cmt:Good,								
DET-004	Demo.Area		QED	CAL	14:30	10.88		0
Cmt:Good, minimum/no purge well, dry								
DET-002	Demo.Area		1266	EC	14:40	32.69		0
Cmt:Good,								
DET-001B	Demo.Area		05767	AD	14:44	22.5		0
Cmt:Good,								
DA2mw-115	Demo.Area		qed	CAL	14:45	6.1		0
Cmt:Good,								
DET-003	Demo.Area		05767	AD	15:57	9.59		0
Cmt:Good,								
DA2mw-114	Demo.Area		1266	EC	16:30	5.7		0
Cmt:Good,								
FWGmw-011	Facility-Wide		2804	SAS	11:12	3.02		0
Cmt:Good, brown								
FWGmw-012	Facility-Wide		2804	SAS	12:25	1.36		0
Cmt:Good,								
LL1mw-087	Loadline 1		qed	CAL	9:10	6.44		0
Cmt:Good,								
LL1mw-064	Loadline 1		2804	SAS	15:30	1.36		0
Cmt:Good,								
LL10mw-003	Loadline 10		2804	SAS	13:56	20.21		0
Cmt:Good,								



# EQM MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: **RVAAP**

PROJECT NUMBER: 030174.0016.001

FIELD BOOK#: 2

DATE: 8/20/2013

Monitor Well Number	Location	Total Well Depth (ft)	Water Level Indicator	Sampler	Time	Depth to Static Water Level (ft)	Sounding	PID Reading (above bkgnd)
LL12mw-187	Loadline 12		1266	EC	9:05	8.52		0
	Cmt:Good, verified spec cond is usually high							
LL12mw-245	Loadline 12		05767	AD	9:09	6.5		0
	Cmt:Good, knocked over Flowthru after 0914							
LL12mw-242	Loadline 12		1266	EC	10:30	8.15		0
	Cmt:Good,							
LL12mw-185	Loadline 12		05767	AD	11:20	6.7		0
	Cmt:Good,							
LL12mw-247	Loadline 12		1266	EC	12:20	5.06		0
	Cmt:Good,							
LL3mw-244	Loadline 3		05767	AD	12:12	11.11		0
	Cmt:Good,							
SCFmw-004	Sharon Con		qed	CAL	10:30	-0.2		0
	Cmt:Good,							
SCFmw-002	Sharon Con		qed	CAL	11:37	18.83		0
	Cmt:Good,							



# EQM MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

FIELD BOOK#: 2

DATE: 8/21/2013

Monitor Well Number	Location	Total Well Depth (ft)	Water Level Indicator	Sampler	Time	Depth to Static Water Level (ft)	Sounding	PID Reading (above bkgnd)
FWGmw-006	Facility-Wide		qed	CAL	10:25	6.7		0
Cmt:Good,								
FWGmw-009	Facility-Wide		2804	SAS	11:34	2.88		0
Cmt:Good, extra purge to lower NTU								
FWGmw-007	Facility-Wide		2804	SAS	14:20	23.68		0
Cmt:Good,								
FBQmw-174	Fuze and Bo		qed	CAL	11:17	15.72		0
Cmt:Good,								
LL1mw-086	Loadline 1		05767	AD	13:11	7.8		0
Cmt:Good, checked pH same as historical 2012 spring/summer								
LL1mw-084	Loadline 1		1266	EC	13:45	26.92		0
Cmt:Good,								
LL1mw-065	Loadline 1		05767	AD	14:20	11.5		0
Cmt:Good,								
LL1mw-083	Loadline 1		1266	EC	14:55	30.85		0
Cmt:Good, verified historical pH is usually low								
LL2mw-265	Loadline 2		1266	EC	11:25	9.58		0
Cmt:Good,								
LL2mw-267	Loadline 2		05767	AD	11:57	10.2		0
Cmt:Good, ORANGE WATER								
LL2mw-059	Loadline 2		1266	EC	12:25	12.87		0
Cmt:Good,								
NTAmw-119	NACA Test		qed	CAL	8:45	12.28		0
Cmt:Good,								



# EQM MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: **RVAAP**

PROJECT NUMBER: 030174.0016.001

FIELD BOOK#: 3

DATE: 8/21/2013

Monitor Well Number	Location	Total Well Depth (ft)	Water Level Indicator	Sampler	Time	Depth to Static Water Level (ft)	Sounding	PID Reading (above bkgnd)
WBGmw-019	Winklepeck		05767	AD	8:44	16.87		0
	Cmt:Good,							
WBGmw-021	Winklepeck		2804	SAS	8:44	9.42		0
	Cmt:Good,							
WBGmw-009	Winklepeck		1266	EC	9:00	13.08		0
	Cmt:Good,							
WBGmw-018	Winklepeck		05767	AD	9:29	17.33		0
	Cmt:Good,							
WBGmw-020	Winklepeck		1266	EC	10:00	12.5		0
	Cmt:Good,							
WBGmw-006	Winklepeck		2804	SAS	10:09	7.7		0
	Cmt:Good,							



## Calibration Records



## EQM SAMPLING EQUIPMENT CALIBRATION LOG

SITE NAME: **RAVENNA**

PROJECT NUMBER: **030174.0016.001**

DATE/TIME:		INSTRUMENT (Mfg/Model):	CALIBRATE BY:	TYPE/STANDARD	CONCEN- TRATION	METER READING	UNITS	COMMENT/AMBIENT CONDITION
8/16/2013	11:05	HORIBA U 22	CAL	AUTOCAL CHECK, Cond	4.49	4.53	mS/cm	
8/16/2013	11:16	HORIBA U5 021371	CAL	AUTOCAL CHECK, Cond	4.49	4.49	mS/cm	.
8/21/2013	8:00	HORIBA U22 U2000	AD	autocal check, PH	4	3.99	pH units	
8/21/2013	8:01	HORIBA U22 U2000	AD	autocal check, COND	4.49	4.51	mS/cm	
8/21/2013	8:02	HORIBA U22 U2000	AD	autocal check, TURB	0	0	NTU	
8/16/2013	10:58	HORIBA U-22	CAL	AUTOCAL CHECK, pH	4	4	pH units	
8/16/2013	10:59	HORIBA U-22	CAL	AUTOCAL CHECK, Cond	4.49	4.48	mS/cm	
8/16/2013	11:00	HORIBA U-22	CAL	AUTOCAL CHECK, turb	0	0	NTU	
8/16/2013	11:01	HORIBA U22	CAL	AUTOCAL CHECK, pH	4	4.01	pH units	
8/16/2013	11:02	HORIBA U22	CAL	AUTOCAL CHECK, Cond	4.49	4.5	mS/cm	
8/20/2013	8:01	HORIBA U22 U2000	AD	autocal check, COND	4.49	4.47	mS/cm	
8/16/2013	11:04	HORIBA U 22	CAL	AUTOCAL CHECK, pH	4	4.01	pH units	
8/20/2013	8:00	HORIBA U22 U2000	AD	autocal check, PH	4	3.99	pH units	
8/16/2013	11:06	HORIBA U 22	CAL	AUTOCAL CHECK, turb	0	0	NTU	
8/16/2013	11:07	HORIBA U2 U 22	CAL	AUTOCAL CHECK, pH	4	4	pH units	
8/16/2013	11:08	HORIBA U2 U 22	CAL	AUTOCAL CHECK, Cond	4.49	4.49	mS/cm	
8/16/2013	11:09	HORIBA U2 U 22	CAL	AUTOCAL CHECK, turb	0	0	NTU	
8/16/2013	11:10	HORIBA U2 U 22	CAL	AUTOCAL CHECK, DO	8.84	9.01	mg/L	
8/16/2013	11:11	HORIBA U 22	CAL	AUTOCAL CHECK, DO	8.84	9.42	mg/L	
8/16/2013	11:12	HORIBA U-22	CAL	AUTOCAL CHECK, DO	8.84	9.6	mg/L	
8/16/2013	11:13	HORIBA U22	CAL	AUTOCAL CHECK, DO	8.84	9.5	mg/L	
8/16/2013	11:14	HORIBA U5 021371	CAL	AUTOCAL CHECK, DO	8.84	8.99	mg/L	
8/19/2013	11:03	horiba u52 021371	ec	autocal check, pH	4	4	pH units	



## EQM SAMPLING EQUIPMENT CALIBRATION LOG

SITE NAME: **RAVENNA**

PROJECT NUMBER: **030174.0016.001**

DATE/TIME:		INSTRUMENT (Mfg/Model):		CALIBRATE BY:	TYPE/STANDARD	CONCEN- TRATION	METER READING	UNITS	COMMENT/AMBIENT CONDITION
8/16/2013	11:03	HORIBA	U22	CAL	AUTOCAL CHECK, turb	0	0	NTU	
8/19/2013	16:56	HORIBA	U-2280102	EC	autocal check, Cond	4.49	4.49	mS/cm	
8/19/2013	11:04	horiba u52	021371	ec	autocal check, cond	4.49	4.49	mS/cm	
8/19/2013	11:05	horiba u52	021371	ec	autocal check, turb	0	0	NTU	
8/19/2013	11:10	waterlevels	all	cal	check, feet	0	0	OK	
8/20/2013	7:55	horiba u52	021371	asd	autocal check, pH	4	4.01	pH units	
8/20/2013	7:56	horiba u52	021371	asd	autocal check, cond	4.49	4.49	mS/cm	
8/20/2013	7:57	horiba u52	021371	asd	autocal check, turb	0	0	NTU	
8/20/2013	7:58	horiba u52	021371	asd	check, pH	7	7.01	pH units	
8/21/2013	7:55	horiba u52	021371	bd	autocal check, pH	4	4	pH units	
8/21/2013	7:56	horiba u52	021371	bd	autocal check, cond	4.49	4.49	mS/cm	
8/20/2013	8:02	HORIBA	U22 U2000	AD	autocal check, TURB	0	0	NTU	
8/19/2013	16:55	HORIBA	U-2280102	EC	autocal check, pH	4	4	pH units	
8/16/2013	11:17	HORIBA U5	021371	CAL	AUTOCAL CHECK, turb	0	0	NTU	run twice first time 0.1ntu.
8/19/2013	16:57	HORIBA	U-2280102	EC	autocal check, turb	0	0	NTU	
8/20/2013	9:56	HORIBA	U-2280102	EC	autocal check, pH	4	3.99	pH units	
8/20/2013	9:57	HORIBA	U-2280102	EC	autocal check, Cond	4.49	4.5	mS/cm	
8/20/2013	9:58	HORIBA	U-2280102	EC	autocal check, turb	0	0	NTU	
8/21/2013	12:55	HORIBA	U-2280102	EC	autocal check, pH	4	4	pH units	
8/21/2013	12:56	HORIBA	U-2280102	EC	autocal check, Cond	4.49	4.48	mS/cm	
8/21/2013	12:57	HORIBA	U-2280102	EC	autocal check, turb	0	0	NTU	
8/19/2013	11:00	HORIBA	U22 U2000	AD	autocal check, PH	4	4	SU	
8/19/2013	11:01	HORIBA	U22 U2000	AD	autocal check, COND	4.49	4.49	mS/cm	



## EQM SAMPLING EQUIPMENT CALIBRATION LOG

SITE NAME: **RAVENNA**

PROJECT NUMBER: **030174.0016.001**

DATE/TIME:		INSTRUMENT (Mfg/Model):	CALIBRATE BY:	TYPE/STANDARD	CONCEN- TRATION	METER READING	UNITS	COMMENT/AMBIENT CONDITION
8/19/2013	11:02	HORIBA U22 U2000	AD	autocal check, TURB	0	0	NTU	
8/21/2013	7:57	horiba u52 021371	bd	autocal check, turb	0	0	NTU	
8/21/2013	12:55	HORIBA U-22	EC	AUTOCAL, pH	4	4	pH units	
8/16/2013	11:15	HORIBA U5 021371	CAL	AUTOCAL CHECK, pH	4	4	pH units	
8/20/2013	7:58	horiba u52 021371	asd	check, pH	7	7.01	pH units	
8/21/2013	7:55	horiba u52 021371	bd	autocal check, pH	4	4	pH units	
8/21/2013	7:56	horiba u52 021371	bd	autocal check, cond	4.49	4.49	mS/cm	
8/21/2013	7:57	horiba u52 021371	bd	autocal check, turb	0	0	NTU	
8/19/2013	16:55	HORIBA U-22	EC	AUTOCAL, pH	4	4	pH units	
8/19/2013	16:56	HORIBA U-22	EC	AUTOCAL, Cond	4.49	4.49	mS/cm	
8/19/2013	16:57	HORIBA U-22	EC	AUTOCAL, turb	0	0	NTU	
8/20/2013	9:56	HORIBA U-22	EC	AUTOCAL, pH	4	3.99	pH units	
8/20/2013	7:56	horiba u52 021371	asd	autocal check, cond	4.49	4.49	mS/cm	
8/20/2013	9:58	HORIBA U-22	EC	AUTOCAL, turb	0	0	NTU	
8/20/2013	7:55	horiba u52 021371	asd	autocal check, pH	4	4.01	pH units	
8/21/2013	12:56	HORIBA U-22	EC	AUTOCAL, Cond	4.49	4.48	mS/cm	
8/21/2013	12:57	HORIBA U-22	EC	AUTOCAL, turb	0	0	NTU	
8/19/2013	11:00	HORIBA U22	AD	AUTOCAL, PH	4	4	SU	
8/19/2013	11:01	HORIBA U22	AD	AUTOCAL, COND	4.49	4.49	mS/cm	
8/19/2013	11:02	HORIBA U22	AD	AUTOCAL, TURB	0	0	NTU	
8/20/2013	8:00	HORIBA U22	AD	AUTOCAL, PH	4	3.99	pH units	
8/20/2013	8:01	HORIBA U22	AD	AUTOCAL, COND	4.49	4.47	mS/cm	
8/20/2013	8:02	HORIBA U22	AD	AUTOCAL, TURB	0	0	NTU	



## EQM SAMPLING EQUIPMENT CALIBRATION LOG

SITE NAME: **RAVENNA**

PROJECT NUMBER: **030174.0016.001**

DATE/TIME:		INSTRUMENT (Mfg/Model):	CALIBRATE BY:	TYPE/STANDARD	CONCEN- TRATION	METER READING	UNITS	COMMENT/AMBIENT CONDITION
8/21/2013	8:00	HORIBA U22	AD	AUTOCAL, PH	4	3.99	pH units	
8/21/2013	8:01	HORIBA U22	AD	AUTOCAL, COND	4.49	4.51	mS/cm	
8/20/2013	9:57	HORIBA U-22	EC	AUTOCAL, Cond	4.49	4.5	mS/cm	
8/20/2013	7:52	HORIBA U 22	asd	AUTOCAL CHECK, turb	0	0	NTU	
8/16/2013	11:18	HORIBA U5 021371	CAL	CHECK, pH	7	7	pH units	
8/16/2013	11:19	HORIBA U22	CAL	CHECK, pH	7	6.99	pH units	
8/16/2013	11:20	HORIBA U 22	CAL	CHECK, pH	7	7.01	pH units	
8/16/2013	11:21	HORIBA U-22	CAL	CHECK, pH	7	7	pH units	
8/16/2013	11:22	HORIBA U2 U 22	CAL	CHECK, pH	7	7	pH units	
8/19/2013	11:00	HORIBA U 22	EC	AUTOCAL CHECK, pH	4	4	pH units	
8/19/2013	11:01	HORIBA U 22	EC	AUTOCAL CHECK, Cond	4.49	4.49	mS/cm	
8/19/2013	11:02	HORIBA U 22	EC	AUTOCAL CHECK, turb	0	0	NTU	
8/19/2013	11:05	HORIBA U 22	EC	CHECK, pH	7	6.99	pH units	
8/20/2013	7:57	horiba u52 021371	asd	autocal check, turb	0	0	NTU	
8/20/2013	7:51	HORIBA U 22	asd	AUTOCAL CHECK, Cond	4.49	4.49	mS/cm	
8/21/2013	8:02	HORIBA U22	AD	AUTOCAL, TURB	0	0	NTU	
8/21/2013	7:55	HORIBA U 22	bd	AUTOCAL CHECK, pH	4	4	pH units	
8/21/2013	7:56	HORIBA U 22	bd	AUTOCAL CHECK, Cond	4.49	4.48	mS/cm	
8/21/2013	7:57	HORIBA U 22	bd	AUTOCAL CHECK, turb	0	0	NTU	
8/19/2013	10:50	PID MSA	CAL	Bump, Isobutylene	100	99.8	ppm	
8/16/2013	11:28	PID MSA	CAL	Bump, Isobutylene	100	99.4	ppm	change filter
8/16/2013	11:35	PID MSA	CAL	Bump, Isobutylene	100	100	ppm	
8/19/2013	11:03	horiba u52 021371	ec	autocal check, pH	4	4	pH units	



## EQM SAMPLING EQUIPMENT CALIBRATION LOG

SITE NAME: **RAVENNA**

PROJECT NUMBER: **030174.0016.001**

DATE/TIME:		INSTRUMENT (Mfg/Model):		CALIBRATE BY:	TYPE/STANDARD	CONCEN- TRATION	METER READING	UNITS	COMMENT/AMBIENT CONDITION
8/19/2013	11:04	horiba u52	021371	ec	autocal check, cond	4.49	4.49	mS/cm	
8/19/2013	11:05	horiba u52	021371	ec	autocal check, turb	0	0	NTU	
8/19/2013	11:10	waterlevels	all	cal	check, feet	1.1	1.1	ft	
8/20/2013	7:50	HORIBA	U 22	asd	AUTOCAL CHECK, pH	4	4	pH units	



## **Purge/Sample Records**



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: BUILDING 1200

DATE: 8/20/2013

START TIME: 10:05

WELL ID: B12mw-013

INITIAL WATER LEVEL: 17.72

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 11.5 - 21.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 19.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 2.9

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
10:10	17.91	0.1	0.2	12.8	0.334	7.6	5.38	48.8	222
10:13	18.32	0.1	0.3	12.1	0.329	7.25	5.53	46.3	233
10:16	18.81	0.1	0.3	11.9	0.331	7.12	5.57	51.4	248
10:19	19.38	0.1	0.3	11.9	0.338	7.1	5.58	71.2	256

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



# EQM FIELD SAMPLING REPORT

PROJECT: <b>RVAAP</b>		LOCATION: <b>BUILDING 1200</b>		PROJECT NO.: <b>030174.0016.001</b>	
<b>SAMPLE INFORMATION</b>					
WELL: <b>B12mw-013</b>		SampleID: <b>FWGB12mw-013-0313-GW</b>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <b>WG - Ground Water</b>		SAMPLING METHOD: <b>BP - Bladder Pump</b>		MS/MSD: <b>N</b>	
GRAB: <b>Y</b>		COMPOSITE: <b>N</b>		DATE: <b>8/20/2013</b> TIME: <b>10:30</b>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <b>71.2</b>		Color: <b>Clear</b>	
		ORP (mV): <b>256</b>		Odor: <b>None</b>	
pH: <b>5.58</b>		Temperature (°C): <b>11.9</b>		DO (mg/L): <b>7.1</b> Specific Conductivity (mS/cm): <b>0.338</b>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <b>Sunny</b>		PERCIPITATION: <b>N</b>		WIND DIRECTION: <b>N</b> AMBIENT TEMP (°F): <b>67</b>	
SHIPPED VIA: <b>Lab Pickup</b>					
SHIPPED TO: <b>Testamerica</b>					
SAMPLER: <b>SAS</b> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<b>SIZE/TYPE</b>	<b>NUMBER</b>				
1L/Amber	2	4C	8081	Pest	
1L/Amber	2	4C	8082	PCB	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: BACKGROUND

DATE: 8/20/2013 START TIME: 9:05

WELL ID: BKGmw-010

INITIAL WATER LEVEL: 15.56

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 8.9 - 18.9

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 16.9

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 110 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 4

COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:10	15.79	0.1	0.2	12.9	0.272	3.09	5.15	10	156
9:15	15.95	0.1	0.5	12.2	0.225	2.55	4.76	10	231
9:20	16.18	0.1	0.5	12.4	0.218	2.68	4.38	10	296
9:25	16.36	0.1	0.5	12.3	0.217	2.56	4.29	10	324
9:30	16.59	0.1	0.5	12.2	0.218	2.44	4.29	10	340

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <b>RVAAP</b>		LOCATION: <b>BACKGROUND</b>		PROJECT NO.: <b>030174.0016.001</b>	
<b>SAMPLE INFORMATION</b>					
WELL: <b>BKGmw-010</b>		SampleID: <b>FWGBKGmw-010C-0311-GF</b>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <b>WG - Ground Water</b>		SAMPLING METHOD: <b>BP - Bladder Pump</b>		MS/MSD: <b>N</b>	
GRAB: <b>Y</b>		COMPOSITE: <b>N</b>		DATE: <b>8/20/2013</b> TIME: <b>9:34</b>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <b>10</b>		Color: <b>Clear</b>	
		ORP (mV): <b>340</b>		Odor: <b>None</b>	
pH: <b>4.29</b>		Temperature (°C): <b>12.2</b>		DO (mg/L): <b>2.44</b> Specific Conductivity (mS/cm): <b>0.218</b>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <b>Sunny</b>		PERCIPITATION: <b>N</b>		WIND DIRECTION: <b>N</b> AMBIENT TEMP (°F): <b>67</b>	
SHIPPED VIA: <b>Lab Pickup</b>					
SHIPPED TO: <b>Testamerica</b>					
SAMPLER: <b>SAS</b> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
250ml/Poly	1	4C	6860	Perchlorate	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: DEMO AREA 2

DATE: 8/20/2013 START TIME: 16:30

WELL ID: DA2mw-114

INITIAL WATER LEVEL: 5.7

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 11.5 - 21.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 19.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 30 Recharge: 10 Discharge: 5 TOTAL PURGE VOL (L): 4.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
16:41	5.82	0.2	0.5	17.23	0.663	6.12	7.51	999	-123
16:45	5.86	0.2	0.8	16.27	0.663	5.54	7.46	999	-114
16:49	5.86	0.2	0.8	16.02	0.664	5.44	7.44	946	-110
16:52	5.86	0.2	0.6	15.42	0.663	4.14	7.4	863	-114
16:55	5.86	0.2	0.6	14.51	0.661	4.42	7.37	794	-115
16:58	5.86	0.2	0.6	14.49	0.659	4.6	7.35	732	-116
17:01	5.86	0.2	0.6	14.31	0.659	4.67	7.34	468	-117

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: DEMO.AREA 2 PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: DA2mw-114 SampleID: FWGDA2mw-114-0312-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/20/2013 TIME: 17:05

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>379</u>	Color: <u>Clear</u>
	ORP (mV): <u>-117</u>	Odor: <u>None</u>

pH: 7.34 Temperature (°C): 14.28 DO (mg/L): 4.71 Specific Conductivity (mS/cm): 0.659

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 75  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: EC Cnt

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8082	PCB
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8081	Pest
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	353.2/8330	Propellants
250ml/Poly	1	NaOH	9012	Cyanide
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: DEMO.AREA 2

DATE: 8/20/2013 START TIME: 14:45

WELL ID: DA2mw-115

INITIAL WATER LEVEL: 6.1

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 36.5 - 46.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 44.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50 Recharge: 12 Discharge: 3 TOTAL PURGE VOL (L): 2.2

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:45	6.30	0.2	0.2	25.45	0.245	2.05	7.35	23	-145
14:48	6.38	0.2	0.6	24.32	0.561	1.02	7.47	4.4	-151
14:51	6.35	0.2	0.6	23.66	0.568	0.57	7.4	1.8	-150
14:52	6.35	0.2	0.2	23.43	0.589	0.49	7.34	0.6	-149
14:55	6.34	0.2	0.6	23.29	0.593	0.44	7.39	0.8	-147

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>DEMO.AREA 2</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>DA2mw-115</u>		SampleID: <u>FWGDA2mw-115-0313-GW/GF</u>		DuplID: <u>FWGDA2mw-DUP1-0336-GW/GF</u>	
		SplitID: <u>FWGDA2mw-115-0332s-GW/GF</u>		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>14:58</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>1.2</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-146</u>		Odor: <u>None</u>	
pH: <u>7.27</u>		Temperature (°C): <u>23.13</u>		DO (mg/L): <u>0.4</u> Specific Conductivity (mS/cm): <u>0.599</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>85</u>	
SHIPPED VIA: <u>Lab PU/FedEx</u>					
SHIPPED TO: <u>Multiple Labs</u>					
SAMPLER: <u>CAL</u> Cmt: <u>DUP @ 1608, QC for SVOC Expl Prop and Metals only</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
40ml/Vial	3	HCl	8260	VOC	
500ml/Poly	3	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8082	PCB	
1L/Amber	6	4C	8270	SVOC	
250ml/Poly	1	NaOH	9012	Cyanide	
1L/Amber	2	4C	8081	Pest	
1L/Amber	5	4C	353.2/8330	Explo	
1L/Amber	6	4C	353.2/8330	Propellants	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: DEMO.AREA 2

DATE: 8/20/2013

START TIME: 14:44

WELL ID: DET-001B

INITIAL WATER LEVEL: 22.5

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 34 - 39

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 37.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 60

Recharge: 10

Discharge: 5

TOTAL PURGE VOL (L): 2.1

COMMENT CLOUDY Odor:slight

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:47	23.40	0.2	0.3	14.09	0.748	8.46	7.01	64.7	-122
14:50	23.55	0.2	0.6	13.52	0.74	8.2	7.12	57.4	-121
14:53	24.11	0.2	0.6	13.27	0.734	8.19	7.15	41	-120
14:56	23.99	0.2	0.6	13.17	0.729	8.17	7.17	38.6	-119

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



# EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: DEMO.AREA 2 PROJECT NO.: 030174.0016.001

## SAMPLE INFORMATION

WELL: DET-001B SampleID: FWGDETMw-001C-0314-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/20/2013 TIME: 14:56

## FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>34.1</u>	Color: <u>CLOUDY</u>
	ORP (mV): <u>-115</u>	Odor: <u>ODOR</u>

pH: 7.19 Temperature (°C): 13.17 DO (mg/L): 8.15 Specific Conductivity (mS/cm): 0.729

## GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 81  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: AD Cmt: WATER CONTAINED BLACK FLECKS

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8081	Pest
250ml/Poly	1	4C	6860	Perchlorate
500ml/Poly	1	HNO3	6010/6020/7470	Metals
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	8082	PCB
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: DEMO.AREA 2

DATE: 8/20/2013

START TIME: 14:40

WELL ID: DET-002

INITIAL WATER LEVEL: 32.69

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 34 - 39

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 37.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 60    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 2.35

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:51	32.85	0.15	0.25	16.82	0.563	8.89	7.84	347	-23
14:54	32.85	0.15	0.45	17.86	0.555	7.81	7.77	339	-18
14:59	32.85	0.15	0.75	17.84	0.563	7.14	7.79	345	-41
15:02	32.85	0.15	0.45	18.28	0.559	6.96	7.78	352	-41
15:05	32.85	0.15	0.45	18.34	0.56	6.92	7.8	362	-43

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>DEMO.AREA 2</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>DET-002</u>		SampleID: <u>FWGDETMw-002C-0315-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>15:11</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>365</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-41</u>		Odor: <u>None</u>	
pH: <u>7.82</u>		Temperature (°C): <u>18.3</u>		DO (mg/L): <u>7.03</u> Specific Conductivity (nS/cm): <u>0.564</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	8270	SVOC	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
250ml/Poly	1	NaOH	9012	Cyanide	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	2	4C	8081	Pest	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8082	PCB	
250ml/Poly	1	4C	6860	Perchlorate	
40ml/Vial	3	HCl	8260	VOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: DEMO.AREA 2

DATE: 8/20/2013

START TIME: 15:57

WELL ID: DET-003

INITIAL WATER LEVEL: 9.59

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 7 - 12

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 10.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 3.9

COMMENT LIGHT BROWN Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
16:00	9.60	0.2	0.3	16.03	0.755	3.78	7.18	462.3	-106
16:03	9.60	0.2	0.6	16.96	0.741	0.71	7.1	243	-111
16:06	9.67	0.2	0.6	17.28	0.713	0.34	7.07	252	-111
16:09	9.60	0.2	0.6	17.33	0.814	0.22	7.06	227	-111
16:12	9.66	0.2	0.6	17.34	0.9	0.2	7.04	194	-109
16:15	9.60	0.2	0.6	17.3	0.9	0.232	7.08	187	-112
16:18	9.60	0.2	0.6	17.38	0.9	0.22	7.07	198	-109

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



# EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: DEMO.AREA 2 PROJECT NO.: 030174.0016.001

## SAMPLE INFORMATION

WELL: DET-003 SampleID: FWGDETmw-003C-0343-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/20/2013 TIME: 16:19

## FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>198</u>	Color: <u>LIGHT BROWN</u>
	ORP (mV): <u>-108</u>	Odor: <u>None</u>

pH: 7.07 Temperature (°C): 17.38 DO (mg/L): 0.23 Specific Conductivity (mS/cm): 0.9

## GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 81  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: AD Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8270	SVOC
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8081	Pest
40ml/Vial	3	HCl	8260	VOC
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	8082	PCB



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: DEMO.AREA 2

DATE: 8/20/2013 START TIME: 14:30

WELL ID: DET-004

INITIAL WATER LEVEL: 10.88

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 6 - 11

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 9.0

PUMP/PURGING DEVICE: B - BAILER

PUMP READINGS: Throttle: 0 Recharge: 0 Discharge: 0 TOTAL PURGE VOL (L): 1

COMMENT minimum/no purge well, dry Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:30	10.88	1	1	12.04	0.711	8.85	6.52	306	170

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: DEMO.AREA 2 PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: DET-004 SampleID: FWGDETMw-004C-0344-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: B - Bailer MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/20/2013 TIME: 17:10

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>306</u>	Color: <u>Clear</u>
	ORP (mV): <u>170</u>	Odor: <u>None</u>

pH: 6.52 Temperature (°C): 12.04 DO (mg/L): 8.85 Specific Conductivity (mS/cm): 0.711

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 85  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: CAL Cmt: No purge minimum purge well, sample dry and return within 24 hours

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
40ml/Vial	3	HCl	8260	VOC
1L/Amber	1	4C	8081	Pest
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	1	4C	8082	PCB
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	353.2/8330	Propellants
1L/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	1	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: ERIE BURNING GROUNDS DATE: 8/19/2013 START TIME: 16:48  
WELL ID: EBGmw-131 INITIAL WATER LEVEL: 9.69  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 63 - 73  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 71.0  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 5.5  
PUMP READINGS: Throttle: 120 Recharge: 10 Discharge: 5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
17:00	9.59	0.1	0.2	14	0.614	1.39	6.61	61.7	-87
17:05	9.70	0.1	0.5	13.8	0.607	4.74	6.46	61.1	-76
17:10	9.71	0.1	0.5	13.6	0.603	5.95	6.38	53.8	-77
17:15	9.73	0.1	0.5	13.3	0.612	5.44	6.34	43.4	-79
17:20	9.73	0.1	0.5	13.5	0.613	5.05	6.41	37.1	-80
17:25	9.73	0.1	0.5	13.5	0.608	4.6	6.41	31.6	-81
17:30	9.71	0.1	0.5	13.5	0.61	4.45	6.43	27.4	-81
17:35	9.72	0.1	0.5	13.3	0.609	4.36	6.49	25.4	-82

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: ERIE BURNING GROUNDS PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: EBGmw-131 SampleID: FWGEBGmw-131-0316-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 17:44

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>25.4</u>	Color: <u>Clear</u>
	ORP (mV): <u>-82</u>	Odor: <u>None</u>

pH: 6.49 Temperature (°C): 13.3 DO (mg/L): 4.36 Specific Conductivity (mS/cm): 0.609

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: N AMBIENT TEMP (°F): 80  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: SAS Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8270	SVOC
250ml/Poly	1	NaOH	9012	Cyanide
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8082	PCB
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	353.2/8330	Propellants
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8081	Pest



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/19/2013 START TIME: 15:22

WELL ID: FWGmw-002

INITIAL WATER LEVEL: 23.25

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 60 - 70

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 68.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 75 Recharge: 12 Discharge: 3 TOTAL PURGE VOL (L): 2.13

COMMENT purge until 15:38 Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
15:23	23.76	0.19	0.25	18.04	0.411	1.79	8.32	55.7	-88
15:26	23.82	0.125	0.375	17.64	0.414	1.56	8.76	52.8	-140
15:29	23.84	0.125	0.375	17.45	0.42	1.14	8.85	4.6	-117
15:32	23.85	0.125	0.375	17.3	0.422	1.06	8.89	44.8	-123
15:35	23.85	0.125	0.375	17.25	0.424	1.04	8.93	42.7	-128

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FACILITY-WIDE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FWGmw-002</u>		SampleID: <u>FWGFWGmw-002-0317-GF</u>		DuplID: <u>FWGFEGmw-DUP2-0337-GF</u>	
		SplitID: <u>FWGFWGmw-002-0333s-GF</u>		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/19/2013</u> TIME: <u>15:38</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>38.8</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-136</u>		Odor: <u>None</u>	
pH: <u>8.95</u>		Temperature (°C): <u>16.94</u>		DO (mg/L): <u>0.79</u> Specific Conductivity (mS/cm): <u>0.43</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab PU/FedEx</u>					
SHIPPED TO: <u>Multiple Labs</u>					
SAMPLER: <u>CAL</u> Cmt: <u>dup at 1558</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
250ml/Poly	3	4C	6860	Perchlorate	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/19/2013

START TIME: 16:54

WELL ID: FWGmw-004

INITIAL WATER LEVEL: 13.83

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 12.5 - 22.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 20.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50    Recharge: 12    Discharge: 3

TOTAL PURGE VOL (L): 2.6

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
16:55	13.99	0.2	0.2	16.51	0.652	1.45	7.02	668	33
16:58	14.06	0.2	0.6	16.11	0.654	1.12	6.88	529	37
17:01	14.07	0.2	0.6	15.7	0.66	1.03	6.83	420	40
17:04	14.08	0.2	0.6	15.58	0.663	0.97	6.8	333	44
17:07	14.09	0.2	0.6	15.36	0.666	0.86	6.75	216	46

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: FACILITY-WIDE PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: FWGmw-004 SampleID: FWGFWGmw-004-0346-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 17:08

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>190</u>	Color: <u>Clear</u>
	ORP (mV): <u>49</u>	Odor: <u>None</u>

pH: 6.73 Temperature (°C): 15.26 DO (mg/L): 0.82 Specific Conductivity (mS/cm): 0.67

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 84  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: CAL Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8270	SVOC
250ml/Poly	1	NaOH	9012	Cyanide
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	2	4C	8081	Pest
1L/Amber	1	4C	8330	Explo



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/21/2013 START TIME: 10:25

WELL ID: FWGmw-006

INITIAL WATER LEVEL: 6.7

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 9 - 19

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 17.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 35 Recharge: 12 Discharge: 3 TOTAL PURGE VOL (L): 1.96

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
10:30	6.96	0.2	0.2	15.51	0.348	1.8	5.53	154	14
10:33	6.89	0.16	0.48	15.32	0.349	1.28	5.39	126	15
10:36	6.90	0.16	0.48	14.92	0.352	0.96	5.38	103	4
10:39	6.90	0.16	0.48	14.65	0.356	0.74	5.38	91.4	-5
10:41	6.90	0.16	0.32	14.52	0.359	0.68	5.39	84.6	-12

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FACILITY-WIDE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FWGmw-006</u>		SampleID: <u>FWGFWGmw-006-0318-GW</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>10:48</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>88.6</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-16</u>		Odor: <u>None</u>	
pH: <u>5.41</u>		Temperature (°C): <u>14.5</u>		DO (mg/L): <u>0.64</u> Specific Conductivity (mS/cm): <u>0.361</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>78</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL Cmt:</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
40ml/Vial	3	HCl	8260	VOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
 LOCATION: FACILITY-WIDE DATE: 8/21/2013 START TIME: 14:20  
 WELL ID: FWGmw-007 INITIAL WATER LEVEL: 23.68  
 WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 22 - 32  
 WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 30.0  
 PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 3.25  
 PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5  
 COMMENT Cldy Odor:None

TIME	WATER LEVEL (ftoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:25	24.25	0.1	0.25	14.7	0.996	1.91	7.04	607	37
14:30	24.57	0.1	0.5	13.2	0.95	0.89	6.93	812	56
14:35	24.67	0.1	0.5	13	0.95	0.93	6.79	615	73
14:40	24.82	0.1	0.5	12.7	0.94	0.55	6.74	556	77
14:45	24.85	0.1	0.5	12.6	0.91	0.31	6.71	439	74
14:50	24.86	0.1	0.5	12.6	0.93	0.23	6.74	361	67
14:55	24.93	0.1	0.5	12.6	0.93	0.21	6.74	312	58

Note: Condition of the well: See STATIC WATER LEVEL FORM  
 Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FACILITY-WIDE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FWGmw-007</u>		SampleID: <u>FWGFWGmw-007-0347-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>15:04</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>312</u>		Color: <u>Cldy</u>	
		ORP (mV): <u>58</u>		Odor: <u>None</u>	
pH: <u>6.74</u>		Temperature (°C): <u>12.6</u>		DO (mg/L): <u>0.21</u> Specific Conductivity (mS/cm): <u>0.93</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST: <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>N</u> AMBIENT TEMP (°F): <u>85</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>SAS</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
 LOCATION: FACILITY-WIDE DATE: 8/21/2013 START TIME: 11:34  
 WELL ID: FWGmw-009 INITIAL WATER LEVEL: 2.88  
 WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 10 - 20  
 WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 18.0  
 PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 2.75  
 PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5  
 COMMENT extra purge to lower NTU Cloudy Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
11:40	3.31	0.1	0.25	15.3	0.734	2.74	7.04	-5	-85
11:45	3.63	0.1	0.5	13.7	0.747	2.65	7.06	-5	-95
11:50	3.69	0.1	0.5	13.4	0.746	2.99	6.92	961	-93
11:55	3.75	0.1	0.5	13.3	0.745	2.99	6.86	767	-92
12:00	3.65	0.1	0.5	13.2	0.746	2.85	6.84	569	-93
12:05	3.71	0.1	0.5	13.1	0.743	2.8	6.85	467	-95

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: FACILITY-WIDE PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: FWGmw-009 SampleID: FWGFWGmw-009-0319-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: Y  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 12:20

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>467</u>	Color: <u>Cloudy</u>
	ORP (mV): <u>-95</u>	Odor: <u>None</u>

pH: 6.85 Temperature (°C): 13.1 DO (mg/L): 2.8 Specific Conductivity (mS/cm): 0.743

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: N AMBIENT TEMP (°F): 83  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: SAS Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	6	4C	353.2/8330	Propellants
1L/Amber	6	4C	8270	SVOC
1L/Amber	8	4C	8081	Pest
1L/Amber	6	4C	8082	PCB
40ml/Vial	9	HCl	8260	VOC
1L/Amber	3	4C	8330	Explo
250ml/Poly	3	NaOH	9012	Cyanide
500ml/Poly	3	HNO3	6010/6020/7470	Metals
250ml/Poly	3	4C	6860	Perchlorate



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/20/2013 START TIME: 11:12

WELL ID: FWGmw-011

INITIAL WATER LEVEL: 3.02

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 7.5 - 17.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 15.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5 TOTAL PURGE VOL (L): 4.5

COMMENT brown Cloudy Odor:None

TIME	WATER LEVEL (ftoe)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
11:17	3.33	0.1	0.2	14.8	0.498	3.18	6.1	-5	-81
11:22	3.35	0.1	0.5	14.5	0.517	2.56	6.41	-5	-104
11:27	3.37	0.1	0.5	14.91	0.51	5.77	6.58	-5	-90
11:32	3.32	0.1	0.5	15.1	0.505	7.02	6.71	-5	-82
11:37	3.39	0.1	0.5	14.9	0.511	7.1	6.78	-5	-82
11:42	3.35	0.1	0.5	14.9	0.512	7.15	6.8	-5	-84

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FACILITY-WIDE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FWGmw-011</u>		SampleID: <u>FWGFWGmw-011-0348-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>11:50</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>-5</u>		Color: <u>Cloudy</u>	
		ORP (mV): <u>-84</u>		Odor: <u>None</u>	
pH: <u>6.8</u>		Temperature (°C): <u>14.9</u>		DO (mg/L): <u>7.15</u> Specific Conductivity (mS/cm): <u>0.512</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>N</u> AMBIENT TEMP (°F): <u>67</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>SAS</u> Cnt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	353.2/8330	Propellants	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/20/2013

START TIME: 12:25

WELL ID: FWGmw-012

INITIAL WATER LEVEL: 1.36

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 32.3 - 43.3

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 41.3

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 4.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:23	1.95	0.1	0.2	14.5	0.252	0.76	6.71	145	28
12:28	2.09	0.1	0.5	13.5	0.253	0.16	6.32	110	52
12:33	2.09	0.1	0.5	13	0.25	0.07	6.01	51.5	63
12:38	2.15	0.1	0.5	13.4	0.248	0.03	5.84	34.9	68
12:43	2.11	0.1	0.5	13.3	0.249	0	5.83	22.9	70
12:48	2.09	0.1	0.5	13.4	0.248	0	5.8	25.4	70

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FACILITY-WIDE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FWGmw-012</u>		SampleID: <u>FWGFWGmw-012-0349-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>12:54</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>25.4</u>		Color: <u>Clear</u>	
		ORP (mV): <u>70</u>		Odor: <u>None</u>	
pH: <u>5.8</u>		Temperature (°C): <u>13.4</u>		DO (mg/L): <u>0</u> Specific Conductivity (mS/cm): <u>0.248</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>N</u> AMBIENT TEMP (°F): <u>75</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>SAS</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8270	SVOC	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/19/2013

START TIME: 16:57

WELL ID: FWGmw-015

INITIAL WATER LEVEL: 5.17

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 16 - 26

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 24.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 30

Recharge: 10

Discharge: 5

TOTAL PURGE VOL (L): 3.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
17:17	5.85	0.2	0.5	18.79	2.49	11	6.95	409	-114
17:20	6.30	0.2	0.6	18.13	2.49	10.04	6.92	464	-120
17:23	6.57	0.2	0.6	17.89	2.5	9.51	6.91	530	-122
17:29	8.02	0.2	0.6	15	2.46	12.54	6.92	615	-121
17:32	9.12	0.2	0.6	14.91	2.48	12.43	6.9	411	-119
17:35	10.04	0.2	0.6	14.95	2.47	12.47	6.89	314	-115

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: FACILITY-WIDE PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: FWGmw-015 SampleID: FWGFWGmw-015-0350-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 17:41

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>278</u>	Color: <u>Clear</u>
	ORP (mV): <u>-115</u>	Odor: <u>None</u>

pH: 6.89 Temperature (°C): 14.95 DO (mg/L): 10.8 Specific Conductivity (mS/cm): 2.47

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 75  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: EC Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FACILITY-WIDE

DATE: 8/19/2013

START TIME: 16:15

WELL ID: FWGmw-016

INITIAL WATER LEVEL: 16.59

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 57.2 - 67.2

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 65.2

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 3.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
16:26	16.59	0.2	0.5	17.89	0.506	12.09	6.49	10	-149
16:29	16.59	0.2	0.6	16.65	0.509	10.54	6.76	10	-135
16:32	16.59	0.2	0.6	16.42	0.507	9.99	6.85	10	-130
16:35	16.59	0.2	0.6	16.25	0.507	9.54	6.94	10	-125
16:38	16.59	0.2	0.6	16.15	0.507	9.4	6.99	10	-122
16:41	16.59	0.2	0.6	16.06	0.508	9.42	7.04	10	-120

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



# EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FACILITY-WIDE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FWGmw-016</u>		SampleID: <u>FWGFWGmw-016-0351-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/19/2013</u> TIME: <u>16:51</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>10</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-119</u>		Odor: <u>None</u>	
pH: <u>7.06</u>		Temperature (°C): <u>16.1</u>		DO (mg/L): <u>9.41</u> Specific Conductivity (mS/cm): <u>0.507</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: FUZE AND BOOSTER QUARRY

DATE: 8/21/2013

START TIME: 11:17

WELL ID: FBQmw-174

INITIAL WATER LEVEL: 15.72

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 12 - 22

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 20.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

TOTAL PURGE VOL (L): 2.41

PUMP READINGS: Throttle: 50    Recharge: 12    Discharge: 3

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
11:22	15.80	0.18	0.25	16.49	0.072	5.94	5.5	2.5	114
11:25	15.85	0.18	0.54	15.85	0.071	5.86	4.82	0	159
11:28	15.89	0.18	0.54	15.55	0.065	5.8	4.66	0	183
11:31	15.91	0.18	0.54	15.48	0.064	5.75	4.62	0	193
11:34	15.94	0.18	0.54	15.32	0.064	5.72	4.58	0	205

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>FUZE AND BOOSTER QUARRY</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>FBQmw-174</u>		SampleID: <u>FWGFBQmw-174C-0345-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>11:38</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>0</u>		Color: <u>Clear</u>	
		ORP (mV): <u>210</u>		Odor: <u>None</u>	
pH: <u>4.6</u>		Temperature (°C): <u>15.31</u>		DO (mg/L): <u>5.7</u> Specific Conductivity (mS/cm): <u>0.063</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL Cmt:</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	8081	Pest	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 1

DATE: 8/20/2013 START TIME: 15:30

WELL ID: LL1mw-064

INITIAL WATER LEVEL: 1.36

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 8 - 18

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 16.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5 TOTAL PURGE VOL (L): 4.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
15:32	1.64	0.1	0.2	19.8	0.421	2.86	6.83	142	5
15:37	1.82	0.1	0.5	18	0.423	1.16	6.94	116	-96
15:42	1.85	0.1	0.5	16.4	0.425	0.76	6.84	180	-109
15:47	1.85	0.1	0.5	15.3	0.428	0.39	6.81	122	-113
15:52	1.83	0.1	0.5	14.9	0.424	0.29	6.84	67.4	-117
15:57	1.81	0.1	0.5	14.8	0.425	0.19	6.87	22.3	-120

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 1</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL1mw-064</u>		SampleID: <u>FWGLL1mw-064C-0352-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>16:04</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>22.3</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-120</u>		Odor: <u>None</u>	
pH: <u>6.87</u>		Temperature (°C): <u>14.8</u>		DO (mg/L): <u>0.19</u> Specific Conductivity (mS/cm): <u>0.425</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>N</u> AMBIENT TEMP (°F): <u>82</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>SAS Cmt:</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	8081	Pest	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 1

DATE: 8/21/2013

START TIME: 14:20

WELL ID: LL1mw-065

INITIAL WATER LEVEL: 11.5

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 10.2 - 20.2

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 18.2

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 3.3

COMMENT CLOUDY Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:24	11.50	0.2	0.3	14.21	0.667	8.41	7.07	272	2
14:27	11.55	0.2	0.6	13.85	0.666	7.95	6.93	267	-3
14:30	11.57	0.2	0.6	13.55	0.658	7.54	6.8	269	-9
14:33	11.61	0.2	0.6	13.26	0.642	6.77	6.57	247	-12
14:36	11.65	0.2	0.6	13.16	0.64	6.74	6.54	249	-19
14:39	11.69	0.2	0.6	13.11	0.652	6.66	6.52	211	0

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



# EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 1</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL1mw-065</u>		SampleID: <u>FWGLL1mw-065C-0353-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>14:43</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>211</u>		Color: <u>CLOUDY</u>	
		ORP (mV): <u>-27</u>		Odor: <u>None</u>	
pH: <u>6.52</u>		Temperature (°C): <u>13.11</u>		DO (mg/L): <u>6.66</u>	
Specific Conductivity (mS/cm): <u>0.651</u>					
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST: <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>NW</u>	
SHIPPED VIA: <u>Lab Pickup</u>		AMBIENT TEMP (°F): <u>85</u>			
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>AD</u>		Cmt: _____			
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	8081	Pest	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 1

DATE: 8/21/2013

START TIME: 14:55

WELL ID: LL1mw-083

INITIAL WATER LEVEL: 30.85

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 29.1 - 38.6

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 36.6

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 60 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 2.05

COMMENT verified historical pH is usually low Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:59	31.21	0.15	0.25	15.4	0.334	9.01	3.99	328	340
15:02	31.21	0.15	0.45	15.23	0.312	8.4	3.85	266	354
15:05	31.21	0.15	0.45	15.2	0.311	7.34	3.81	155	363
15:08	31.21	0.15	0.45	15.25	0.312	7.09	3.79	100	369
15:11	31.21	0.15	0.45	15.23	0.312	7.04	3.79	68.5	373

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



# EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: LOADLINE 1 PROJECT NO.: 030174.0016.001

## SAMPLE INFORMATION

WELL: LL1mw-083 SampleID: FWGLL1mw-083C-0354-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 15:15

## FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>48.2</u>	Color: <u>Clear</u>
	ORP (mV): <u>375</u>	Odor: <u>None</u>

pH: 3.8 Temperature (°C): 15.22 DO (mg/L): 6.98 Specific Conductivity (mS/cm): 0.314

## GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 85  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: EC Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8270	SVOC
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	2	4C	8081	Pest



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: LOADLINE 1 DATE: 8/21/2013 START TIME: 13:45  
WELL ID: LL1mw-084 INITIAL WATER LEVEL: 26.92  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 26.7 - 36.3  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 34.3  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 2.05  
PUMP READINGS: Throttle: 55 Recharge: 10 Discharge: 5  
COMMENT purge until 14:05 Clear Odor:None

TIME	WATER LEVEL (ftoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
13:53	27.62	0.15	0.25	18.21	0.466	6.86	5.08	35.8	237
13:56	27.78	0.15	0.45	18.08	0.47	6.57	5.05	23.2	241
13:59	27.83	0.15	0.45	18.22	0.466	6.7	5.03	10.5	244

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 1</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL1mw-084</u>		SampleID: <u>FWGLL1mw-084C-0355-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>14:05</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>10.5</u>		Color: <u>Clear</u>	
		ORP (mV): <u>247</u>		Odor: <u>None</u>	
pH: <u>5.03</u>		Temperature (°C): <u>18.17</u>		DO (mg/L): <u>6.59</u> Specific Conductivity (mS/cm): <u>0.471</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC Cmt:</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	2	4C	8270	SVOC	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8081	Pest	
1L/Amber	1	4C	8330	Explo	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 1

DATE: 8/21/2013 START TIME: 13:11

WELL ID: LL1mw-086

INITIAL WATER LEVEL: 7.8

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 64.5 - 74.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 72.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5 TOTAL PURGE VOL (L): 3.6

COMMENT checked pH same as historical 2012 spring/summer, purge until 1330 Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
13:18	7.69	0.2	0.3	18.91	0.633	0.94	9.57	15	-209
13:21	7.90	0.2	0.6	18.03	0.622	0	9.48	15	-222
13:24	7.91	0.2	0.6	17.58	0.621	0	9.43	15	-229
13:27	7.94	0.2	0.6	17.24	0.621	0	9.43	15	-231
13:30	7.97	0.2	0.6	17.17	0.621	0	9.4	15	-235

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 1</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL1mw-086</u>		SampleID: <u>FWGLL1mw-086-0320-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>13:33</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>15</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-235</u>		Odor: <u>None</u>	
pH: <u>9.4</u>		Temperature (°C): <u>17.17</u>		DO (mg/L): <u>0</u> Specific Conductivity (mS/cm): <u>0.621</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>Y</u>		WIND DIRECTION: <u>NW</u> AMBIENT TEMP (°F): <u>81</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>AD Cmt:</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8081	Pest	
1L/Amber	2	4C	8270	SVOC	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 1

DATE: 8/20/2013 START TIME: 9:10

WELL ID: LL1mw-087

INITIAL WATER LEVEL: 6.44

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 7 - 17

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 15.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 40 Recharge: 12 Discharge: 3 TOTAL PURGE VOL (L): 2.6

COMMENT cloudy Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:13	6.55	0.225	0.2	17.09	0.639	1.85	6.63	892	59
9:16	6.71	0.2	0.6	16.08	0.648	1.09	6.99	909	50
9:19	6.92	0.2	0.6	15.71	0.65	0.92	7.01	818	35
9:22	7.13	0.2	0.6	15.45	0.653	0.74	7.05	820	28
9:25	7.27	0.2	0.6	15.51	0.654	0.69	7.03	790	25

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



# EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 1</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL1mw-087</u>		SampleID: <u>FWGLL1mw-087C-0356-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>9:28</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>742</u>		Color: <u>cloudy</u>	
		ORP (mV): <u>23</u>		Odor: <u>None</u>	
pH: <u>7.04</u>		Temperature (°C): <u>15.42</u>		DO (mg/L): <u>0.65</u> Specific Conductivity (mS/cm): <u>0.656</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>W</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL</u> Cmt: <u>tan</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8081	Pest	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 2

DATE: 8/21/2013 START TIME: 12:25

WELL ID: LL2mw-059

INITIAL WATER LEVEL: 12.87

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 9.3 - 19.1

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 17.1

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 25 Recharge: 10 Discharge: 5 TOTAL PURGE VOL (L): 2.9

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:32	13.25	0.2	0.5	16.58	0.308	8.35	5.7	27.3	11
12:35	13.29	0.2	0.6	16.55	0.306	7.75	5.52	29.7	10
12:38	13.33	0.2	0.6	16.55	0.304	7.38	5.5	31.5	8
12:41	13.33	0.2	0.6	16.62	0.301	7.17	5.49	45.2	9
12:44	13.34	0.2	0.6	16.69	0.298	7.09	5.48	45.3	6

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 2</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL2mw-059</u>		SampleID: <u>FWGLL2mw-059C-0357-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>12:51</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>47.7</u>		Color: <u>Clear</u>	
		ORP (mV): <u>6</u>		Odor: <u>None</u>	
pH: <u>5.46</u>		Temperature (°C): <u>16.72</u>		DO (mg/L): <u>7.04</u> Specific Conductivity (mS/cm): <u>0.3</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cnt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8270	SVOC	
40ml/Vial	3	HCl	8260	VOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 2

DATE: 8/21/2013 START TIME: 11:25

WELL ID: LL2mw-265

INITIAL WATER LEVEL: 9.58

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 11.8 - 21.8

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 19.8

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 35 Recharge: 10 Discharge: 5 TOTAL PURGE VOL (L): 3.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
11:32	9.96	0.2	0.5	15.71	0.714	6	5.78	134	3
11:35	10.03	0.2	0.6	15.16	0.72	3.04	5.78	72.2	0
11:38	10.03	0.2	0.6	14.76	0.719	2.31	5.77	42.2	-2
11:41	10.03	0.2	0.6	14.55	0.718	1.98	5.77	23	-2
11:44	10.03	0.2	0.6	14.72	0.714	1.82	5.76	14.8	-1
11:47	10.03	0.2	0.6	14.44	0.719	1.79	5.76	16.3	0

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 2</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL2mw-265</u>		SampleID: <u>FWGLL2mw-265C-0321-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>11:55</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>13.6</u>		Color: <u>Clear</u>	
		ORP (mV): <u>0</u>		Odor: <u>None</u>	
pH: <u>5.75</u>		Temperature (°C): <u>14.41</u>		DO (mg/L): <u>1.77</u> Specific Conductivity (mS/cm): <u>0.714</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cnt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	353.2/8330	Propellants	
40ml/Vial	3	HCl	8260	VOC	
1L/Amber	1	4C	8330	Explo	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 2

DATE: 8/21/2013

START TIME: 11:57

WELL ID: LL2mw-267

INITIAL WATER LEVEL: 10.2

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 9.8 - 19.8

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 17.8

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 3.3

COMMENT ORANGE WATER CLOUDY ORANGE Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:00	10.20	0.2	0.3	15.68	0.418	4.48	5.51	999	68
12:03	10.30	0.2	0.6	15.41	0.426	2.44	5.49	780	57
12:06	10.24	0.2	0.6	15.23	0.423	0.95	5.41	643	55
12:09	10.22	0.2	0.6	14.8	0.421	0.08	5.38	446	54
12:12	10.23	0.2	0.6	14.67	0.421	0	5.36	357	55
12:15	10.24	0.2	0.6	14.67	0.42	0	5.37	302	55

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 2</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL2mw-267</u>		SampleID: <u>FWGLL2mw-267C-0358-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>12:18</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>353</u>		Color: <u>CLOUDY ORANGE</u>	
		ORP (mV): <u>56</u>		Odor: <u>None</u>	
pH: <u>5.35</u>		Temperature (°C): <u>14.65</u>		DO (mg/L): <u>0</u> Specific Conductivity (mS/cm): <u>0.42</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST: <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>NW</u> AMBIENT TEMP (°F): <u>79</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>AD</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 3

DATE: 8/19/2013

START TIME: 13:14

WELL ID: LL3mw-238

INITIAL WATER LEVEL: 15.8

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 10.5 - 20.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 18.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50    Recharge: 12    Discharge: 3

TOTAL PURGE VOL (L): 1.49

COMMENT cloudy Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
13:21	15.98	0.215	0.2	15.85	0.301	3.36	6.23	909	146
13:24	16.08	0.215	0.645	15.89	0.301	3.27	6.23	604	146
13:27	16.19	0.215	0.645	15.87	0.299	3.29	6.23	466	145

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 3</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL3mw-238</u>		SampleID: <u>FWGLL3mw-238C-0359-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/19/2013</u> TIME: <u>13:32</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>445</u>		Color: <u>cloudy</u>	
		ORP (mV): <u>145</u>		Odor: <u>None</u>	
pH: <u>6.24</u>		Temperature (°C): <u>15.88</u>		DO (mg/L): <u>3.23</u> Specific Conductivity (mS/cm): <u>0.299</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL</u> Cnt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	8081	Pest	
1L/Amber	1	4C	8330	Explo	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 3

DATE: 8/19/2013 START TIME: 12:30

WELL ID: LL3mw-239

INITIAL WATER LEVEL: 23.41

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 24.9 - 34.9

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 32.9

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50 Recharge: 12 Discharge: 3 TOTAL PURGE VOL (L): 2.65

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:38	23.66	0.2	0.25	14.86	0.188	1.82	5.55	0	155
12:41	24.11	0.2	0.6	14.81	0.185	1.47	5.69	0	173
12:44	24.29	0.2	0.6	14.44	0.182	1.22	5.7	0	138
12:47	24.38	0.2	0.6	14.34	0.182	1.22	5.7	0	131
12:50	24.40	0.2	0.6	14.01	0.18	0.95	5.69	0	126

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 3</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL3mw-239</u>		SampleID: <u>FWGLL3mw-239C-0322-GF</u>		DuplID: _____	
		SplitID: _____		RinselD: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/19/2013</u> TIME: <u>12:52</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>0</u>		Color: <u>Clear</u>	
		ORP (mV): <u>122</u>		Odor: <u>None</u>	
pH: <u>5.69</u>		Temperature (°C): <u>14.01</u>		DO (mg/L): <u>0.91</u> Specific Conductivity (mS/cm): <u>0.18</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>75</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
250ml/Poly	1	4C	6860	Perchlorate	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 3

DATE: 8/19/2013

START TIME: 14:13

WELL ID: LL3mw-241

INITIAL WATER LEVEL: 10.38

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 12.7 - 22.7

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 20.7

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 45    Recharge: 13    Discharge: 2

TOTAL PURGE VOL (L): 2.82

COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:15	10.60	0.3	0.3	17.49	0.167	4.83	5.95	970	161
14:18	10.71	0.21	0.63	16.71	0.171	4.97	5.89	801	167
14:21	10.64	0.21	0.63	16.48	0.171	5.34	5.86	542	170
14:24	10.63	0.21	0.63	16.12	0.17	5.29	5.85	236	171
14:27	10.63	0.21	0.63	16.1	0.168	5.15	5.83	110	170

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 3</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL3mw-241</u>		SampleID: <u>FWGLL3mw-241C-0360-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/19/2013</u> TIME: <u>14:28</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>57.5</u>		Color: <u>Clear</u>	
		ORP (mV): <u>169</u>		Odor: <u>None</u>	
pH: <u>5.82</u>		Temperature (°C): <u>15.99</u>		DO (mg/L): <u>5.11</u> Specific Conductivity (mS/cm): <u>0.167</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL</u> Cmt: <u>orange tss high at start of purge</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	8081	Pest	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: LOADLINE 3 DATE: 8/20/2013 START TIME: 12:12  
WELL ID: LL3mw-244 INITIAL WATER LEVEL: 11.11  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 37 - 47  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 45.0  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 3.3  
PUMP READINGS: Throttle: 75 Recharge: 10 Discharge: 5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:12	11.29	0.2	0.3	13.87	0.363	11.17	6.79	14.8	134
12:15	11.20	0.2	0.6	13.55	0.365	10.42	6.65	16.5	136
12:18	11.29	0.2	0.6	12.91	0.343	8.87	6.18	8.8	145
12:21	11.29	0.2	0.6	12.8	0.323	8.69	6.12	6.6	146
12:24	11.25	0.2	0.6	12.78	0.319	8.48	6.07	5.2	148
12:27	11.20	0.2	0.6	12.71	0.318	8.41	6.05	2	151

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 3</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL3mw-244</u>		SampleID: <u>FWGLL3mw-244-0323-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>12:29</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>2</u>		Color: <u>Clear</u>	
		ORP (mV): <u>150</u>		Odor: <u>None</u>	
pH: <u>6.03</u>		Temperature (°C): <u>12.71</u>		DO (mg/L): <u>8.4</u> Specific Conductivity (mS/cm): <u>0.317</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>NE</u> AMBIENT TEMP (°F): <u>79</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>AD</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	8081	Pest	
1L/Amber	2	4C	353.2/8330	Propellants	
250ml/Poly	1	4C	218.6	Hex. Chrom.	
1L/Amber	2	4C	8330	Explo	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 10

DATE: 8/20/2013

START TIME: 13:56

WELL ID: LL10mw-003

INITIAL WATER LEVEL: 20.21

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 16 - 26

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 24.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 4

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
13:58	20.51	0.1	0.2	14.9	0.545	6.17	6.42	78.9	90
14:03	20.66	0.1	0.5	13.7	0.494	6.67	6.39	60.5	135
14:08	20.60	0.1	0.5	13.4	0.482	7.04	6.26	25.1	165
14:13	20.70	0.1	0.5	13.2	0.477	6.99	6.23	12.3	184
14:18	20.64	0.1	0.5	13.1	0.487	7.04	6.24	21.6	196

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <b>RVAAP</b>		LOCATION: <b>LOADLINE 10</b>		PROJECT NO.: <b>030174.0016.001</b>	
<b>SAMPLE INFORMATION</b>					
WELL: <b>LL10mw-003</b>		SampleID: <b>FWGLL10mw-003C-0361-GW/GF</b>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <b>WG - Ground Water</b>		SAMPLING METHOD: <b>BP - Bladder Pump</b>		MS/MSD: <b>N</b>	
GRAB: <b>Y</b>		COMPOSITE: <b>N</b>		DATE: <b>8/20/2013</b> TIME: <b>14:30</b>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <b>21.6</b>		Color: <b>Clear</b>	
		ORP (mV): <b>196</b>		Odor: <b>None</b>	
pH: <b>6.24</b>		Temperature (°C): <b>13.1</b>		DO (mg/L): <b>7.04</b> Specific Conductivity (mS/cm): <b>0.487</b>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <b>Sunny</b>		PERCIPITATION: <b>N</b>		WIND DIRECTION: <b>N</b> AMBIENT TEMP (°F): <b>80</b>	
SHIPPED VIA: <b>Lab Pickup</b>					
SHIPPED TO: <b>Testamerica</b>					
SAMPLER: <b>SAS</b> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
40ml/Vial	3	HCl	8260	VOC	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 12

DATE: 8/20/2013

START TIME: 11:20

WELL ID: LL12mw-185

INITIAL WATER LEVEL: 6.7

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 10.8 - 20.8

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 18.8

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 3.2

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
11:21	6.70	0.2	0.2	16.31	5.78	7.74	6.6	65.6	122
11:24	7.11	0.2	0.6	14.96	5.69	6.37	6.59	36.3	120
11:27	7.42	0.2	0.6	14.65	5.73	5.95	6.57	34	119
11:30	8.13	0.2	0.6	14.53	5.71	5.51	6.56	40.6	118
11:33	8.93	0.2	0.6	14.5	5.72	5.45	6.65	34.8	14.49
11:36	9.29	0.2	0.6	14.27	5.73	5.41	6.55	41.1	117

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: LOADLINE 12 PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: LL12mw-185 SampleID: FWGLL12mw-185C-0362-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/20/2013 TIME: 11:39

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>80</u>	Color: <u>Clear</u>
	ORP (mV): <u>116</u>	Odor: <u>None</u>
pH: <u>6.56</u> Temperature (°C): <u>14.68</u> DO (mg/L): <u>5.37</u> Specific Conductivity (mS/cm): <u>5.78</u>		

### GENERAL INFORMATION

SUN/OVERCAST: Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 76  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: AD Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
250ml/Poly	1	H2SO4	353.2	NO3/NO2
500ml/Poly	1	HNO3	6010/6020/7470	Metals



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
 LOCATION: LOADLINE 12 DATE: 8/20/2013 START TIME: 9:05  
 WELL ID: LL12mw-187 INITIAL WATER LEVEL: 8.52  
 WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 17.2 - 27.2  
 WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 25.2  
 PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 4.7  
 PUMP READINGS: Throttle: 40 Recharge: 10 Discharge: 5  
 COMMENT verified spec cond is usually high Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:10	8.97	0.2	0.5	15.59	11.1	6.71	6.4	41.8	120
9:13	9.03	0.2	0.6	15.23	11.1	7.39	6.47	54.8	106
9:16	9.16	0.2	0.6	14.24	11.2	7.91	6.5	27	92
9:19	9.17	0.2	0.6	14.14	11.3	8.4	6.52	33.8	80
9:22	9.24	0.2	0.6	14.08	11.3	8.51	6.54	38.2	72
9:25	9.31	0.2	0.6	13.96	11.4	9.57	6.55	29.3	63
9:28	9.33	0.2	0.6	13.93	11.5	9.67	6.55	43.2	59
9:31	9.35	0.2	0.6	13.89	11.6	9.72	6.55	43.4	54

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 12</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL12mw-187</u>		SampleID: <u>FWGLL12mw-187C-0363-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>9:35</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>39.7</u>		Color: <u>Clear</u>	
		ORP (mV): <u>49</u>		Odor: <u>None</u>	
pH: <u>6.55</u>		Temperature (°C): <u>13.87</u>		DO (mg/L): <u>9.81</u> Specific Conductivity (mS/cm): <u>11.7</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>70</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
250ml/Poly	1	H2SO4	353.2	NO3/NO2	
1L/Amber	2	4C	353.2/8330	Propellants	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8081	Pest	
1L/Amber	2	4C	8270	SVOC	
40ml/Vial	3	HCl	8260	VOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 12

DATE: 8/20/2013

START TIME: 10:30

WELL ID: LL12mw-242

INITIAL WATER LEVEL: 8.15

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 15.5 - 25.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 23.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 40    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 5.3

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
10:37	8.53	0.2	0.5	15.61	0.653	9.8	8.1	999	-137
10:40	8.62	0.2	0.6	15.19	0.648	9.6	7.89	999	-124
10:43	8.66	0.2	0.6	15.25	0.631	9.8	7.79	999	-113
10:46	8.77	0.2	0.6	14.08	0.63	9.85	7.76	929	-103
10:49	8.92	0.2	0.6	14.12	0.627	9.91	7.72	730	-101
10:52	9.03	0.2	0.6	13.98	0.62	10.31	7.69	656	-99
10:55	9.06	0.2	0.6	13.95	0.62	10.88	7.67	534	-97
10:58	9.11	0.2	0.6	13.8	0.619	10.84	7.65	468	-96
11:01	9.14	0.2	0.6	13.84	0.618	10.92	7.65	413	-96

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



# EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 12</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL12mw-242</u>		SampleID: <u>FWGLL12mw-242C-0364-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>11:11</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>394</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-95</u>		Odor: <u>None</u>	
pH: <u>7.65</u>		Temperature (°C): <u>13.82</u>		DO (mg/L): <u>10.98</u> Specific Conductivity (mS/cm): <u>0.62</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST: <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
40ml/Vial	3	HCl	8260	VOC	
1L/Amber	2	4C	8270	SVOC	
250ml/Poly	1	H2SO4	353.2	NO3/NO2	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	8081	Pest	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
 LOCATION: LOADLINE 12 DATE: 8/20/2013 START TIME: 9:09  
 WELL ID: LL12mw-245 INITIAL WATER LEVEL: 6.5  
 WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 18 - 28  
 WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 26.0  
 PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 4.81  
 PUMP READINGS: Throttle: 60 Recharge: 10 Discharge: 5  
 COMMENT knocked over Flowthru after 0914 Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:11	7.39	0.2	0.3	13.7	1.31	1.94	6.52	252	-7
9:14	7.49	0.2	0.6	13.33	1.29	1.39	6.55	252	-15
9:17	6.58	0.19	0.57	13.17	1.28	8.9	6.57	246	-22
9:20	7.11	0.175	0.525	13.76	1.41	8.04	6.53	132	-11
9:23	7.34	0.175	0.525	13.33	1.4	7.05	6.68	110	-21
9:26	7.54	0.165	0.495	13.3	1.39	5.51	6.68	102	-23
9:29	8.09	0.15	0.45	13.32	1.38	5.06	6.67	111	-27
9:31	8.34	0.15	0.3	13.29	1.38	3.52	6.66	98.6	-30
9:33	8.65	0.133	0.266	13.27	1.37	2.92	6.65	93	-31
9:36	8.96	0.133	0.399	13.27	1.37	2.89	6.64	99	-32
9:39	8.96	0.125	0.375	13.26	1.36	2.87	6.64	100	-32

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>LOADLINE 12</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>LL12mw-245</u>		SampleID: <u>FWGLL12mw-245C-365-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinselD: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>Y</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>9:56</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>119</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-33</u>		Odor: <u>None</u>	
pH: <u>6.63</u>		Temperature (°C): <u>13.24</u>		DO (mg/L): <u>1.11</u> Specific Conductivity (mS/cm): <u>1.36</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>NE</u> AMBIENT TEMP (°F): <u>70</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>AD</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
250ml/Poly	3	H2SO4	353.2	NO3/NO2	
500ml/Poly	3	HNO3	6010/6020/7470	Metals	
1L/Amber	6	4C	353.2/8330	Propellants	
1L/Amber	3	4C	8330	Explo	
1L/Amber	2	4C	8081	Pest	
40ml/Vial	3	HCl	8260	VOC	
1L/Amber	6	4C	8270	SVOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: LOADLINE 12

DATE: 8/20/2013

START TIME: 12:20

WELL ID: LL12mw-247

INITIAL WATER LEVEL: 5.06

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 12.5 - 22.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 20.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 35    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 5.65

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:26	5.12	0.2	0.25	18.79	1.02	7.44	7.73	999	-111
12:29	5.52	0.2	0.6	16.84	0.742	8.18	7.59	999	-97
12:32	6.02	0.2	0.6	15.77	0.748	6.14	7.51	999	-99
12:35	6.29	0.2	0.6	15.89	0.99	6.12	7.48	999	-89
12:38	6.61	0.2	0.6	15.48	0.98	5.85	7.44	999	-86
12:41	6.72	0.2	0.6	15.74	0.97	6.49	7.45	999	-79
12:44	6.89	0.2	0.6	15.92	0.722	6.69	7.47	999	-75
12:47	6.92	0.2	0.6	16.26	0.72	6.32	7.43	999	-76
12:50	6.92	0.2	0.6	16.5	0.72	6.24	7.42	723	-76
12:53	6.95	0.2	0.6	16.42	0.719	6.28	7.42	634	-75

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: LOADLINE 12 PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: LL12mw-247 SampleID: FWGLL12mw-247-0366-GW/GF DuplID: FWGLL12mw-DUP3-0338-GW/GF  
 SplitID: FWGLL12mw-247-0334S-GW/GF RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/20/2013 TIME: 13:01

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>378</u>	Color: <u>Clear</u>
	ORP (mV): <u>-72</u>	Odor: <u>None</u>

pH: 7.41 Temperature (°C): 16.54 DO (mg/L): 6.21 Specific Conductivity (mS/cm): 0.717

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 80  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Multiple Labs  
 SAMPLER: EC Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	6	4C	8081	Pest
250ml/Poly	3	4C	218.6	Hex. Chrom.
1L/Amber	6	4C	8270	SVOC
250ml/Poly	3	H2SO4	353.2	NO3/NO2
500ml/Poly	3	HNO3	6010/6020/7470	Metals
1L/Amber	5	4C	353.2/8330	Propellants
1L/Amber	5	4C	8330	Explo
40ml/Vial	9	HCl	8260	VOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: NACA TEST AREA

DATE: 8/21/2013

START TIME: 8:45

WELL ID: NTAmw-119

INITIAL WATER LEVEL: 12.28

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 94.2 - 104.2

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 102.2

PUMP/PURGING DEVICE: BP - BLADDER PUMP

TOTAL PURGE VOL (L): 4.7

PUMP READINGS: Throttle: 75    Recharge: 30    Discharge: 30

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:05	12.30	0.4	0.5	12.06	0.606	1.76	6.37	0	-120
9:08	12.30	0.35	1.05	11.94	0.576	1.24	6.46	0	-138
9:11	12.30	0.35	1.05	11.9	0.568	1.05	6.48	0	-141
9:14	12.30	0.35	1.05	11.79	0.566	0.81	6.47	0	-147
9:17	12.30	0.35	1.05	11.89	0.567	0.75	6.48	0	-149

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: NACA TEST AREA PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: NTAmw-119 SampleID: FWGNTAmw-119-0367-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 9:22

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>0</u>	Color: <u>Clear</u>
	ORP (mV): <u>-150</u>	Odor: <u>None</u>

pH: 6.5 Temperature (°C): 11.8 DO (mg/L): 0.67 Specific Conductivity (mS/cm): 0.566

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 75  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: CAL Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	353.2/8330	Propellants
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8270	SVOC
1L/Amber	2	4C	8081	Pest
1L/Amber	2	4C	8082	PCB
1L/Amber	1	4C	8330	Explo
500ml/Poly	1	HNO3	6010/6020/7470	Metals
250ml/Poly	1	NaOH	9012	Cyanide



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
 LOCATION: RAMSDELL QUARRY LANDFILL DATE: 8/19/2013 START TIME: 15:43  
 WELL ID: RQLmw-006 INITIAL WATER LEVEL: 33.33  
 WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 19.4 - 39.4  
 WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 37.4  
 PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 6.3  
 PUMP READINGS: Throttle: 75 Recharge: 10 Discharge: 5  
 COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
15:46	33.85	0.2	0.3	14.04	0.629	7.87	5.91	0	-120
15:49	33.95	0.2	0.6	12.99	0.612	6.86	5.87	0	-123
15:52	34.15	0.2	0.6	12.63	0.607	6.27	5.85	0	-124
15:55	34.35	0.2	0.6	12.44	0.606	5.8	5.81	0	-124
15:58	34.35	0.2	0.6	12.32	0.605	5.52	5.78	0	-123
16:01	34.45	0.2	0.6	12.31	0.605	5.23	5.77	0	-122
16:04	34.55	0.2	0.6	12.22	0.613	4.92	5.75	0	-121
16:07	34.65	0.2	0.6	12.16	0.614	4.53	5.74	0	-120
16:10	34.75	0.2	0.6	12.14	0.613	4.41	5.73	0	-119
16:13	34.65	0.2	0.6	12.19	0.612	4.2	5.71	0	-119
16:16	34.65	0.2	0.6	12.16	0.612	4.16	5.7	0	-118

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: RAMSDELL QUARRY LANDFILL PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: RQLmw-006 SampleID: FWGRQLmw-006C-0368-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: FWGEQUIPRinse1-0340-GW  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 16:19

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>0</u>	Color: <u>Clear</u>
	ORP (mV): <u>-118</u>	Odor: <u>None</u>

pH: 5.69 Temperature (°C): 12.19 DO (mg/L): 4.11 Specific Conductivity (mS/cm): 0.611

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 74  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: AD Cmt: rinse at 1753

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
40ml/Vial	3	HCl	8260	VOC
250ml/Poly	1	4C	6860	Perchlorate
500ml/Poly	1	HNO3	6010/6020/7470	Metals
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	1	4C	353.2/8330	Propellants
1L/Amber	2	4C	8330	Explo
1L/Amber	2	4C	8082	PCB
1L/Amber	2	4C	8270	SVOC
1L/Amber	2	4C	8081	Pest



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: RAMSDELL QUARRY LANDFILL DATE: 8/19/2013 START TIME: 12:48  
WELL ID: RQLmw-007 INITIAL WATER LEVEL: 5.19  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 6 - 16  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 14.0  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 9.5  
PUMP READINGS: Throttle: 100 Recharge: 10.5 Discharge: 4.5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoe)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:55	5.59	0.1	0.22	17.2	1.06	0.36	6.15	10	-94
13:00	5.50	0.1	0.5	17.2	1.07	0.26	6.15	10	-96
13:05	5.59	0.1	6	17.2	1.1	0.2	6.16	10.8	-100
13:10	5.52	0.1	0.5	17.3	1.12	0.16	6.21	10	-102
13:15	5.60	0.1	0.5	17.3	1.13	0.15	6.23	10.1	-105

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u> LOCATION: <u>RAMSDELL QUARRY LANDFILL</u> PROJECT NO.: <u>030174.0016.001</u>				
<b>SAMPLE INFORMATION</b>				
WELL: <u>RQLmw-007</u>		SampleID: <u>FWGRQLmw-007C-0369-GW/GF</u>		DuplID: _____
		SplitID: _____		RinseID: <u>FWGEQUIPRinse3-0342-GW</u>
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>
GRAB: <u>Y</u>	COMPOSITE: <u>N</u>	DATE: <u>8/19/2013</u>	TIME: <u>13:24</u>	
<b>FIELD READINGS / OBSERVATIONS</b>				
		Turb (NTU): <u>10.1</u>	Color: <u>Clear</u>	
		ORP (mV): <u>-105</u>	Odor: <u>None</u>	
pH: <u>6.23</u>	Temperature (°C): <u>17.3</u>	DO (mg/L): <u>0.15</u>	Specific Conductivity (mS/cm): <u>1.13</u>	
<b>GENERAL INFORMATION</b>				
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>	WIND DIRECTION: <u>N</u>	AMBIENT TEMP (°F): <u>80</u>
SHIPPED VIA: <u>Lab Pickup</u>				
SHIPPED TO: <u>Testamerica</u>				
SAMPLER: <u>SAS</u> Cmt: _____				
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>
<i>SIZE/TYPE</i>	<i>NUMBER</i>			
1L/Amber	2	4C	8082	PCB
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	1	4C	8330	Explo
500ml/Poly	1	HNO3	6010/6020/7470	Metals
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8081	Pest
1L/Amber	2	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: RAMSDELL QUARRY LANDFILL DATE: 8/19/2013 START TIME: 12:20  
WELL ID: RQLmw-008 INITIAL WATER LEVEL: 5.39  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 6 - 16  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 14.0  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 1.7  
PUMP READINGS: Throttle: 30 Recharge: 10 Discharge: 5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:33	5.44	0.2	0.5	17.13	0.692	4.07	6.2	32.3	-113
12:36	5.61	0.2	0.6	17.12	0.69	4	6.24	24.1	-112
12:39	5.61	0.2	0.6	17.08	0.693	4.04	6.28	20.6	-109

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: RAMSDELL QUARRY LANDFILL PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: RQLmw-008 SampleID: FWGRQLmw008C-0370-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: Y  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 12:45

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>13.1</u>	Color: <u>Clear</u>
	ORP (mV): <u>-100</u>	Odor: <u>None</u>

pH: 6.29 Temperature (°C): 17.07 DO (mg/L): 3.97 Specific Conductivity (mS/cm): 0.695

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 80  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: EC Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	6	4C	353.2/8330	Propellants
250ml/Poly	3	NaOH	9012	Cyanide
1L/Amber	6	4C	8082	PCB
1L/Amber	3	4C	8330	Explo
500ml/Poly	3	HNO3	6010/6020/7470	Metals
1L/Amber	6	4C	8081	Pest
1L/Amber	6	4C	8270	SVOC
40ml/Vial	9	HCl	8260	VOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: RAMSDELL QUARRY LANDFILL

DATE: 8/19/2013

START TIME: 12:30

WELL ID: RQLmw-009

INITIAL WATER LEVEL: 4.1

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 5.9 - 15.9

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 13.9

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 30    Recharge: 10    Discharge: 5

TOTAL PURGE VOL (L): 3.3

COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoe)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
12:49	4.50	0.2	0.3	17.36	0.309	5.14	5.93	33.5	-69
12:51	4.51	0.2	0.4	17.23	0.305	1.86	5.89	20.9	-72
12:54	4.60	0.2	0.6	17.18	0.3	0.6	5.86	0	-78
12:57	4.60	0.2	0.6	17.19	0.3	0.42	5.84	0	-79
13:00	4.60	0.2	0.6	17.27	0.3	0.25	5.84	5.5	-82
13:04	4.60	0.2	0.8	17.25	0.305	0.24	5.82	2.7	-84

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: RAMSDELL QUARRY LANDFILL PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: RQLmw-009 SampleID: FWGRQLmw-009c-0371-GW/GF DuplID: FWGRQLmw-DUP5-377-GW/GF  
 SplitID: FWGmw-009c-0375s-GW/GF RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 13:23

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>0</u>	Color: <u>Clear</u>
	ORP (mV): <u>-85</u>	Odor: <u>None</u>

pH: 5.82 Temperature (°C): 17.27 DO (mg/L): 0.22 Specific Conductivity (mS/cm): 0.306

### GENERAL INFORMATION

SUN/OVERCAST: Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 72  
 SHIPPED VIA: Lab PU/FedEx  
 SHIPPED TO: Multiple Labs  
 SAMPLER: AD Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8270	SVOC
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8081	Pest
1L/Amber	2	4C	8330	Explo
1L/Amber	1	4C	353.2/8330	Propellants
250ml/Poly	1	NaOH	9012	Cyanide
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8082	PCB



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: RAMSDELL QUARRY LANDFILL

DATE: 8/19/2013

START TIME: 14:26

WELL ID: RQLmw-010

INITIAL WATER LEVEL: 24.25

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 12.5 - 32.5

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 30.5

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 110 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 6.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:34	24.87	0.1	0.2	14.5	0.747	5.13	6.49	15.4	128
14:39	25.01	0.1	0.5	14.1	0.739	4.68	6.12	15	177
14:44	25.20	0.1	0.5	13.9	0.721	4.37	6.06	12	186
14:49	25.25	0.1	0.5	13.9	0.715	3.92	6.03	11	189
14:54	25.28	0.1	0.5	13.4	0.716	3.44	6.01	10	202
14:59	25.33	0.1	0.5	13.6	0.712	3.36	6.02	10	201
15:04	25.35	0.1	0.5	13.6	0.713	3.13	6.04	10	198
15:09	25.40	0.1	0.5	13.5	0.709	2.89	6.06	10	203
15:14	25.42	0.1	0.5	13.5	0.711	2.65	6.08	10	200
15:19	25.10	0.1	0.5	14	0.708	2.6	6.11	10	196

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: RAMSDELL QUARRY LANDFILL PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: RQLmw-010 SampleID: FWGRQLmw-010C-0325-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/19/2013 TIME: 15:34

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>10</u>	Color: <u>Clear</u>
	ORP (mV): <u>196</u>	Odor: <u>None</u>

pH: 6.11 Temperature (°C): 14 DO (mg/L): 2.6 Specific Conductivity (mS/cm): 0.708

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: N AMBIENT TEMP (°F): 77  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: SAS Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	8082	PCB
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	353.2/8330	Propellants
250ml/Poly	1	NaOH	9012	Cyanide
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8081	Pest
1L/Amber	2	4C	8270	SVOC
250ml/Poly	1	4C	6860	Perchlorate



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: RAMSDELL QUARRY LANDFILL DATE: 8/19/2013 START TIME: 14:15  
WELL ID: RQLmw-011 INITIAL WATER LEVEL: 20.8  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 12.4 - 32.4  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 30.4  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 5.3  
PUMP READINGS: Throttle: 50 Recharge: 10 Discharge: 5  
COMMENT verified low pH reading with pH test strips and historical readings Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
14:27	20.80	0.2	0.5	18.37	0.148	14.56	3.67	28.5	251
14:30	20.82	0.2	0.6	17.85	0.148	13.67	3.47	17.8	269
14:33	20.84	0.2	0.6	16.75	0.15	14	3.34	33.1	290
14:36	20.87	0.2	0.6	16.14	0.154	14.54	3.3	47	304
14:39	20.90	0.2	0.6	15.81	0.157	15.14	3.31	53	309
14:42	20.92	0.2	0.6	15.79	0.159	15.29	3.32	56.8	312
14:45	20.95	0.2	0.6	15.64	0.163	15.38	3.32	52.6	313
14:48	20.97	0.2	0.6	15.35	0.165	15.41	3.34	51.4	313
14:51	20.98	0.2	0.6	15.21	0.166	15.39	3.36	45.3	311

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>RAMSDELL QUARRY LANDFILL</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>RQLmw-011</u>		SampleID: <u>FWGRQLmw-011C-0326-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/19/2013</u> TIME: <u>14:55</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>49.6</u>		Color: <u>Clear</u>	
		ORP (mV): <u>309</u>		Odor: <u>None</u>	
pH: <u>3.38</u>		Temperature (°C): <u>15.31</u>		DO (mg/L): <u>15.21</u> Specific Conductivity (mS/cm): <u>0.168</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>EC</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	8081	Pest	
1L/Amber	2	4C	8082	PCB	
1L/Amber	1	4C	8330	Explo	
250ml/Poly	1	NaOH	9012	Cyanide	
250ml/Poly	1	4C	6860	Perchlorate	
40ml/Vial	3	HCl	8260	VOC	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: SHARON CONGLOMERATE

DATE: 8/20/2013

START TIME: 11:37

WELL ID: SCFmw-002

INITIAL WATER LEVEL: 18.83

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 137 - 147

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 145.0

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 80    Recharge: 30    Discharge: 30

TOTAL PURGE VOL (L): 4.4

COMMENT purge until 1208 Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
11:55	18.98	0.3	0.5	21	0.588	2.8	7.77	9.5	-97
11:58	19.02	0.3	0.9	20.07	0.607	1.01	7.7	0	-129
12:01	19.05	0.3	0.9	19.87	0.604	0.86	7.68	0	-140
12:04	19.09	0.3	0.9	19.85	0.613	0.71	7.66	0	-146

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>SHARON CONGLOMERATE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>SCFmw-002</u>		SampleID: <u>FWGSCFmw-002-0327-GW/GF</u>		DuplID: <u>FWGSCFmw-DUP6-0378-GW/GF</u>	
		SplitID: <u>FWGSCFmw-002-0376s-GW/GF</u>		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>Y</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>12:08</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>0</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-157</u>		Odor: <u>None</u>	
pH: <u>7.65</u>		Temperature (°C): <u>20.43</u>		DO (mg/L): <u>0.65</u> Specific Conductivity (mS/cm): <u>0.608</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>85</u>	
SHIPPED VIA: <u>Lab PU/FedEx</u>					
SHIPPED TO: <u>Multiple Labs</u>					
SAMPLER: <u>CAL</u> Cmt: <u>MSMSD run on Cr+6, DUP @ 1302</u>					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	
250ml/Poly	1	4C	218.6	Hex. Chrom.	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	8081	Pest	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: SHARON CONGLOMERATE DATE: 8/20/2013 START TIME: 10:30  
WELL ID: SCFmw-004 INITIAL WATER LEVEL: -0.2  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 100 - 110  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 108.0  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 4.1  
PUMP READINGS: Throttle: 80 Recharge: 35 Discharge: 25  
COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
10:38	-0.20	0.4	0.5	15.34	1.05	1.02	7.05	0	-83
10:41	-0.20	0.4	1.2	15.2	1.05	0.87	7.04	0	-86
10:44	-0.20	0.4	1.2	15.38	1.07	0.8	7.03	0	-88
10:47	-0.20	0.4	1.2	14.99	1.06	0.77	7.03	0	-92

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: CAL



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>SHARON CONGLOMERATE</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>SCFmw-004</u>		SampleID: <u>FWGSCFmw-004-0372-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/20/2013</u> TIME: <u>10:48</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>0</u>		Color: <u>Clear</u>	
		ORP (mV): <u>-93</u>		Odor: <u>None</u>	
pH: <u>7.02</u>		Temperature (°C): <u>14.78</u>		DO (mg/L): <u>0.78</u> Specific Conductivity (mS/cm): <u>1.07</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>S</u> AMBIENT TEMP (°F): <u>80</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>CAL</u> Cmt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
1L/Amber	2	4C	8081	Pest	
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	2	4C	353.2/8330	Propellants	
1L/Amber	1	4C	8330	Explo	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: WINKLEPECK BURNING GROUND DATE: 8/21/2013 START TIME: 10:09  
WELL ID: WBGmw-006 INITIAL WATER LEVEL: 7.7  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 7.6 - 17.6  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 15.6  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 3.5  
PUMP READINGS: Throttle: 100 Recharge: 100 Discharge: 5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoc)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
10:15	8.02	0.1	0.2	15.2	0.636	1.06	6.9	73.9	109
10:20	8.15	0.1	0.5	13.5	0.637	0.18	7	58.3	107
10:25	8.20	0.1	0.5	13.5	0.636	0.07	6.99	48.2	111
10:30	8.18	0.1	0.5	13.3	0.629	0.02	6.97	56.3	111

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u>		LOCATION: <u>WINKLEPECK BURNING GROUN</u>		PROJECT NO.: <u>030174.0016.001</u>	
<b>SAMPLE INFORMATION</b>					
WELL: <u>WBGmw-006</u>		SampleID: <u>FWGWBGmw-006C-0373-GW/GF</u>		DuplID: _____	
		SplitID: _____		RinseID: _____	
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>	
GRAB: <u>Y</u>		COMPOSITE: <u>N</u>		DATE: <u>8/21/2013</u> TIME: <u>10:40</u>	
<b>FIELD READINGS / OBSERVATIONS</b>					
		Turb (NTU): <u>56.3</u>		Color: <u>Clear</u>	
		ORP (mV): <u>111</u>		Odor: <u>None</u>	
pH: <u>6.97</u>		Temperature (°C): <u>13.3</u>		DO (mg/L): <u>0.02</u> Specific Conductivity (mS/cm): <u>0.629</u>	
<b>GENERAL INFORMATION</b>					
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>		WIND DIRECTION: <u>N</u> AMBIENT TEMP (°F): <u>75</u>	
SHIPPED VIA: <u>Lab Pickup</u>					
SHIPPED TO: <u>Testamerica</u>					
SAMPLER: <u>SAS</u> Cnt: _____					
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>	
<i>SIZE/TYPE</i>	<i>NUMBER</i>				
500ml/Poly	1	HNO3	6010/6020/7470	Metals	
1L/Amber	2	4C	8270	SVOC	
1L/Amber	1	4C	8330	Explo	
1L/Amber	2	4C	353.2/8330	Propellants	



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: WINKLEPECK BURNING GROUN

DATE: 8/21/2013

START TIME: 9:00

WELL ID: WBGmw-009

INITIAL WATER LEVEL: 13.08

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 11.4 - 21.4

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 19.4

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 35 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 4.1

COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:12	13.32	0.2	0.5	15.18	0.3	3.54	5.39	10	163
9:15	13.54	0.2	0.6	15.32	0.285	4.64	5.32	10	176
9:18	13.58	0.2	0.6	15.41	0.272	4.62	5.29	10	180
9:21	13.64	0.2	0.6	15.41	0.262	4.61	5.27	10	185
9:24	13.70	0.2	0.6	15.49	0.256	4.54	5.25	10	188
9:27	13.78	0.2	0.6	15.42	0.253	4.54	5.26	10	190
9:30	13.84	0.2	0.6	15.53	0.253	4.45	5.25	10	192

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: <u>RVAAP</u> LOCATION: <u>WINKLEPECK BURNING GROUN</u> PROJECT NO.: <u>030174.0016.001</u>				
<b>SAMPLE INFORMATION</b>				
WELL: <u>WBGmw-009</u>		SampleID: <u>FWGWBGmw-009C-0374-GW/GF</u>		DuplID: _____
		SplitID: _____		RinseID: _____
MATRIX: <u>WG - Ground Water</u>		SAMPLING METHOD: <u>BP - Bladder Pump</u>		MS/MSD: <u>N</u>
GRAB: <u>Y</u>	COMPOSITE: <u>N</u>	DATE: <u>8/21/2013</u>	TIME: <u>9:35</u>	
<b>FIELD READINGS / OBSERVATIONS</b>				
		Turb (NTU): <u>10</u>	Color: <u>Clear</u>	
		ORP (mV): <u>192</u>	Odor: <u>None</u>	
pH: <u>5.26</u>	Temperature (°C): <u>15.59</u>	DO (mg/L): <u>4.44</u>	Specific Conductivity (mS/cm): <u>0.252</u>	
<b>GENERAL INFORMATION</b>				
SUN/OVERCAST <u>Sunny</u>		PERCIPITATION: <u>N</u>	WIND DIRECTION: <u>S</u>	AMBIENT TEMP (°F): <u>75</u>
SHIPPED VIA: <u>Lab Pickup</u>				
SHIPPED TO: <u>Testamerica</u>				
SAMPLER: <u>EC</u> Cmt: _____				
<b>CONTAINER</b>		<b>PRESERVATIVE</b>	<b>ANALYTICAL METHOD</b>	<b>ANALYSIS</b>
<i>SIZE/TYPE</i>	<i>NUMBER</i>			
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: WINKLEPECK BURNING GROUND

DATE: 8/21/2013

START TIME: 9:29

WELL ID: WBGmw-018

INITIAL WATER LEVEL: 17.33

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 14.6 - 24.8

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 22.8

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 50

Recharge: 10

Discharge: 5

TOTAL PURGE VOL (L): 3.9

COMMENT Clear Odor:None

TIME	WATER LEVEL (ftoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
9:42	17.47	0.2	0.3	13.01	0.146	9.05	5.88	0	135
9:45	17.44	0.2	0.6	12.85	0.146	8.73	5.46	0	144
9:48	17.45	0.2	0.6	12.82	0.145	8.63	5.3	0	150
9:51	17.44	0.2	0.6	12.83	0.146	6.88	5.13	0	159
9:54	17.46	0.2	0.6	12.83	0.146	6.53	5.01	0	164
9:57	17.47	0.2	0.6	12.84	0.146	6.49	4.96	0	167
10:00	17.46	0.2	0.6	12.83	0.146	6.3	4.97	0	170

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: WINKLEPECK BURNING GROUN PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: WBGmw-018 SampleID: FWGWBGmw-018-0328-GW/GF DuplID: FWGWBGmw-018-0339-GW/GF  
 SplitID: FWGWBGmw-018-0335s-GW/GF RinselD: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 10:03

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>0</u>	Color: <u>Clear</u>
	ORP (mV): <u>177</u>	Odor: <u>None</u>

pH: 4.96 Temperature (°C): 12.83 DO (mg/L): 6.3 Specific Conductivity (mS/cm): 0.146

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 68  
 SHIPPED VIA: Lab PU/FedEx  
 SHIPPED TO: Multiple Labs  
 SAMPLER: AD Cmt:

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	3	4C	8330	Explo
1L/Amber	6	4C	353.2/8330	Propellants
500ml/Poly	3	HNO3	6010/6020/7470	Metals
1L/Amber	6	4C	8081	Pest
1L/Amber	6	4C	8082	PCB
250ml/Poly	3	NaOH	9012	Cyanide
40ml/Vial	9	HCl	8260	VOC
1L/Amber	6	4C	8270	SVOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: WINKLEPECK BURNING GROUND DATE: 8/21/2013 START TIME: 8:44  
WELL ID: WBGmw-019 INITIAL WATER LEVEL: 16.87  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 40.4 - 50.5  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 48.5  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 1.45  
PUMP READINGS: Throttle: 100 Recharge: 10 Discharge: 5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (btoe)	PURGE RATE L/min)	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
8:47	17.02	0.2	0.25	12.07	0.629	0.2	5.95	0	-62
8:50	16.90	0.2	0.6	11.84	0.625	0	5.99	0	-62
8:53	16.93	0.2	0.6	11.7	0.624	0	6	0	-65

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: AD



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: WINKLEPECK BURNING GROUN PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: WBGinw-019 SampleID: FWGWBGmw-019-0329-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 8:56

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>0</u>	Color: <u>Clear</u>
	ORP (mV): <u>-64</u>	Odor: <u>None</u>

pH: 6 Temperature (°C): 11.65 DO (mg/L): 0 Specific Conductivity (mS/cm): 0.644

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: NE AMBIENT TEMP (°F): 64  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: AD Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	1	4C	8330	Explo
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	2	4C	353.2/8330	Propellants
40ml/Vial	3	HCl	8260	VOC
1L/Amber	2	4C	8082	PCB
1L/Amber	2	4C	8270	SVOC
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8081	Pest



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP PROJECT NUMBER: 030174.0016.001  
LOCATION: WINKLEPECK BURNING GROUND DATE: 8/21/2013 START TIME: 10:00  
WELL ID: WBGmw-020 INITIAL WATER LEVEL: 12.5  
WELL DEPTH: \_\_\_\_\_ SCREEN INTERVAL: 33.7 - 43.8  
WELL DIAMETER 2 in. PUMP INTAKE DEPTH: 41.8  
PUMP/PURGING DEVICE: BP - BLADDER PUMP TOTAL PURGE VOL (L): 4.1  
PUMP READINGS: Throttle: 60 Recharge: 10 Discharge: 5  
COMMENT Clear Odor:None

TIME	WATER LEVEL (btoc)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
10:06	12.71	0.2	0.5	15.03	0.313	10.8	5.88	39.8	-78
10:09	12.72	0.2	0.6	14.85	0.311	9.14	5.98	21.9	-86
10:12	12.75	0.2	0.6	14.69	0.312	8.56	6.05	15.9	-89
10:15	12.77	0.2	0.6	13.97	0.316	8.58	6.07	10.4	-88
10:18	12.77	0.2	0.6	14	0.312	8.2	6.09	10	-89
10:21	12.80	0.2	0.6	13.95	0.312	8.18	6.1	10	-91
10:24	12.81	0.2	0.6	13.99	0.314	8.15	6.11	10	-92

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: EC



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: WINKLEPECK BURNING GROUN PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: WBGmw-020 SampleID: FWGWBGmw-020-0330-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 10:31

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>10</u>	Color: <u>Clear</u>
	ORP (mV): <u>-94</u>	Odor: <u>None</u>

pH: 6.12 Temperature (°C): 13.95 DO (mg/L): 8.12 Specific Conductivity (mS/cm): 0.314

### GENERAL INFORMATION

SUN/OVERCAST Sunny PERCIPITATION: N WIND DIRECTION: S AMBIENT TEMP (°F): 80  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: EC Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
1L/Amber	2	4C	8270	SVOC
1L/Amber	2	4C	8081	Pest
1L/Amber	2	4C	8082	PCB
1L/Amber	1	4C	8330	Explo
1L/Amber	2	4C	353.2/8330	Propellants
250ml/Poly	1	NaOH	9012	Cyanide
500ml/Poly	1	HNO3	6010/6020/7470	Metals
40ml/Vial	3	HCl	8260	VOC



## EQM MONITOR WELL PURGING FORM

PROJECT NAME: RVAAP

PROJECT NUMBER: 030174.0016.001

LOCATION: WINKLEPECK BURNING GROUN

DATE: 8/21/2013

START TIME: 8:44

WELL ID: WBGmw-021

INITIAL WATER LEVEL: 9.42

WELL DEPTH: \_\_\_\_\_

SCREEN INTERVAL: 33 - 43.1

WELL DIAMETER 2 in.

PUMP INTAKE DEPTH: 41.1

PUMP/PURGING DEVICE: BP - BLADDER PUMP

PUMP READINGS: Throttle: 110 Recharge: 10 Discharge: 5

TOTAL PURGE VOL (L): 4.5

COMMENT Clear Odor:None

TIME	WATER LEVEL (ftce)	PURGE RATE L/min	VOLUME PURGED (L)	TEMP. (°C)	SPECIFIC CONDUCT. (mS/cm)	DO (mg/L)	pH	Turb (NTU)	ORP (mV)
8:50	9.44	0.1	0.2	12.6	0.593	1.06	6.01	229	24
8:55	9.45	0.1	0.5	12	0.588	0.2	6.19	110	-22
9:00	9.49	0.1	0.5	11.8	0.589	0.02	6.19	53	-40
9:05	9.48	0.1	0.5	11.8	0.592	0	6.3	33	-51
9:10	9.48	0.1	0.5	11.8	0.596	0	6.3	83.7	-59
9:15	9.46	0.1	0.5	11.9	0.595	0	6.32	51.7	-65

Note: Condition of the well: See STATIC WATER LEVEL FORM

Field Personnel: SAS



## EQM FIELD SAMPLING REPORT

PROJECT: RVAAP LOCATION: WINKLEPECK BURNING GROUN PROJECT NO.: 030174.0016.001

### SAMPLE INFORMATION

WELL: WBGmw-021 SampleID: FWGWBGmw-021-0331-GW/GF DuplID: \_\_\_\_\_  
 SplitID: \_\_\_\_\_ RinseID: \_\_\_\_\_  
 MATRIX: WG - Ground Water SAMPLING METHOD: BP - Bladder Pump MS/MSD: N  
 GRAB: Y COMPOSITE: N DATE: 8/21/2013 TIME: 9:24

### FIELD READINGS / OBSERVATIONS

	Turb (NTU): <u>51.7</u>	Color: <u>Clear</u>
	ORP (mV): <u>-65</u>	Odor: <u>None</u>

pH: 6.32 Temperature (°C): 11.9 DO (mg/L): 0 Specific Conductivity (mS/cm): 0.595

### GENERAL INFORMATION

SUN/OVERCAST: Sunny PERCIPITATION: N WIND DIRECTION: N AMBIENT TEMP (°F): 67  
 SHIPPED VIA: Lab Pickup  
 SHIPPED TO: Testamerica  
 SAMPLER: SAS Cmt: \_\_\_\_\_

CONTAINER		PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
SIZE/TYPE	NUMBER			
500ml/Poly	1	HNO3	6010/6020/7470	Metals
1L/Amber	2	4C	8081	Pest
250ml/Poly	1	NaOH	9012	Cyanide
1L/Amber	2	4C	353.2/8330	Propellants
1L/Amber	2	4C	8082	PCB
1L/Amber	2	4C	8270	SVOC
40ml/Vial	3	HCl	8260	VOC
1L/Amber	1	4C	8330	Explo



## Daily QC Records



Date: 19-Aug

	X					
S	M	T	W	T	F	S

## DAILY QUALITY CONTROL REPORT

COE Project Manager Glen BeckhamProject Ravenna Army Ammunition Plant Groundwater MonitoringJob No. 030174.0016.001

GSA Contract Number GS-10F-0293K

Contract No. Delivery Order W912QR-11-F-0266

Weather	Bright Sun	Clear	Over- Cast x	Rain	Snow
Temp	To 32	32-50	50-70 x	70-85	85 up
Wind	Still x	Moder x	High	Report No.  081913	
Humidity	Dry	Moder x	Humid		

## SUB-CONTRACTORS ON SITE:

Environmental Quality Management, Inc.

## EQUIPMENT ON SITE:

Water level meters, Five water quality meters (Horiba-U22/U52); One multigas detector (MSA); Five bladder pumps w/ associated controllers and compressors and one deep well bladder set up.

## WORK PERFORMED (INCLUDING SAMPLING):

Arrive at Building 1036, unload/load and organize equipment. Event water level collections.

Purge and sample work completed at the wells. Samples were collected at the following locations:

FWGmw-(002, 004, 015, 016), EBGmw-131, RQLmw-(006, 007, 008, 009, 010, 011), and LL3mw-(238, 239, 241)

Field duplicate and QA split samples were collected from RQLmw-009 and FWGmw-002. Extra volume was collected from RQLmw-008 to be designated for matrix spike/matrix spike duplicate analysis at the laboratory. Additionally, a field rinsate was collected by Team # 3.



Project	<u>Ravenna Army Ammunition Plant Groundwater Monitoring</u>	Report No.	<u>081913</u>
Job No.	<u>030174.0016.001</u>	Date:	<u>8/19/2013</u>

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS):

All field equipment was calibrated prior to mobilizing to the field. Water level meter devices were checked for correct footage. Water quality meters were calibrated with AutoCal Solution and standards checks - certified values are: DO checked okay, Conductivity - 4.49 mS/cm; Turbidity - 0 NTU; pH - 4.0 and 7.0 su. Multigas detector calibrated with Zero Air Standard and 100 ppm Isobutylene. All field equipment was within calibration criteria.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

H&S briefing conducted prior to mobilizing to the field. All personnel to don modified Level 4 PPE (i.e. steel-toed shoes, safety glasses, & nitrile gloves). First Aid kits were included in each vehicle, & personnel were made aware of eyewash station locations.

Each team was equipped with a cellular phone. Personnel were instructed to hydrate frequently and watch for signs of heat/cold stress. Personnel were also instructed to be alert for storms, poisonous plants, stinging insect, ticks, and roaming deer/turkey.

PROBLEMS ENCOUNTERED/CORRECTIVE ACTION (S) TAKEN:

N/A

SPECIAL NOTES:

N/A

TOMORROWS EXPECTATIONS:

Expectations for tomorrow are to safely and correctly collect samples from a minimum of 9 wells and continue water level collections.



Date: 20-Aug

		X				
S	M	T	W	T	F	S

## DAILY QUALITY CONTROL REPORT

COE Project Manager Glen BeckhamProject Ravenna Army Ammunition Plant Groundwater MonitoringJob No. 030174.0016.001

GSA Contract Number GS-10F-0293K

Contract No. Delivery Order W912QR-11-F-0266

Weather	Bright Sun x	Clear	Over- Cast x	Rain	Snow
Temp	To 32	32-50	50-70 x	70-85 x	85 up
Wind	Still x	Moder x	High	Report No.  082013	
Humidity	Dry	Moder x	Humid		

## SUB-CONTRACTORS ON SITE:

Environmental Quality Management, Inc.

## EQUIPMENT ON SITE:

Water level meters, Five water quality meters (Horiba-U22/U52); One multigas detector (MSA); Five bladder pumps w/ associated controllers and compressors and one deep well bladder set up.

## WORK PERFORMED (INCLUDING SAMPLING):

Arrive at Building 1036, unload/load and organize equipment. Continue water level event collection. Continue purge and sample work at the wells. Samples were collected at the following locations: B12mw-013, BKGmw-010, DA2mw-(114, 115), DETmw-(001,002,003,004{partial}), FBQmw-174, FWGmw-(011, 012), LL1mw-(064,065,083, 086, 087), LL2mw-059, LL3mw-244, LL10mw-003, LL12mw-(185, 187, 242, 245, 247), SCFmw-(002, 004)

Field duplicate and QA split samples were collected from DA2mw-115, LL12mw-247 and SCFmw-002. Extra volume was collected from LL12mw-245 and SCFmw-002 to be designated for matrix spike/matrix spike duplicate analysis at the laboratory. Additionally, a field rinsate was collected by Team # 2.



Project	<u>Ravenna Army Ammunition Plant Groundwater Monitoring</u>	Report No.	<u>082013</u>
Job No.	<u>030174.0016.001</u>	Date:	<u>8/20/2013</u>

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS):

All field equipment was calibrated prior to mobilizing to the field. Water level meter devices were checked for correct footage. Water quality meters were calibrated with AutoCal Solution and standards checks - certified values are: DO checked okay, Conductivity - 4.49 mS/cm; Turbidity - 0 NTU; pH - 4.0 and 7.0 su. Multigas detector calibrated with Zero Air Standard and 100 ppm Isobutylene. All field equipment was within calibration criteria.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

H&S briefing conducted prior to mobilizing to the field. All personnel to don modified Level 4 PPE (i.e. steel-toed shoes, safety glasses, & nitrile gloves). First Aid kits were included in each vehicle, & personnel were made aware of eyewash station locations.

Each team was equipped with a cellular phone. Personnel were instructed to hydrate frequently and watch for signs of heat/cold stress. Personnel were also instructed to be alert for storms, poisonous plants, stinging insect, ticks, and roaming deer/turkey.

PROBLEMS ENCOUNTERED/CORRECTIVE ACTION (S) TAKEN:

DETMw-004 started but not enough water to finalize will continue tomorrow.

SPECIAL NOTES:

N/A

TOMORROWS EXPECTATIONS:

Finalize remaining wells, if possible complete the IDW sampling, and demob.



Date: 21-Aug

			X				
S	M	T	W	T	F	S	

## DAILY QUALITY CONTROL REPORT

COE Project Manager Glen BeckhamProject Ravenna Army Ammunition Plant Groundwater MonitoringJob No. 030174.0016.001

GSA Contract Number GS-10F-0293K

Contract No. Delivery Order W912QR-11-F-0266

Weather	Bright Sun x	Clear	Over- Cast x	Rain	Snow
Temp	To 32	32-50	50-70 x	70-85 x	85 up
Wind	Still x	Moder x	High	Report No.  082113	
Humidity	Dry	Moder x	Humid		

## SUB-CONTRACTORS ON SITE:

Environmental Quality Management, Inc.

## EQUIPMENT ON SITE:

Water level meters, Five water quality meters (Horiba-U22/U52); One multigas detector (MSA); Five bladder pumps w/ associated controllers and compressors and one deep well bladder set up.

## WORK PERFORMED (INCLUDING SAMPLING):

Arrive at Building 1036, unload/load and organize equipment. Continue water level event collection. Continue purge and sample work at the wells. Complete DETmw-004 which were started yesterday. Samples were collected at the following locations: FWGmw-(006, 007, 009), LL1mw-084, LL2mw-(265, 267), NTAmw-119, WBGmw-(006, 009, 018, 019, 020, 021). IDW sampling collected. Packed equipment for return back to Cincinnati, and cleaned Building 1036. Demobilization.

Field duplicate and QA split samples were collected from WBGmw-018. Extra volume was collected from FWGmw-009 and WBGmw-020 to be designated for matrix spike/matrix spike duplicate analysis at the laboratory. Additionally, a field rinsate was collected by Team # 4.



Project Ravenna Army Ammunition Plant Groundwater Monitoring Report No. 082113

Job No. 030174.0016.001 Date: 8/21/2013

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS):

All field equipment was calibrated prior to mobilizing to the field. Water level meter devices were checked for correct footage. Water quality meters were calibrated with AutoCal Solution and standards checks - certified values are: DO checked okay, Conductivity - 4.49 mS/cm; Turbidity - 0 NTU; pH - 4.0 and 7.0 su. Multigas detector calibrated with Zero Air Standard and 100 ppm Isobutylene. All field equipment was within calibration criteria.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

H&S briefing conducted prior to mobilizing to the field. All personnel to don modified Level 4 PPE (i.e. steel-toed shoes, safety glasses, & nitrile gloves). First Aid kits were included in each vehicle, & personnel were made aware of eyewash station locations.

Each team was equipped with a cellular phone. Personnel were instructed to hydrate frequently and watch for signs of heat/cold stress. Personnel were also instructed to be alert for storms, poisonous plants, stinging insect, ticks, and roaming deer/turkey.

PROBLEMS ENCOUNTERED/CORRECTIVE ACTION (S) TAKEN:

N/A

SPECIAL NOTES:

N/A

TOMORROWS EXPECTATIONS:

N/A



## **APPENDIX C**

### **DATA VERIFICATION REPORTS/ LABORATORY DATA SHEETS**



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28110

**Date:** December 9, 2013

**Revision:** 1

Data Reviewer: Angye Dragotta /Environmental Quality Management, Inc. (EQM, Inc.)

### QA/QC Summary

On August 19, 2013 the following samples were collected from groundwater-monitoring wells at Ravenna Army Ammunition Plant and analyzed as part of SDG 240-28110. Sample analysis was performed by Test America. Test America-North Canton performed all analyses with the exception of the analytical for methods 8330, M8330, TALSOPWS-WC-0050 and 6860. Methods 8330, M8330 and TALSOPWS-WC-0050 were analyzed by Test America, West Sacramento and method 6860 was analyzed by Test America-Denver.

Sample ID	VOC by SW846 8260	SVOC 4 by SW846 8270	SVOC 1 and 2 by SW846 8270	SVOC 1 by SW846 8270	Pesticides by SW846 8081	PCBs/ SW846 8082	Explosives/Propellants by SW846 8330, Mod. 8330 and TALSOP WS-WC-0050	Cyanide SW846 9012	Perchlorate by SW846 6860	NO2/NO3, EPA 353.2	Metals <sup>4</sup>		
											SW846 6010B	SW846 6020	Mercury by SW846 7470A
FWGEQUIPRINSE1-0340-GW	X	X			X	X	X	X	X		X	X	X
FWGFWGmw-004-0346-GW/GF				X	X		X	X			X	X	X
FWGFWGmw-015-0350-GW/GF				X			X		X		X	X	X
FWGFWGmw-016-0351-GW/GF				X			X		X		X	X	X
FWGLL3mw-238C-0359-GW/GF				X	X		X				X	X	X
FWGLL3mw-241C-0360-GW/GF				X	X		X				X	X	X
FWGRQLmw-006C-0368-GW/GF	X	X			X	X	X	X			X	X	X
FWGRQLmw-008C-0370-GW/GF	X	X			X	X	X	X			X	X	X
FWGRQLmw-009C-0371-GW/GF	X	X			X	X	X	X			X	X	X
FWGRQLmw-011C-0326-GW/GF	X	X			X	X	X	X	X		X	X	X
FWGRQLmw-DUP5-0377-GW/GF	X	X			X	X	X	X			X	X	X
FWGLL3mw-239C-0322-GF									X				
FWGFWGmw-002-0317-GF									X				
FWGFWGmw-DUP2-0337-GF									X				

Notes:

- 1) All metals and perchlorate samples with the exception of FWGEQUIPRINSE1-0340-GW were field filtered (GF).
- 2) FWGTEAM1-TRIP and FWGTEAM3-TRIP were collected and analyzed for VOC by EPA 8260B.
- 3) SVOC4= Full SVOC List and SVOC 1= Nitroaromatics and phthalates
- 4) EPA 6020 metals include aluminum, antimony, beryllium, cadmium, iron, sodium, thallium and zinc. EPA 6010B metals include arsenic, chromium, cobalt, lead, selenium, silver, vanadium, barium, calcium, copper, magnesium, manganese, nickel and potassium.

The data presented in this report were evaluated according to the *Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January, 2012*. The following documents were used as needed to supplement the project documentation: The United States Department of Defense (DoD) Quality Services Manual (QSM) for Environmental Laboratories, Version 4.1, and the United States Army Corps of Engineers (USACE), Louisville District Quality Systems Manual Supplement (LS), *EPA National Functional Guidelines (NFG) for Organic Data Review, EPA-540/R-08-01, June 2008, NFG for Inorganic Data Review, EPA-540/R-04-004, October 2004*, Analytical Methods, and Laboratory Standard Operating Procedures. The QC criteria provided in the reference documents represent accuracy and precision performance goals for each analytical method. QC criteria reviewed for each method are listed below, along with any outliers.



## Data Verification Summary

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All analytical results have been verified against compliance requirements specified in the project QAPP, QSM, LS, associated analytical methods and/or SOPs, as appropriate, and reported by the laboratory as directed by the DoD QSM.

Per the DoD QSM, the laboratory data is reported as follows: Non detected results were reported at the LOD with a "U" flag. Detected results between the DL and LOQ were reported as estimated, qualified with a "J" flag.

LOD - An estimate of the minimum amount of a substance that an analytical process can reliably detect.

LOQ - The lowest concentration that produces a quantitative result within specified limits of precision and bias.

DL- The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence.

Checklists used in review of the data have been presented in Appendix 1. Outliers have been noted below and results requiring qualification, as a result of this verification process, have been summarized in Appendix 2.

The completeness objective for the project was 90%. The completeness objective was met for this SDG, at 99.3%. Limitations, if any, on the data are indicated with qualifiers detailed below.

### **VOAs - 8260B**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Tuning criteria
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Internal standard area counts and retention times
- LOD and MRL verification criteria
- Method/Field/Trip blank Criteria
- Surrogate recoveries
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD

### **MRL Recovery**

The opening MRL analyzed 8/28/13 @ 0824 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 145%. The closing MRL analyzed at 2119 recovered above control limits of 70-130% for chloroethane at 132% and methylene chloride at 160%. The methylene chloride result for sample FWGTEAM1-Trip was qualified, "J". No additional qualifications were required for cis-1,3-dichloropropene or chloroethane as there were no detected concentrations of these analytes reported for the bracketed field samples.

The opening MRL analyzed 8/31/13 @ 0824 recovered above control limits of 70-130% for bromomethane at 157%, chloroethane at 139%, chloromethane at 149%, methylene chloride at 254% and vinyl chloride at 134%. The closing MRL analyzed at 1255 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 135% and methylene chloride at 183%. No qualifications were required as there were no detected concentrations reported for the bracketed field sample, FWGRQLmw-011c-0326-GW.

### **CCV**

The CCV analyzed 8/28/13 @ 1031 had a %D above control limits of 20% for acetone at 23.2% and 4-methyl-2-pentanone at 21.4%. The acetone results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-006c-0368-GW, FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGTEAM1-Trip, FWGTEAM3-Trip and



## Data Verification Summary

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FWGEQUIPRINSE1-0340-GW were qualified as estimated, "J". No qualifications were made for the 4-methyl-2-pentanone outlier as there were no detected 4-methyl-2-pentanone concentrations reported for the bracketed field samples.

The CCV analyzed 8/31/13 @ 0717 had a %D above control limits of 20% for methylene chloride at 20.5%, carbon tetrachloride at 21.2%, trans-1,3-dichloropropene at 21.6%. No qualifications were required as there were no detected concentrations reported for sample FWGRQLmw-011c-0326-GW.

### Blanks

Methylene chloride was detected in the method blank from batch 240-99810 at 0.893µg/L. No qualifications were required as there were no detected concentrations of methylene chloride reported for the bracketed field sample, FWGRQLmw-011c-0326-GW.

Acetone was detected in FWGTEAM1-TRIP at 1.2µg/L and methylene chloride at 0.55µg/L. FWGTeam3-Trip had acetone detected at 1.1µg/L and methylene chloride at 0.52µg/L. FWGEQUIPRINSE1-0340-GW had acetone detected at 19µg/L, carbon disulfide at 0.13µg/L, toluene at 0.14µg/L and 2-butanone at 1.5µg/L. The acetone results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-006c-0368-GW and FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW were qualified, "B", as the detected concentrations were <10x blank contamination. The carbon disulfide result for sample FWGRQLmw-006c-0368-GW was qualified, "B", as the detected concentration was <5x blank contamination. There were no detected 2-butanone or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone or toluene contamination.

### Field Duplicate RPD

A field duplicate was analyzed on sample FWGRQLmw-009c-0371-GW. The field duplicate, FWGRQLmw-DUP5-0377-GW, collected on sample FWGRQLmw-009c-0371-GW had an RPD above control limits of 30% for acetone at 56%. The acetone result for sample FWGRQLmw-009c-0371-GW was qualified as estimated, "J".

### SVOCs- 8270C

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Tuning criteria
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Internal standard area counts and retention times
- LOD and MRL verification criteria
- Method/Field blank Criteria
- Surrogate recoveries
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD

### CCV

The CCV analyzed 8/29/13 @0904 had 4-nitrophenol with a %D above control limits of 20% D at 21.2%.

The CCV analyzed 8/30/13 had 4-nitrophenol with a %D above control limits of 20% D at 34.9% and 4-nitroaniline at 22.1%. No qualifications were made as there were no detected concentrations of 4-nitrophenol or 4-nitroaniline reported for the associated field samples.

### Blanks

bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98336 at 0.593µg/L. The bis (2-ethylhexyl) phthalate results for samples FWGFWGmw-004-0346-GW, FWGFWGmw-015-0350-GW, FWGFWGmw-016-0351-GW, FWGLL3mw-238c-0359-GW and FWGLL3mw-241c-0360-GW were qualified, "B".



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bis (2-Ethylhexyl) phthalate was detected at 0.38µg/L, diethylphthalate at 1.3µg/L and benzyl alcohol at 0.44µg/L in FWGEQUIPRINSE1-0340-GW. The bis(2-ethylhexyl)phthalate results for samples FWGRQLmw-011c-0326-GW, FWGRQLmw-006c-0368-GW, FWGRQLmw-009c-0371-GW and FWGRQLmw-DUP5-0377-GW were qualified, "B". No qualifications were made for the diethylphthalate or benzyl alcohol contamination as there were no detected 2-butanone or benzyl alcohol concentrations reported for these analytes in the associated field samples.

### Matrix Spikes

- The matrix spike and spike duplicate recoveries were below control limits of 20-110 for 3,3'-dichlorobenzidine at 0% in the MS and MSD.
- The benzo (a) pyrene matrix spike and matrix spike duplicate recovered below control limits of 55-110% at 54% in both the MS and MSD.

The 3,3'-dichlorobenzidine result for sample FWGRQLmw-008c-0370-GW was qualified as unusable, "R", while the benzo(a) pyrene result for sample FWGRQLmw-008c-0370-GW was qualified as estimated, "UJ".

- The hexachlorocyclopentadiene MS/MSD RPD was above control limits 30% at 37%.

No qualifications were made for the hexachlorocyclopentadiene RPD outlier as there was no detected concentration of hexachlorocyclopentadiene reported for sample FWGRQLmw-008c-0370-GW.

### Pesticides- 8081A

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Preservation, holding time and sample handling
- Initial Calibration criteria
- DDT and Endrin breakdown criteria
- Retention time criteria
- ICV criteria
- CCV Criteria
- Method/Field blank Criteria
- LCS Recoveries
- Field Duplicate Criteria
- LOD and MRL verification criteria
- Matrix Spike Recovery Criteria and RPD
- Surrogate Recoveries
- Second Column confirmation criteria

### MRL Recovery

The opening MRL analyzed on 8/23/13 recovered above control limits of 70-130% at 165% on CLP-1 for 4,4'-DDD. No qualifications were required as there were no detected 4,4'-DDD concentrations reported for the bracketed field samples.

The closing MRL analyzed on 8/23/13 recovered above control limits of 70-130 at 306% on CLP-1 for 4,4'-DDD and at 131% for methoxychlor. 4,4'-DDE recovered above limits of 70-130% on CLP-1 and CLP-2 at 169% and 138%, beta-BHC at 142% and 132% and delta-BHC at 157% and 171%. Detected concentrations of beta-BHC, 4,4'-DDE, delta-BHC were qualified as estimated, "J", for samples FWGRQLmw-008c-0370-GW, FWGLL3mw-238c-0359-GW, FWGLL3mw-241c-0360-GW, FWGFWGmw-004-0346-GW, FWGRQLmw-009c-0371-GW, FWGRQLmw-006c-0368-GW and FWGEQUIPRINSE1-0340-GW.

The opening MRL analyzed on 9/9/13 recovered below control limits of 70-130% at 4% on CLP-1 for 4,4'-DDE and at 62% for 4,4'-DDD and did not recover (0%) on CLP-1 and CLP-2 for 4,4'-DDD and endosulfan II. Delta-BHC recovered below control limits of 70-130% on CLP-1 and CLP-2 at 69% and 61%. No qualifications were required as only heptachlor epoxide was reported from this analysis.



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The closing MRL analyzed on 9/9/13 did not recover (0%) on CLP-1 and CLP-2 for 4,4'-DDD and above limits of 70-130% on CLP-2 at 163% for endosulfan II. No qualifications were required as only heptachlor epoxide was reported from this analysis.

### CCV Outliers

The CCV analyzed 8/23/13 @ 2336 did not recover for delta-BHC. The delta-BHC results for samples FWGRQLmw-008C-0370-GW, FWGRQLmw-011C-0326-GW, FWGLL3mw-238C-0359-GW, FWGLL3mw-241C-0360-GW, FWGFWGmw-004-0346-GW, FWGRQLmw-009C-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGRQLmw-006C-0368-GW and FWGEQUIPRINSE1-0340-GW were qualified as unusable," R".

The CCV analyzed 8/23/13 at 2336(CLP-1) had a %D above control limits of 20% for the following analytes; gamma- BHC at 23.7%, beta-BHC at 29.5%, heptachlor epoxide at 27.9%, gamma chlordane at 28.2%, alpha-chlordane at 23.5%, endosulfan I at 24.7%, 4,4'-DDE at 27.5%, dieldrin at 24%, endrin at 27.1%, 4,4'-DDD at 127.6%, endosulfan II at 20.6%, 4,4'-DDT at 28.7% and methoxychlor at 45.8%. The CCV analyzed 8/23/13 at 2336(CLP-2) had a %D above control limits of 20% for 4,4'-DDE at 46.3%. The 4,4'-DDE and beta-BHC result for sample FWGRQLmw-008c-0370-GW, the 4,4'-DDE result for FWGLL3mw-238c-0359-GW and the beta-BHC results for samples FWGRQLmw-006c-0368-GW and FWGEQUIPRINSE1-0340-GW were qualified as estimated, "J". No additional qualifications were required for the other outliers as there were no detected concentration reported for outlier target analytes.

The closing CCV analyzed 8/24/13 at 0219(CLP-1) had a %D above control limits of 20% for the following analytes; gamma- BHC at 28.6%, beta-BHC at 37%, delta-BHC at 23.3%, heptachlor at 28.8%, heptachlor epoxide at 34.3%, gamma chlordane at 34.6%, alpha-chlordane at 30.2%, endosulfan I at 32.3%, 4,4'-DDE at 35.7%, dieldrin at 32.2%, endrin at 35.1%, 4,4'-DDD at 137.1%, endosulfan II at 26.1%, 4,4'-DDT at 33.7%, endrin aldehyde at 20.5%, methoxychlor at 53.8% and endosulfan sulfate at 22.8%. The closing CCV analyzed on CLP-2 on 8/24/13 at 0219 had 4,4'-DDE above the 20%D criteria at 52.9%. No qualifications were required as there were no field samples bracketed by this CCV.

### Blanks

FWGEQUIPRINSE1-0340-GW had beta-BHC detected at 0.018µg/L. The beta-BHC results for samples FWGRQLmw-006c-0368-GW and FWGRQLmw-008C-0370-GW were qualified, "B".

### LCS Recovery

The 4,4'-DDD LCS recovered above control limits of 25-150% at 155%. No qualification was required as there were no detected concentrations of 4,4'-DDD reported for the associated field samples.

### Matrix Spike Recovery

The matrix spike analyzed on sample FWGRQLmw-008c-0370-GW recovered above control limits of 25-150% for 4,4'-DDD at 154%. No qualification was required as 4,4'-DDD was not detected in sample FWGRQLmw-008c-0370-GW.

### Surrogate Recovery

The surrogate DCB did not recover in sample FWGLL3mw-238c-0359-GW when analyzed at a 50x dilution on 9/9/13. The heptachlor epoxide result for sample FWGLL3mw-238c-0359-GW was qualified as estimated, "UJ" as opposed to unusable because of the dilution. The original analysis, without dilution, of sample FWGLL3mw-238c-0359-GW had acceptable surrogate recoveries.

### PCB- 8082

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Preservation, holding time and sample handling
- Initial Calibration criteria
- DDT and Endrin breakdown criteria
- Retention time criteria



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- ICV criteria
- CCV Criteria
- Method/Field blank Criteria
- LCS Recoveries
- Field Duplicate Criteria
- LOD and MRL verification criteria
- Matrix Spike Recovery Criteria and RPD
- Surrogate Recoveries
- Second Column confirmation criteria

### Surrogate Recovery

The surrogate, DCB, recovered below control limits of 40-135% for sample FWGRQLmw-008c-0370-GW at 27%, FWGRQLmw-009c-0371-GW and FWGRQLmw-DUP5-0377-GW at 29% and FWGRQLmw-006c-0368-GW at 32%. The results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW and FWGRQLmw-006c-0368-GW were qualified as estimated, "UJ".

### Metals - 6010B

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field duplicate RPD criteria
- Post digestion spike and serial dilution results

### Blanks

The ICB analyzed 9/9/13 @ 0749 had magnesium detected at 100µg/L. No qualifications were required as the detected magnesium results for the associated field samples were greater than 5x blank contamination.

The CCBs analyzed 9/9/13 had magnesium detected from 101 µg/L to 102µg/L. No qualifications were required as the detected magnesium results for the bracketed field samples were greater than 5x blank contamination.

Manganese was detected in the method blank at 2.75 µg/L. The manganese results for samples FWGFWGmw-004-0346-GF, FWGLL3mw-238C-0359-GF and FWGLL3mw-241C-0360-GF were qualified, "B".

### Lab Duplicate RPD

The lab duplicate analyzed on sample FWGRQLmw-008C-0370-GF had an RPD above control limits of 20% at 26% for nickel. No qualifications were made as the detected concentration was less than the LOQ.

### Field Duplicate RPD

The field duplicate analyzed on FWGLL3mw-245-0255-GF had a duplicate RPD above control limits of 30% at 34% for vanadium. The vanadium result for sample FWGLL3mw-245-0255-GF was qualified as estimated, "J".

### Metals - 6020

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria including associated tunes
- ICV and CCV criteria



## Data Verification Summary

**Site: Ravenna Army Ammunition Plant**

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- ICB /CCBs criteria
- Internal standards within 30-120% of the internal standard in the ICAL
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field Duplicate RPD Criteria
- Post digestion spike and serial dilution results

### Blanks

FWGEQUIPRINSE1-0340-GW had sodium detected at 410 µg/L. The sodium results for samples FWGRQLmw-006c-0368-GF, FWGRQLmw-009c-0371-GF, FWGRQLmw-011c-0326-GF and FWGRQLmw-DUP5-0377-GF were qualified, "B".

The CCBs analyzed 9/9/13 had cadmium detected from 0.03µg/L to 0.067µg/L, iron from 15.9 µg/L to 47.1µg/L and sodium from 12.6 µg/L to 25.8 µg/L. No qualifications were required as the detected cadmium, iron and sodium results for the bracketed field samples were greater than 5x blank contamination.

### Mercury - 7470A

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field duplicate RPD criteria

No QC outliers were noted.

### Cyanide - 9012

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and MDL verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

A matrix spike was not requested on this batch of samples. Matrix spike data was not provided by the laboratory or evaluated.

### MRL Recovery



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28110

**Date:** December 9, 2013

**Revision:** 1

No closing MRL check was analyzed bracketing samples FWGRQLmw-009C-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGRQLmw-006C-0368-GW, and FWGEQUIPRINSE1-0340-GW. Since the opening MRL check recovered within control limits, the data was qualified estimated, "UJ" instead of unusable.

### **Explosives- 8330**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration Criteria
- ICV and CCV criteria
- Retention time criteria
- LOD and MRL verification criteria
- Surrogate recovery criteria
- Equipment and method blanks free from contamination
- LCS/LCD Recovery and RPD Criteria

### **Confirmation Analysis**

The confirmation column RPD was above control limits of 40% for 2,6- dinitrotoluene in sample FWGLL3mw-238C-0359-GW at 54% and nitrobenzene at 69.9%. The HMX result for sample FWGLL3mw-241C-0360-GW had a duplicate column confirmation RPD above control limits of 40% at 49.3%. No confirmation column data was provided for sample FWGRQLmw-008c-0370-GW. The 2,6-dinitrotoluene result for FWGRQLmw-008c-0370-GW, the nitrobenzene and 2,6-dinitrotoluene results for FWGLL3mw-238C-0359-GW and the HMX result for sample FWGLL3mw-241C-0360-GW were qualified as estimated, "J".

### **Matrix Spike Analysis**

A matrix spike analysis was performed on sample FWGRQLmw-008C-0370-GW. The 2-nitrotoluene MS/MSD recovered below control limits of 45-135% at 43% and 40%. As the associated LCS recovered within limits, the 2-nitrotoluene result for FWGRQLmw-008c-370-GW was qualified as estimated, "UJ".

### **Nitroguanidine- 8330M**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- Retention time criteria
- LOD and MRL verification criteria
- ICV and CCV criteria
- The method blank and equipment blanks were free from contamination
- LCS/LCSD percent recoveries and RPD value criteria
- Matrix spike recovery criteria

No QC outliers were noted.

### **Nitrocellulose – WS-WC-0050**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Sample preparation criteria
- Initial Calibration criteria
- ICV and CCV criteria
- The method and equipment blanks were free from contamination
- LOD and MRL verification criteria
- ICB and CCBs were free from contamination
- LCS/LCSD percent recoveries and RPD value criteria
- MS/MSD percent recoveries



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28110

**Date:** December 9, 2013

**Revision:** 1

No QC outliers were noted.

### **Perchlorate 6860**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and MDL verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

### **Blanks**

Perchlorate was detected at 0.0130µg/L in the CCB analyzed 9/6/13 at 1137, at 0.0122µg/L in the CCB analyzed 9/6/13 at 1847 and at 0.0117µg/L in the CCB analyzed 9/6/13 at 2303. The perchlorate result for sample FWGLL3mw-239c-0322-GF was qualified "U".



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## SAMPLE SUMMARY

Client: Environmental Quality Mgt., Inc.

Job Number: 240-28110-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
240-28110-1	FWGTEAM1-TRIP	Water	08/19/2013 1100	08/20/2013 0803
240-28110-2	FWGRQLmw-008C-0370-GW	Water	08/19/2013 1245	08/20/2013 0803
240-28110-2MS	FWGRQLmw-008C-0370-GW	Water	08/19/2013 1245	08/20/2013 0803
240-28110-2MSD	FWGRQLmw-008C-0370-GW	Water	08/19/2013 1245	08/20/2013 0803
240-28110-3	FWGRQLmw-008C-0370-GF	Water	08/19/2013 1245	08/20/2013 0803
240-28110-3MS	FWGRQLmw-008C-0370-GF	Water	08/19/2013 1245	08/20/2013 0803
240-28110-3DU	FWGRQLmw-008C-0370-GF	Water	08/19/2013 1245	08/20/2013 0803
240-28110-4	FWGRQLmw-011C-0326-GW	Water	08/19/2013 1455	08/20/2013 0803
240-28110-5	FWGRQLmw-011C-0326-GF	Water	08/19/2013 1455	08/20/2013 0803
240-28110-6	FWGFWGmw-016-0351-GW	Water	08/19/2013 1651	08/20/2013 0803
240-28110-7	FWGFWGmw-016-0351-GF	Water	08/19/2013 1651	08/20/2013 0803
240-28110-8	FWGFWGmw-015-0350-GW	Water	08/19/2013 1741	08/20/2013 0803
240-28110-9	FWGFWGmw-015-0350-GF	Water	08/19/2013 1741	08/20/2013 0803
240-28110-10	FWGLL3mw-239C-0322-GF	Water	08/19/2013 1252	08/20/2013 0803
240-28110-11	FWGLL3mw-238C-0359-GW	Water	08/19/2013 1332	08/20/2013 0803
240-28110-12	FWGLL3mw-238C-0359-GF	Water	08/19/2013 1332	08/20/2013 0803
240-28110-13	FWGLL3mw-241C-0360-GW	Water	08/19/2013 1428	08/20/2013 0803
240-28110-14	FWGLL3mw-241C-0360-GF	Water	08/19/2013 1428	08/20/2013 0803
240-28110-15	FWGFWGmw-002-0317-GF	Water	08/19/2013 1538	08/20/2013 0803
240-28110-16	FWGFWGmw-DUP2-0337-GF	Water	08/19/2013 1558	08/20/2013 0803
240-28110-17	FWGFWGmw-004-0346-GW	Water	08/19/2013 1708	08/20/2013 0803
240-28110-18	FWGFWGmw-004-0346-GF	Water	08/19/2013 1708	08/20/2013 0803
240-28110-19	FWGTEAM3-TRIP	Water	08/19/2013 1100	08/20/2013 0803
240-28110-20	FWGRQLmw-009C-0371-GW	Water	08/19/2013 1323	08/20/2013 0803
240-28110-21	FWGRQLmw-009C-0371-GF	Water	08/19/2013 1323	08/20/2013 0803
240-28110-22	FWGRQLmw-DUP5-0377-GW	Water	08/19/2013 1423	08/20/2013 0803
240-28110-23	FWGRQLmw-DUP5-0377-GF	Water	08/19/2013 1423	08/20/2013 0803
240-28110-24	FWGRQLmw-006C-0368-GW	Water	08/19/2013 1619	08/20/2013 0803
240-28110-25	FWGRQLmw-006C-0368-GF	Water	08/19/2013 1619	08/20/2013 0803
240-28110-26	FWGEQUIPRINSE1-0340-GW	Water	08/19/2013 1753	08/20/2013 0803



## METHOD SUMMARY

Client: Environmental Quality Mgt., Inc.

Job Number: 240-28110-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Volatile Organic Compounds (GC/MS)	TAL CAN	SW846 8260B/DoD	
Purge and Trap	TAL CAN		SW846 5030B
Semivolatile Organic Compounds (GC/MS)	TAL CAN	SW846 8270C/DoD	
Liquid-Liquid Extraction (Continuous)	TAL CAN		SW846 3520C
Organochlorine Pesticides (GC)	TAL CAN	SW846 8081/DOD	
Liquid-Liquid Extraction (Continuous)	TAL CAN		SW846 3520C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL CAN	SW846 8082/DOD	
Liquid-Liquid Extraction (Continuous)	TAL CAN		SW846 3520C
Metals (ICP)	TAL CAN	SW846 6010B/DOD	
Preparation, Total Recoverable or Dissolved Metals	TAL CAN		SW846 3005A
Metals (ICP/MS)	TAL CAN	SW846 6020/DOD	
Preparation, Total Recoverable or Dissolved Metals	TAL CAN		SW846 3005A
Mercury (CVAA)	TAL CAN	SW846 7470A/DOD	
Preparation, Mercury	TAL CAN		SW846 7470A
Cyanide, Total and/or Amenable	TAL CAN	SW846 9012A	
Cyanide, Total and/or Amenable, Distillation	TAL CAN		SW846 9012A
Perchlorate by IC/MS or IC/MS/MS	TAL DEN	EPA 6860	
Nitroguanidine (HPLC)	TAL SAC	SW846 8330 Modified	
Sample Filtration	TAL SAC		Filtration
Nitroaromatics and Nitramines	TAL SAC	SW846 8330A	
Solid-Phase Extraction (Explosives)	TAL SAC		SW846 8330-Prep
Nitrocellulose	TAL SAC	TAL-SAC WS-WC-0050	
Nitrocellulose Sample Preparation (Hydrolysis)	TAL SAC		MCAWW 353 (NCell-Hyd)
Nitrocellulose Sample Preparation	TAL SAC		MCAWW 353.2 (NCell)

### Lab References:

TAL CAN = TestAmerica Canton

TAL DEN = TestAmerica Denver

TAL SAC = TestAmerica Sacramento

### Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.



**CASE NARRATIVE  
REVISED**

**Client: Environmental Quality Mgt., Inc.**

**Project: RVAAP66 (OH)**

**Report Number: 240-28110-1**

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 some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

The 353.2 Nitrocellulose, 8330 Nitroguanidine and 8330A Explosives analysis were performed at the TestAmerica Sacramento Laboratory. The 6860 Perchlorate analysis was performed at the TestAmerica Denver Laboratory.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

REVISION 1: The 8082 PCB ICV analyzed on 8/28/13 on A2HP12 shows that it failed for 1248 (CLP-2) and 1254 (CLP-1 and 2). The vials for these to ICVs were inadvertently switched. The data had been correctly uploaded based on actual analysis and the ICVs recalculated. Both now meet acceptance criteria.

The 8330A confirmation data for sample FWGRQLmw-008C-0370-GW (240-28110-2) was omitted from the original data submission. This revised report should include the additional confirmation column data.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**

The samples were received on 08/20/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.8° C, 0.8° C, 1.2° C, 1.2° C, 1.8° C, 2.6° C, 2.8° C, 3.2° C, 3.2° C, 3.2° C, 3.2° C, 4.2° C and 5.0° C.

**VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples FWGTEAM1-TRIP (240-28110-1), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGTEAM3-TRIP (240-28110-19), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B DoD. The samples were analyzed on 08/28/2013 and 08/31/2013.

Methylene Chloride was detected in method blank MB 240-99810/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Chloroethane and Methylene Chloride failed the recovery criteria high for MRL 240-99353/29.

cis-1,3-Dichloropropene failed the recovery criteria high for MRL 240-99353/5.

cis-1,3-Dichloropropene and Methylene Chloride failed the recovery criteria high for MRL 240-99810/16.



Bromomethane, Chloroethane, Chloromethane, Methylene Chloride and Vinyl chloride failed the recovery criteria high for MRL 240-99810/5.

The continuing calibration verification (CCV) for Acetone, 4-Methyl-2-pentanone associated with batch 99353 recovered above the upper control limit. Two samples associated with this CCV had acetone present above the RL but are still being reported since it is a normal laboratory contaminant.

The continuing calibration verification (CCV) for Methylene Chloride, Carbon Tetrachloride, Dichlorobromomethane, trans-1,3-Dichloropropene associated with batch 99810 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other difficulties were encountered during the VOCs analysis. All other quality control parameters were within the acceptance limits.

#### **SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGFWGmw-016-0351-GW (240-28110-6), FWGFWGmw-015-0350-GW (240-28110-8), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGFWGmw-004-0346-GW (240-28110-17), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 08/21/2013 and analyzed on 08/29/2013 and 08/30/2013.

Surrogates are added during the extraction process prior to dilution. When the sample is diluted, surrogate recoveries are diluted out and no corrective action is required.

Bis(2-ethylhexyl) phthalate was detected in method blank MB 240-98336/14-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

3,3'-Dichlorobenzidine and Benzo[a]pyrene failed the recovery criteria low for the MS and MSD of sample FWGRQLmw-008C-0370-GWMS/MSD (240-28110-2) in batch 240-99481. Hexachlorocyclopentadiene exceeded the RPD limit. Refer to the QC report for details.

The continuing calibration verification (CCV) for 4-nitrophenol and 4-nitroaniline associated with batch 99481 recovered above the upper control limit. The samples associated with this CCV, (LCS 240-98336/15-A), (MB 240-98336/14-A), (MRL 240-99481/21), (MRL 240-99481/4), FWGFWGmw-015-0350-GW (240-28110-8), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-008C-0370-GW (240-28110-2 MS), FWGRQLmw-008C-0370-GW (240-28110-2 MSD), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), were non-detects for the affected analytes; therefore, the data have been reported.

The laboratory check sample (LCS) for prep batch 98336 was double spiked. Recoveries were adjusted accordingly.

The continuing calibration verifications (CCV) for 4-nitrophenol and 4-nitroaniline, associated with batch 99673, recovered above the upper control limit. The samples associated with this CCV, FWGEQUIPRINSE1-0340-GW (240-28110-26), FWGFWGmw-004-0346-GW (240-28110-17), FWGFWGmw-016-0351-GW (240-28110-6), FWGRQLmw-011C-0326-GW (240-28110-4), were non-detects for the affected analytes; therefore, the data have been reported.

No other difficulties were encountered during the SVOCs analysis. All other quality control parameters were within the acceptance limits.

#### **NITROGUANIDINE (HPLC)**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGFWGmw-016-0351-GW (240-28110-6), FWGFWGmw-015-0350-GW (240-28110-8), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGFWGmw-004-0346-GW (240-28110-17), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for nitroguanidine (HPLC) in accordance with EPA SW-846 Method 8330\_Ngu. The samples were prepared on 08/23/2013 and analyzed on 08/26/2013.

No difficulties were encountered during the explosives analysis. All quality control parameters were within the acceptance limits.

#### **CHLORINATED PESTICIDES**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGFWGmw-004-0346-GW (240-28110-17), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for chlorinated pesticides in accordance with EPA SW-846 Method 8081A DoD. The samples were prepared on 08/20/2013 and analyzed on 08/23/2013 and 09/09/2013.

4,4'-DDD failed the recovery criteria high for LCS 240-98186/15-A. Refer to the QC report for details.

4,4'-DDD failed the recovery criteria high for the MS of sample FWGRQLmw-008C-0370-GWMS (240-28110-2) in batch 240-98732.



Sample FWGLL3mw-238C-0359-GW (240-28110-11)[50X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly for Heptachlor Epoxide because of a co-eluting matrix peak in the retention time windows of the non-diluted extract.

The laboratory control sample (LCS) for batch 98186 recovered 4,4'-DDD above the LCS control limit but the result is within the marginal exceedance limit for the compound. The associated samples, FWGEQUIPRINSE1-0340-GW (240-28110-26), FWGFWGmw-004-0346-GW (240-28110-17), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-011C-0326-GW (240-28110-4), FWGRQLmw-DUP5-0377-GW (240-28110-22) were non-detect for the affected analyte; therefore the data have been reported.

The peaks for 4,4'-DDD and Endosulfan II co-eluted on the confirmation column for the initial calibration (ICAL) associated with batch 98732. The associated samples FWGEQUIPRINSE1-0340-GW (240-28110-26), FWGFWGmw-004-0346-GW (240-28110-17), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-011C-0326-GW (240-28110-4), FWGRQLmw-DUP5-0377-GW (240-28110-22) from this batch were non-detect for the affected analytes on the primary column; therefore the data have been reported.

The closing continuing calibration verification (CCV) associated with batch 98732 recovered above the upper control limit. The samples associated with this CCVFWGEQUIPRINSE1-0340-GW (240-28110-26), FWGFWGmw-004-0346-GW (240-28110-17), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-011C-0326-GW (240-28110-4), FWGRQLmw-DUP5-0377-GW (240-28110-22) were non-detects for the affected analytes; therefore the data have been reported.

The closing method reporting limit (MRL) associated with batch 98732 recovered beta-BHC, delta-BHC, and DDE above the upper control limits. The samples associated with this CCVFWGEQUIPRINSE1-0340-GW (240-28110-26), FWGFWGmw-004-0346-GW (240-28110-17), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-011C-0326-GW (240-28110-4), FWGRQLmw-DUP5-0377-GW (240-28110-22) were non-detects for the affected analytes; therefore the data have been reported.

No other difficulties were encountered during the pesticides analysis. All other quality control parameters were within the acceptance limits.

#### **POLYCHLORINATED BIPHENYLS (PCBS)**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082 DoD. The samples were prepared on 08/20/2013 and analyzed on 08/29/2013.

DCB Decachlorobiphenyl failed the surrogate recovery criteria low for FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GWMS (240-28110-2MS), and FWGRQLmw-008C-0370-GWMSD (240-28110-2MSD).

Surrogate recovery for the following samples was outside control limits: FWGRQLmw-006C-0368-GW (240-28110-24), FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-008C-0370-GW (240-28110-2 MS), FWGRQLmw-008C-0370-GW (240-28110-2 MSD), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22). Re-extraction and/or re-analysis was performed with concurring results. The original analysis has been reported.

No other difficulties were encountered during the PCBs analysis. All other quality control parameters were within the acceptance limits.

#### **PERCHLORATE**

Samples FWGRQLmw-011C-0326-GF (240-28110-5), FWGLL3mw-239C-0322-GF (240-28110-10), FWGFWGmw-002-0317-GF (240-28110-15), FWGFWGmw-DUP2-0337-GF (240-28110-16), FWGRQLmw-006C-0368-GF (240-28110-25) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for perchlorate in accordance with EPA SW-846 Method 6860. The samples were analyzed on 09/06/2013.

No difficulties were encountered during the perchlorate analysis. All quality control parameters were within the acceptance limits.

#### **EXPLOSIVES**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGFWGmw-016-0351-GW (240-28110-6), FWGFWGmw-015-0350-GW (240-28110-8), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGFWGmw-004-0346-GW (240-28110-17), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for explosives in accordance with EPA SW-846 Method 8330A. The samples were prepared on 08/23/2013 and analyzed on 08/27/2013, 08/28/2013 and 08/29/2013.



3,4-Dinitrotoluene failed the surrogate recovery criteria high for FWGLL3mw-238C-0359-GW (240-28110-11) and FWGLL3mw-241C-0360-GW (240-28110-13).

1,3,5-Trinitrobenzene and 2-Nitrotoluene failed the recovery criteria low for the MS/MSD of sample FWGRQLmw-008C-0370-GWMS/MSD (240-28110-2) in batch 320-23978.

Sample FWGLL3mw-238C-0359-GW (240-28110-11)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the explosives analysis. All other quality control parameters were within the acceptance limits.

#### **TOTAL RECOVERABLE METALS (ICP)**

Samples FWGRQLmw-008C-0370-GF (240-28110-3), FWGRQLmw-011C-0326-GF (240-28110-5), FWGFWGmw-016-0351-GF (240-28110-7), FWGFWGmw-015-0350-GF (240-28110-9), FWGLL3mw-238C-0359-GF (240-28110-12), FWGLL3mw-241C-0360-GF (240-28110-14), FWGFWGmw-004-0346-GF (240-28110-18), FWGRQLmw-009C-0371-GF (240-28110-21), FWGRQLmw-DUP5-0377-GF (240-28110-23), FWGRQLmw-006C-0368-GF (240-28110-25) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B DoD. The samples were prepared on 08/21/2013 and analyzed on 09/09/2013.

ICB, CCB, and ICSEA samples are evaluated using the lowest LOD and DL criteria in LIMS. Using this criteria, an individual element may occasionally be flagged as out of control. If the element has a higher LOD or DL, the data is evaluated to the higher limit and determined to be acceptable.

Manganese was detected in method blank MB 240-98385/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Barium, Cobalt, Nickel and Potassium exceeded the RPD limit for the duplicate of sample FWGRQLmw-008C-0370-GF DU (240-28110-3). Refer to the QC report for details.

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

#### **TOTAL RECOVERABLE METALS (ICPMS)**

Samples FWGRQLmw-008C-0370-GF (240-28110-3), FWGRQLmw-011C-0326-GF (240-28110-5), FWGFWGmw-016-0351-GF (240-28110-7), FWGFWGmw-015-0350-GF (240-28110-9), FWGLL3mw-238C-0359-GF (240-28110-12), FWGLL3mw-241C-0360-GF (240-28110-14), FWGFWGmw-004-0346-GF (240-28110-18), FWGRQLmw-009C-0371-GF (240-28110-21), FWGRQLmw-DUP5-0377-GF (240-28110-23), FWGRQLmw-006C-0368-GF (240-28110-25) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020 DoD. The samples were prepared on 08/21/2013 and analyzed on 09/09/2013.

ICB, CCB, and ICSEA samples are evaluated using the lowest LOD and DL criteria in LIMS. Using this criteria, an individual element may occasionally be flagged as out of control. If the element has a higher LOD or DL, the data is evaluated to the higher limit and determined to be acceptable.

No difficulties were encountered during the metals analysis. All quality control parameters were within the acceptance limits.

#### **TOTAL MERCURY**

Samples FWGRQLmw-008C-0370-GF (240-28110-3), FWGRQLmw-011C-0326-GF (240-28110-5), FWGFWGmw-016-0351-GF (240-28110-7), FWGFWGmw-015-0350-GF (240-28110-9), FWGLL3mw-238C-0359-GF (240-28110-12), FWGLL3mw-241C-0360-GF (240-28110-14), FWGFWGmw-004-0346-GF (240-28110-18), FWGRQLmw-009C-0371-GF (240-28110-21), FWGRQLmw-DUP5-0377-GF (240-28110-23), FWGRQLmw-006C-0368-GF (240-28110-25) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for total mercury in accordance with EPA SW-846 Method 7470A. The samples were prepared on 08/21/2013 and analyzed on 08/22/2013.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

#### **NITROCELLULOSE**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGFWGmw-016-0351-GW (240-28110-6), FWGFWGmw-015-0350-GW (240-28110-8), FWGLL3mw-238C-0359-GW (240-28110-11), FWGLL3mw-241C-0360-GW (240-28110-13), FWGFWGmw-004-0346-GW (240-28110-17), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for Nitrocellulose in accordance with EPA Method 353.2. The samples were prepared on 09/03/2013 and analyzed on 09/04/2013.

No difficulties were encountered during the Nitrocellulose analysis. All quality control parameters were within the acceptance limits.

#### **TOTAL CYANIDE**

Samples FWGRQLmw-008C-0370-GW (240-28110-2), FWGRQLmw-011C-0326-GW (240-28110-4), FWGFWGmw-004-0346-GW



(240-28110-17), FWGRQLmw-009C-0371-GW (240-28110-20), FWGRQLmw-DUP5-0377-GW (240-28110-22), FWGRQLmw-006C-0368-GW (240-28110-24) and FWGEQUIPRINSE1-0340-GW (240-28110-26) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/22/2013 and 08/23/2013.

No difficulties were encountered during the cyanide analysis. All quality control parameters were within the acceptance limits.



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGTEAM1-TRIP**

**Lab Sample ID: 240-28110-1**

**Date Collected: 08/19/13 11:00**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 13:09	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 13:09	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 13:09	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 13:09	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 13:09	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 13:09	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 13:09	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 13:09	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 13:09	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 13:09	1
<b>Acetone</b>	<b>1.2</b>	<b>J</b>	10	1.1	1.1	ug/L		08/28/13 13:09	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 13:09	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 13:09	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 13:09	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 13:09	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 13:09	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 13:09	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 13:09	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 13:09	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 13:09	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 13:09	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 13:09	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 13:09	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 13:09	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 13:09	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 13:09	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 13:09	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 13:09	1
<b>Methylene Chloride</b>	<b>0.55</b>	<b>J</b>	1.0	0.50	0.33	ug/L		08/28/13 13:09	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 13:09	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 13:09	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 13:09	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 13:09	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 13:09	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 13:09	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 13:09	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 13:09	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 13:09	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 120		08/28/13 13:09	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/28/13 13:09	1
Toluene-d8 (Surr)	85		85 - 120		08/28/13 13:09	1
Dibromofluoromethane (Surr)	101		85 - 115		08/28/13 13:09	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-008C-0370-GW**

**Lab Sample ID: 240-28110-2**

**Date Collected: 08/19/13 12:45**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:01	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:01	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 15:01	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:01	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:01	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:01	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 15:01	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:01	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 15:01	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:01	1
Acetone	2.3	J	10	1.1	1.1	ug/L		08/28/13 15:01	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:01	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 15:01	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 15:01	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:01	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:01	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:01	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:01	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 15:01	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 15:01	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:01	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 15:01	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:01	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:01	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 15:01	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 15:01	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 15:01	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 15:01	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 15:01	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 15:01	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 15:01	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:01	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:01	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:01	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:01	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:01	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:01	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 15:01	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 120		08/28/13 15:01	1
4-Bromofluorobenzene (Surr)	93		75 - 120		08/28/13 15:01	1
Toluene-d8 (Surr)	92		85 - 120		08/28/13 15:01	1
Dibromofluoromethane (Surr)	105		85 - 115		08/28/13 15:01	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 13:21	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		08/29/13 13:21	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-008C-0370-GW

Lab Sample ID: 240-28110-2

Date Collected: 08/19/13 12:45

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		08/29/13 13:21	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		08/29/13 13:21	1
Benzo[a]pyrene	0.095	U J	0.19	0.095	0.049	ug/L		08/29/13 13:21	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		08/29/13 13:21	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		08/29/13 13:21	1
Benzoic acid	19	U	24	19	9.5	ug/L		08/29/13 13:21	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		08/29/13 13:21	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		08/29/13 13:21	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		08/29/13 13:21	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		08/29/13 13:21	1
Bis(2-ethylhexyl) phthalate	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 13:21	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 13:21	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/29/13 13:21	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		08/29/13 13:21	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 13:21	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 13:21	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		08/29/13 13:21	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		08/29/13 13:21	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		08/29/13 13:21	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		08/29/13 13:21	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 13:21	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		08/29/13 13:21	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		08/29/13 13:21	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		08/29/13 13:21	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		08/29/13 13:21	1
3,3'-Dichlorobenzidine	0.95	U J	4.8	0.95	0.35	ug/L		08/29/13 13:21	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		08/29/13 13:21	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/29/13 13:21	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		08/29/13 13:21	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/29/13 13:21	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/29/13 13:21	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		08/29/13 13:21	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		08/29/13 13:21	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/29/13 13:21	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 13:21	1
<b>Fluorene</b>	<b>0.19</b>		0.19	0.095	0.039	ug/L		08/29/13 13:21	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		08/29/13 13:21	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		08/29/13 13:21	1
Hexachlorocyclopentadiene	0.48	U J	9.5	0.48	0.23	ug/L		08/29/13 13:21	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		08/29/13 13:21	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		08/29/13 13:21	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		08/29/13 13:21	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		08/29/13 13:21	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		08/29/13 13:21	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		08/29/13 13:21	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		08/29/13 13:21	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 13:21	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 13:21	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 13:21	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-008C-0370-GW

Lab Sample ID: 240-28110-2

Date Collected: 08/19/13 12:45

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 13:21	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		08/29/13 13:21	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		08/29/13 13:21	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		08/29/13 13:21	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		08/29/13 13:21	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		08/29/13 13:21	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		08/29/13 13:21	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		08/29/13 13:21	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		08/29/13 13:21	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		08/29/13 13:21	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		08/29/13 13:21	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		08/29/13 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		50 - 110	08/21/13 09:37	08/29/13 13:21	1
2-Fluorophenol (Surr)	60		20 - 110	08/21/13 09:37	08/29/13 13:21	1
Nitrobenzene-d5 (Surr)	61		40 - 110	08/21/13 09:37	08/29/13 13:21	1
Phenol-d5 (Surr)	68		10 - 115	08/21/13 09:37	08/29/13 13:21	1
Terphenyl-d14 (Surr)	77		50 - 135	08/21/13 09:37	08/29/13 13:21	1
2,4,6-Tribromophenol (Surr)	90		40 - 125	08/21/13 09:37	08/29/13 13:21	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U J Q	0.048	0.019	0.0091	ug/L		08/23/13 20:33	1
4,4'-DDE	0.038	J	0.048	0.019	0.0092	ug/L		08/23/13 20:33	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 20:33	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/23/13 20:33	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 20:33	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 20:33	1
beta-BHC	0.0093	J	0.048	0.019	0.0080	ug/L		08/23/13 20:33	1
delta-BHC	0.041	J	0.048	0.019	0.0083	ug/L		08/23/13 20:33	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/23/13 20:33	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 20:33	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 20:33	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 20:33	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 20:33	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 20:33	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/23/13 20:33	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/23/13 20:33	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 20:33	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/23/13 20:33	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 20:33	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/23/13 20:33	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/23/13 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	33		30 - 135	08/20/13 11:25	08/23/13 20:33	1
DCB Decachlorobiphenyl	38		30 - 135	08/20/13 11:25	08/23/13 20:33	1
Tetrachloro-m-xylene	63		25 - 140	08/20/13 11:25	08/23/13 20:33	1
Tetrachloro-m-xylene	74		25 - 140	08/20/13 11:25	08/23/13 20:33	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-008C-0370-GW

Lab Sample ID: 240-28110-2

Date Collected: 08/19/13 12:45

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 00:53	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/29/13 00:53	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 00:53	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/29/13 00:53	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/29/13 00:53	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 00:53	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 00:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	80		40 - 140	08/20/13 11:31	08/29/13 00:53	1
Tetrachloro-m-xylene	82		40 - 140	08/20/13 11:31	08/29/13 00:53	1
DCB Decachlorobiphenyl	27	Q	40 - 135	08/20/13 11:31	08/29/13 00:53	1
DCB Decachlorobiphenyl	23	Q	40 - 135	08/20/13 11:31	08/29/13 00:53	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 10:07	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/27/13 16:10	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 16:10	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 16:10	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/27/13 16:10	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 13:57	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/27/13 16:10	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/27/13 16:10	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.059	ug/L		08/27/13 16:10	1
4-Nitrotoluene	0.12	J	0.51	0.10	0.090	ug/L		08/27/13 16:10	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 16:10	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/27/13 16:10	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/27/13 16:10	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 16:10	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 16:10	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/28/13 13:57	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/27/13 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	93	M	79 - 111	08/23/13 08:00	08/27/13 16:10	1
3,4-Dinitrotoluene	110		79 - 111	08/23/13 08:00	08/28/13 13:57	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/22/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 14:42	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-008C-0370-GF**

**Lab Sample ID: 240-28110-3**

**Date Collected: 08/19/13 12:45**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	38		10	10	3.3	ug/L		09/09/13 08:58	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 08:58	1
Cobalt	1.5	J	7.0	4.0	1.5	ug/L		09/09/13 08:58	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 08:58	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 08:58	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 08:58	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 08:58	1
Barium	140	J	200	5.0	2.8	ug/L		09/09/13 08:58	1
Calcium	71000		5000	1000	630	ug/L		09/09/13 08:58	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 08:58	1
Magnesium	71000		5000	300	120	ug/L		09/09/13 08:58	1
Manganese	660		15	5.0	1.8	ug/L		09/09/13 08:58	1
Nickel	2.9	J	40	5.0	2.2	ug/L		09/09/13 08:58	1
Potassium	4500	J	5000	900	300	ug/L		09/09/13 08:58	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 11:49	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 11:49	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 11:49	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 11:49	1
Iron	89000		150	100	44	ug/L		09/09/13 11:49	1
Sodium	6600		1000	400	160	ug/L		09/09/13 11:49	1
Thallium	1.2	J	2.0	1.5	0.79	ug/L		09/09/13 11:49	1
Zinc	50	U	50	50	27	ug/L		09/09/13 11:49	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:07	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-011C-0326-GW**

**Lab Sample ID: 240-28110-4**

**Date Collected: 08/19/13 14:55**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 09:32	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 09:32	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 09:32	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 09:32	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 09:32	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 09:32	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 09:32	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 09:32	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 09:32	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 09:32	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/31/13 09:32	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:32	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 09:32	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 09:32	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:32	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:32	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 09:32	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 09:32	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/31/13 09:32	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 09:32	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 09:32	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 09:32	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 09:32	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 09:32	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 09:32	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 09:32	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/31/13 09:32	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 09:32	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/31/13 09:32	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 09:32	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 09:32	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 09:32	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:32	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 09:32	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 09:32	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 09:32	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 09:32	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 09:32	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 09:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 120		08/31/13 09:32	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/31/13 09:32	1
Toluene-d8 (Surr)	90		85 - 120		08/31/13 09:32	1
Dibromofluoromethane (Surr)	99		85 - 115		08/31/13 09:32	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		08/30/13 13:57	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		08/30/13 13:57	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-011C-0326-GW

Lab Sample ID: 240-28110-4

Date Collected: 08/19/13 14:55

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		08/30/13 13:57	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		08/30/13 13:57	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		08/30/13 13:57	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		08/30/13 13:57	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		08/30/13 13:57	1
Benzoic acid	19	U M	24	19	9.5	ug/L		08/30/13 13:57	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		08/30/13 13:57	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		08/30/13 13:57	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		08/30/13 13:57	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		08/30/13 13:57	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.22</b>	<b>J</b>	1.9	0.48	0.21	ug/L		08/30/13 13:57	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		08/30/13 13:57	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/30/13 13:57	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		08/30/13 13:57	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/30/13 13:57	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		08/30/13 13:57	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		08/30/13 13:57	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		08/30/13 13:57	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		08/30/13 13:57	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		08/30/13 13:57	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		08/30/13 13:57	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		08/30/13 13:57	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		08/30/13 13:57	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		08/30/13 13:57	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		08/30/13 13:57	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		08/30/13 13:57	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		08/30/13 13:57	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/30/13 13:57	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		08/30/13 13:57	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/30/13 13:57	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/30/13 13:57	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		08/30/13 13:57	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		08/30/13 13:57	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/30/13 13:57	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		08/30/13 13:57	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		08/30/13 13:57	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		08/30/13 13:57	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		08/30/13 13:57	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		08/30/13 13:57	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		08/30/13 13:57	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		08/30/13 13:57	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		08/30/13 13:57	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		08/30/13 13:57	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		08/30/13 13:57	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		08/30/13 13:57	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		08/30/13 13:57	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/30/13 13:57	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		08/30/13 13:57	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		08/30/13 13:57	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-011C-0326-GW

Lab Sample ID: 240-28110-4

Date Collected: 08/19/13 14:55

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		08/30/13 13:57	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		08/30/13 13:57	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		08/30/13 13:57	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		08/30/13 13:57	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		08/30/13 13:57	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		08/30/13 13:57	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		08/30/13 13:57	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		08/30/13 13:57	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		08/30/13 13:57	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		08/30/13 13:57	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		08/30/13 13:57	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		08/30/13 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	63		50 - 110	08/21/13 09:37	08/30/13 13:57	1
2-Fluorophenol (Surr)	59		20 - 110	08/21/13 09:37	08/30/13 13:57	1
Nitrobenzene-d5 (Surr)	62		40 - 110	08/21/13 09:37	08/30/13 13:57	1
Phenol-d5 (Surr)	70		10 - 115	08/21/13 09:37	08/30/13 13:57	1
Terphenyl-d14 (Surr)	84		50 - 135	08/21/13 09:37	08/30/13 13:57	1
2,4,6-Tribromophenol (Surr)	91		40 - 125	08/21/13 09:37	08/30/13 13:57	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U Q	0.048	0.019	0.0091	ug/L		08/23/13 20:53	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/23/13 20:53	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 20:53	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/23/13 20:53	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 20:53	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 20:53	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/23/13 20:53	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/23/13 20:53	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/23/13 20:53	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 20:53	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 20:53	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 20:53	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 20:53	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 20:53	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/23/13 20:53	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/23/13 20:53	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 20:53	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/23/13 20:53	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 20:53	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/23/13 20:53	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/23/13 20:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	80		30 - 135	08/20/13 11:25	08/23/13 20:53	1
DCB Decachlorobiphenyl	93		30 - 135	08/20/13 11:25	08/23/13 20:53	1
Tetrachloro-m-xylene	71		25 - 140	08/20/13 11:25	08/23/13 20:53	1
Tetrachloro-m-xylene	81		25 - 140	08/20/13 11:25	08/23/13 20:53	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-011C-0326-GW

Lab Sample ID: 240-28110-4

Date Collected: 08/19/13 14:55

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 01:37	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/29/13 01:37	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 01:37	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/29/13 01:37	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/29/13 01:37	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 01:37	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 01:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	86		40 - 140	08/20/13 11:31	08/29/13 01:37	1
Tetrachloro-m-xylene	89		40 - 140	08/20/13 11:31	08/29/13 01:37	1
DCB Decachlorobiphenyl	75		40 - 135	08/20/13 11:31	08/29/13 01:37	1
DCB Decachlorobiphenyl	61		40 - 135	08/20/13 11:31	08/29/13 01:37	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 11:00	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.050	U	0.15	0.050	0.031	ug/L		08/27/13 18:21	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 18:21	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 18:21	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/27/13 18:21	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/27/13 18:21	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/27/13 18:21	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.088	ug/L		08/27/13 18:21	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.057	ug/L		08/27/13 18:21	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.088	ug/L		08/27/13 18:21	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 18:21	1
HMX	0.050	U	0.15	0.050	0.036	ug/L		08/27/13 18:21	1
RDX	0.050	U	0.15	0.050	0.036	ug/L		08/27/13 18:21	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 18:21	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 18:21	1
Nitroglycerin	0.50	U	0.65	0.50	0.33	ug/L		08/27/13 18:21	1
PETN	0.50	U	0.65	0.50	0.30	ug/L		08/27/13 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	91	M	79 - 111	08/23/13 08:00	08/27/13 18:21	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/22/13 14:08	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 14:48	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-011C-0326-GF**

**Lab Sample ID: 240-28110-5**

**Date Collected: 08/19/13 14:55**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/06/13 15:00	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 09:28	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 09:28	1
<b>Cobalt</b>	<b>25</b>		7.0	4.0	1.5	ug/L		09/09/13 09:28	1
<b>Lead</b>	<b>2.3</b>	<b>J</b>	10	5.0	1.7	ug/L		09/09/13 09:28	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 09:28	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 09:28	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 09:28	1
<b>Barium</b>	<b>21</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 09:28	1
<b>Calcium</b>	<b>26000</b>		5000	1000	630	ug/L		09/09/13 09:28	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 09:28	1
<b>Magnesium</b>	<b>11000</b>		5000	300	120	ug/L		09/09/13 09:28	1
<b>Manganese</b>	<b>2300</b>		15	5.0	1.8	ug/L		09/09/13 09:28	1
<b>Nickel</b>	<b>61</b>		40	5.0	2.2	ug/L		09/09/13 09:28	1
<b>Potassium</b>	<b>4300</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 09:28	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Aluminum</b>	<b>2500</b>		60	60	20	ug/L		09/09/13 12:41	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 12:41	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 12:41	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 12:41	1
<b>Iron</b>	<b>4700</b>		150	100	44	ug/L		09/09/13 12:41	1
<b>Sodium</b>	<b>1800</b>		1000	400	160	ug/L		09/09/13 12:41	1
<b>Thallium</b>	<b>1.7</b>	<b>J</b>	2.0	1.5	0.79	ug/L		09/09/13 12:41	1
<b>Zinc</b>	<b>35</b>	<b>J</b>	50	50	27	ug/L		09/09/13 12:41	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:17	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGFWGmw-016-0351-GW

Lab Sample ID: 240-28110-6

Date Collected: 08/19/13 16:51

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.32	J	2.0	0.50	0.22	ug/L		08/30/13 14:22	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		08/30/13 14:22	1
Diethyl phthalate	1.0	U	2.0	1.0	0.60	ug/L		08/30/13 14:22	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		08/30/13 14:22	1
Di-n-butyl phthalate	1.0	U	2.0	1.0	0.67	ug/L		08/30/13 14:22	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		08/30/13 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	66		50 - 110	08/21/13 09:37	08/30/13 14:22	1
2-Fluorophenol (Surr)	67		20 - 110	08/21/13 09:37	08/30/13 14:22	1
Nitrobenzene-d5 (Surr)	70		40 - 110	08/21/13 09:37	08/30/13 14:22	1
Phenol-d5 (Surr)	72		10 - 115	08/21/13 09:37	08/30/13 14:22	1
Terphenyl-d14 (Surr)	90		50 - 135	08/21/13 09:37	08/30/13 14:22	1
2,4,6-Tribromophenol (Surr)	84		40 - 125	08/21/13 09:37	08/30/13 14:22	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 11:18	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.050	U	0.15	0.050	0.031	ug/L		08/27/13 19:05	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 19:05	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 19:05	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/27/13 19:05	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/27/13 19:05	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/27/13 19:05	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.088	ug/L		08/27/13 19:05	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.057	ug/L		08/27/13 19:05	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.088	ug/L		08/27/13 19:05	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 19:05	1
HMX	0.050	U	0.15	0.050	0.036	ug/L		08/27/13 19:05	1
RDX	0.050	U	0.15	0.050	0.036	ug/L		08/27/13 19:05	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 19:05	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 19:05	1
Nitroglycerin	0.50	U	0.65	0.50	0.33	ug/L		08/27/13 19:05	1
PETN	0.50	U	0.65	0.50	0.30	ug/L		08/27/13 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	89		79 - 111	08/23/13 08:00	08/27/13 19:05	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 14:50	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGFWGmw-016-0351-GF**

**Lab Sample ID: 240-28110-7**

**Date Collected: 08/19/13 16:51**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.3	J	10	10	3.3	ug/L		09/09/13 09:34	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 09:34	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 09:34	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 09:34	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 09:34	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 09:34	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 09:34	1
Barium	55	J	200	5.0	2.8	ug/L		09/09/13 09:34	1
Calcium	100000		5000	1000	630	ug/L		09/09/13 09:34	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 09:34	1
Magnesium	28000		5000	300	120	ug/L		09/09/13 09:34	1
Manganese	210		15	5.0	1.8	ug/L		09/09/13 09:34	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 09:34	1
Potassium	2100	J	5000	900	300	ug/L		09/09/13 09:34	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	27	J	60	60	20	ug/L		09/09/13 12:49	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 12:49	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 12:49	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 12:49	1
Iron	600		150	100	44	ug/L		09/09/13 12:49	1
Sodium	11000		1000	400	160	ug/L		09/09/13 12:49	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 12:49	1
Zinc	50	U	50	50	27	ug/L		09/09/13 12:49	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:20	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGFWGmw-015-0350-GW

Lab Sample ID: 240-28110-8

Date Collected: 08/19/13 17:41

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.45	J	1.9	0.48	0.21	ug/L		08/29/13 16:47	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/29/13 16:47	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/29/13 16:47	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/29/13 16:47	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/29/13 16:47	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/29/13 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	63		50 - 110	08/21/13 09:37	08/29/13 16:47	1
2-Fluorophenol (Surr)	59		20 - 110	08/21/13 09:37	08/29/13 16:47	1
Nitrobenzene-d5 (Surr)	60		40 - 110	08/21/13 09:37	08/29/13 16:47	1
Phenol-d5 (Surr)	71		10 - 115	08/21/13 09:37	08/29/13 16:47	1
Terphenyl-d14 (Surr)	85		50 - 135	08/21/13 09:37	08/29/13 16:47	1
2,4,6-Tribromophenol (Surr)	93		40 - 125	08/21/13 09:37	08/29/13 16:47	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 11:35	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/27/13 19:48	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 19:48	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 19:48	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/27/13 19:48	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/27/13 19:48	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/27/13 19:48	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/27/13 19:48	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/27/13 19:48	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/27/13 19:48	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 19:48	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/27/13 19:48	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/27/13 19:48	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 19:48	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 19:48	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/27/13 19:48	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/27/13 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	88		79 - 111	08/23/13 08:00	08/27/13 19:48	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 14:52	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGFWGmw-015-0350-GF**

**Lab Sample ID: 240-28110-9**

**Date Collected: 08/19/13 17:41**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 09:40	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 09:40	1
<b>Cobalt</b>	<b>2.9</b>	<b>J</b>	7.0	4.0	1.5	ug/L		09/09/13 09:40	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 09:40	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 09:40	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 09:40	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 09:40	1
<b>Barium</b>	<b>14</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 09:40	1
<b>Calcium</b>	<b>340000</b>		5000	1000	630	ug/L		09/09/13 09:40	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 09:40	1
<b>Magnesium</b>	<b>260000</b>		5000	300	120	ug/L		09/09/13 09:40	1
<b>Manganese</b>	<b>940</b>		15	5.0	1.8	ug/L		09/09/13 09:40	1
<b>Nickel</b>	<b>2.5</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 09:40	1
<b>Potassium</b>	<b>4000</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 09:40	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 12:56	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 12:56	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 12:56	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 12:56	1
Iron	100	U	150	100	44	ug/L		09/09/13 12:56	1
<b>Sodium</b>	<b>44000</b>		1000	400	160	ug/L		09/09/13 12:56	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 12:56	1
Zinc	50	U	50	50	27	ug/L		09/09/13 12:56	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:22	1



## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGLL3mw-239C-0322-GF**

**Lab Sample ID: 240-28110-10**

**Date Collected: 08/19/13 12:52**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

**Method: 6860 - Perchlorate by IC/MS or IC/MS/MS**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.031	J	0.050	0.020	0.0088	ug/L		09/06/13 15:28	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGLL3mw-238C-0359-GW

Lab Sample ID: 240-28110-11

Date Collected: 08/19/13 13:32

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.39</b>	<b>J</b>	2.1	0.53	0.23	ug/L		08/29/13 14:38	1
Butyl benzyl phthalate	0.53	U	2.1	0.53	0.27	ug/L		08/29/13 14:38	1
Diethyl phthalate	1.1	U	2.1	1.1	0.63	ug/L		08/29/13 14:38	1
Dimethyl phthalate	0.53	U	2.1	0.53	0.31	ug/L		08/29/13 14:38	1
Di-n-butyl phthalate	1.1	U	2.1	1.1	0.71	ug/L		08/29/13 14:38	1
Di-n-octyl phthalate	0.53	U	2.1	0.53	0.24	ug/L		08/29/13 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	61		50 - 110	08/21/13 09:37	08/29/13 14:38	1
2-Fluorophenol (Surr)	61		20 - 110	08/21/13 09:37	08/29/13 14:38	1
Nitrobenzene-d5 (Surr)	62		40 - 110	08/21/13 09:37	08/29/13 14:38	1
Phenol-d5 (Surr)	67		10 - 115	08/21/13 09:37	08/29/13 14:38	1
Terphenyl-d14 (Surr)	80		50 - 135	08/21/13 09:37	08/29/13 14:38	1
2,4,6-Tribromophenol (Surr)	85		40 - 125	08/21/13 09:37	08/29/13 14:38	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U Q	0.052	0.021	0.010	ug/L		08/23/13 21:14	1
4,4'-DDD	1.0	U Q	2.6	1.0	0.50	ug/L		09/09/13 20:21	50
4,4'-DDD	1.0	U	2.6	1.0	0.50	ug/L		09/09/13 20:21	50
<b>4,4'-DDE</b>	<b>0.020</b>	<b>J</b>	0.052	0.021	0.010	ug/L		08/23/13 21:14	1
4,4'-DDE	1.0	U	2.6	1.0	0.51	ug/L		09/09/13 20:21	50
4,4'-DDE	1.0	U	2.6	1.0	0.51	ug/L		09/09/13 20:21	50
4,4'-DDT	0.021	U	0.052	0.021	0.017	ug/L		08/23/13 21:14	1
4,4'-DDT	1.0	U	2.6	1.0	0.83	ug/L		09/09/13 20:21	50
4,4'-DDT	1.0	U	2.6	1.0	0.83	ug/L		09/09/13 20:21	50
Aldrin	0.021	U	0.031	0.021	0.0085	ug/L		08/23/13 21:14	1
Aldrin	1.0	U	1.6	1.0	0.43	ug/L		09/09/13 20:21	50
Aldrin	1.0	U	1.6	1.0	0.43	ug/L		09/09/13 20:21	50
alpha-BHC	0.021	U	0.031	0.021	0.0073	ug/L		08/23/13 21:14	1
alpha-BHC	1.0	U	1.6	1.0	0.36	ug/L		09/09/13 20:21	50
alpha-BHC	1.0	U	1.6	1.0	0.36	ug/L		09/09/13 20:21	50
alpha-Chlordane	0.021	U	0.052	0.021	0.015	ug/L		08/23/13 21:14	1
alpha-Chlordane	1.0	U	2.6	1.0	0.73	ug/L		09/09/13 20:21	50
alpha-Chlordane	1.0	U	2.6	1.0	0.73	ug/L		09/09/13 20:21	50
beta-BHC	0.021	U	0.052	0.021	0.0088	ug/L		08/23/13 21:14	1
beta-BHC	1.0	U	2.6	1.0	0.44	ug/L		09/09/13 20:21	50
beta-BHC	1.0	U	2.6	1.0	0.44	ug/L		09/09/13 20:21	50
delta-BHC	0.021	U	0.052	0.021	0.0091	ug/L		08/23/13 21:14	1
delta-BHC	1.0	U	2.6	1.0	0.45	ug/L		09/09/13 20:21	50
delta-BHC	1.0	U	2.6	1.0	0.45	ug/L		09/09/13 20:21	50
Dieldrin	0.021	U	0.031	0.021	0.0078	ug/L		08/23/13 21:14	1
Dieldrin	1.0	U	1.6	1.0	0.39	ug/L		09/09/13 20:21	50
Dieldrin	1.0	U	1.6	1.0	0.39	ug/L		09/09/13 20:21	50
Endosulfan I	0.021	U	0.052	0.021	0.014	ug/L		08/23/13 21:14	1
Endosulfan I	1.0	U	2.6	1.0	0.68	ug/L		09/09/13 20:21	50
Endosulfan I	1.0	U	2.6	1.0	0.68	ug/L		09/09/13 20:21	50
Endosulfan II	0.021	U	0.052	0.021	0.013	ug/L		08/23/13 21:14	1
Endosulfan II	1.0	U	2.6	1.0	0.62	ug/L		09/09/13 20:21	50
Endosulfan II	1.0	U	2.6	1.0	0.62	ug/L		09/09/13 20:21	50

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGLL3mw-238C-0359-GW

Lab Sample ID: 240-28110-11

Date Collected: 08/19/13 13:32

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8081/DOD - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Endosulfan sulfate	0.021	U	0.052	0.021	0.011	ug/L		08/23/13 21:14	1
Endosulfan sulfate	1.0	U	2.6	1.0	0.57	ug/L		09/09/13 20:21	50
Endosulfan sulfate	1.0	U	2.6	1.0	0.57	ug/L		09/09/13 20:21	50
Endrin	0.021	U	0.052	0.021	0.011	ug/L		08/23/13 21:14	1
Endrin	1.0	U	2.6	1.0	0.57	ug/L		09/09/13 20:21	50
Endrin	1.0	U	2.6	1.0	0.57	ug/L		09/09/13 20:21	50
Endrin aldehyde	0.011	J	0.052	0.021	0.011	ug/L		08/23/13 21:14	1
Endrin aldehyde	1.0	U	2.6	1.0	0.57	ug/L		09/09/13 20:21	50
Endrin aldehyde	1.0	U	2.6	1.0	0.57	ug/L		09/09/13 20:21	50
Endrin ketone	0.021	U	0.052	0.021	0.0081	ug/L		08/23/13 21:14	1
Endrin ketone	1.0	U	2.6	1.0	0.41	ug/L		09/09/13 20:21	50
Endrin ketone	1.0	U	2.6	1.0	0.41	ug/L		09/09/13 20:21	50
gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0067	ug/L		08/23/13 21:14	1
gamma-BHC (Lindane)	1.0	U	2.6	1.0	0.33	ug/L		09/09/13 20:21	50
gamma-BHC (Lindane)	1.0	U	2.6	1.0	0.33	ug/L		09/09/13 20:21	50
gamma-Chlordane	0.021	U	0.052	0.021	0.013	ug/L		08/23/13 21:14	1
gamma-Chlordane	1.0	U	2.6	1.0	0.62	ug/L		09/09/13 20:21	50
gamma-Chlordane	1.0	U	2.6	1.0	0.62	ug/L		09/09/13 20:21	50
Heptachlor	0.021	U	0.031	0.021	0.0083	ug/L		08/23/13 21:14	1
Heptachlor	1.0	U	1.6	1.0	0.42	ug/L		09/09/13 20:21	50
Heptachlor	1.0	U	1.6	1.0	0.42	ug/L		09/09/13 20:21	50
Heptachlor epoxide	1.0	U	1.6	1.0	0.37	ug/L		09/09/13 20:21	50
Heptachlor epoxide	1.0	U	1.6	1.0	0.37	ug/L		09/09/13 20:21	50
Methoxychlor	0.052	U	0.10	0.052	0.033	ug/L		08/23/13 21:14	1
Methoxychlor	2.6	U	5.2	2.6	1.7	ug/L		09/09/13 20:21	50
Methoxychlor	2.6	U	5.2	2.6	1.7	ug/L		09/09/13 20:21	50
Toxaphene	0.83	U	2.1	0.83	0.33	ug/L		08/23/13 21:14	1
Toxaphene	42	U	100	42	17	ug/L		09/09/13 20:21	50
Toxaphene	42	U	100	42	17	ug/L		09/09/13 20:21	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	37		30 - 135	08/20/13 11:25	08/23/13 21:14	1
DCB Decachlorobiphenyl	41		30 - 135	08/20/13 11:25	08/23/13 21:14	1
DCB Decachlorobiphenyl	0	Q	30 - 135	08/20/13 11:25	09/09/13 20:21	50
DCB Decachlorobiphenyl	0	Q	30 - 135	08/20/13 11:25	09/09/13 20:21	50
Tetrachloro-m-xylene	76		25 - 140	08/20/13 11:25	08/23/13 21:14	1
Tetrachloro-m-xylene	85		25 - 140	08/20/13 11:25	08/23/13 21:14	1
Tetrachloro-m-xylene	94		25 - 140	08/20/13 11:25	09/09/13 20:21	50
Tetrachloro-m-xylene	114		25 - 140	08/20/13 11:25	09/09/13 20:21	50

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 11:53	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 19:25	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 19:25	1
2,6-Dinitrotoluene	0.52	J M	0.14	0.11	0.053	ug/L		08/27/13 20:32	1
2-Amino-4,6-dinitrotoluene	19		0.16	0.11	0.016	ug/L		08/27/13 20:32	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGLL3mw-238C-0359-GW

Lab Sample ID: 240-28110-11

Date Collected: 08/19/13 13:32

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8330A - Nitroaromatics and Nitramines (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/27/13 20:32	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.061	ug/L		08/27/13 20:32	1
4-Nitrotoluene	0.53	M	0.53	0.11	0.094	ug/L		08/27/13 20:32	1
HMX	2.2	J M	0.16	0.053	0.038	ug/L		08/27/13 20:32	1
RDX	7.2		0.16	0.053	0.038	ug/L		08/27/13 20:32	1
Nitrobenzene	0.17	J	0.16	0.11	0.053	ug/L		08/27/13 20:32	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/27/13 20:32	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/27/13 20:32	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/27/13 20:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	157	M Q	79 - 111	08/23/13 08:00	08/27/13 20:32	1
3,4-Dinitrotoluene	102		79 - 111	08/23/13 08:00	08/28/13 19:25	1

## Method: 8330A - Nitroaromatics and Nitramines - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	30	D	0.80	0.27	0.17	ug/L		08/28/13 16:47	5
2,4,6-Trinitrotoluene	79	D	0.80	0.53	0.27	ug/L		08/28/13 16:47	5
4-Amino-2,6-dinitrotoluene	37	D	0.80	0.53	0.27	ug/L		08/28/13 16:47	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	163	Q	79 - 111	08/23/13 08:00	08/28/13 16:47	5
3,4-Dinitrotoluene	109		79 - 111	08/23/13 08:00	08/29/13 07:26	5

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:02	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGLL3mw-238C-0359-GF**

**Lab Sample ID: 240-28110-12**

**Date Collected: 08/19/13 13:32**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 09:57	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 09:57	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 09:57	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 09:57	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 09:57	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 09:57	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 09:57	1
Barium	7.9	J	200	5.0	2.8	ug/L		09/09/13 09:57	1
Calcium	51000		5000	1000	630	ug/L		09/09/13 09:57	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 09:57	1
Magnesium	5700		5000	300	120	ug/L		09/09/13 09:57	1
Manganese	2.6	J	15	5.0	1.8	ug/L		09/09/13 09:57	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 09:57	1
Potassium	2800	J	5000	900	300	ug/L		09/09/13 09:57	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	27	J	60	60	20	ug/L		09/09/13 13:19	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 13:19	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 13:19	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 13:19	1
Iron	100	U	150	100	44	ug/L		09/09/13 13:19	1
Sodium	3300		1000	400	160	ug/L		09/09/13 13:19	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 13:19	1
Zinc	50	U	50	50	27	ug/L		09/09/13 13:19	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:24	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGLL3mw-241C-0360-GW

Lab Sample ID: 240-28110-13

Date Collected: 08/19/13 14:28

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.57</b>	<b>J</b>	2.1	0.52	0.23	ug/L		08/29/13 15:04	1
Butyl benzyl phthalate	0.52	U	2.1	0.52	0.27	ug/L		08/29/13 15:04	1
Diethyl phthalate	1.0	U	2.1	1.0	0.62	ug/L		08/29/13 15:04	1
Dimethyl phthalate	0.52	U	2.1	0.52	0.30	ug/L		08/29/13 15:04	1
Di-n-butyl phthalate	1.0	U	2.1	1.0	0.69	ug/L		08/29/13 15:04	1
Di-n-octyl phthalate	0.52	U	2.1	0.52	0.24	ug/L		08/29/13 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		50 - 110	08/21/13 09:37	08/29/13 15:04	1
2-Fluorophenol (Surr)	59		20 - 110	08/21/13 09:37	08/29/13 15:04	1
Nitrobenzene-d5 (Surr)	61		40 - 110	08/21/13 09:37	08/29/13 15:04	1
Phenol-d5 (Surr)	71		10 - 115	08/21/13 09:37	08/29/13 15:04	1
Terphenyl-d14 (Surr)	85		50 - 135	08/21/13 09:37	08/29/13 15:04	1
2,4,6-Tribromophenol (Surr)	89		40 - 125	08/21/13 09:37	08/29/13 15:04	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U Q	0.048	0.019	0.0092	ug/L		08/23/13 21:34	1
4,4'-DDE	0.019	U	0.048	0.019	0.0093	ug/L		08/23/13 21:34	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 21:34	1
Aldrin	0.019	U	0.029	0.019	0.0079	ug/L		08/23/13 21:34	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 21:34	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 21:34	1
beta-BHC	0.019	U	0.048	0.019	0.0081	ug/L		08/23/13 21:34	1
<b>delta-BHC</b>	<b>0.038</b>	<b>J</b>	0.048	0.019	0.0084	ug/L		08/23/13 21:34	1
Dieldrin	0.019	U	0.029	0.019	0.0072	ug/L		08/23/13 21:34	1
Endosulfan I	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 21:34	1
Endosulfan II	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 21:34	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 21:34	1
<b>Endrin</b>	<b>0.027</b>	<b>J</b>	0.048	0.019	0.011	ug/L		08/23/13 21:34	1
Endrin aldehyde	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 21:34	1
Endrin ketone	0.019	U	0.048	0.019	0.0075	ug/L		08/23/13 21:34	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0062	ug/L		08/23/13 21:34	1
gamma-Chlordane	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 21:34	1
Heptachlor	0.019	U	0.029	0.019	0.0077	ug/L		08/23/13 21:34	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 21:34	1
Methoxychlor	0.048	U	0.096	0.048	0.031	ug/L		08/23/13 21:34	1
Toxaphene	0.77	U	1.9	0.77	0.31	ug/L		08/23/13 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	82		30 - 135	08/20/13 11:25	08/23/13 21:34	1
DCB Decachlorobiphenyl	97		30 - 135	08/20/13 11:25	08/23/13 21:34	1
Tetrachloro-m-xylene	82		25 - 140	08/20/13 11:25	08/23/13 21:34	1
Tetrachloro-m-xylene	88		25 - 140	08/20/13 11:25	08/23/13 21:34	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 12:29	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGLL3mw-241C-0360-GW

Lab Sample ID: 240-28110-13

Date Collected: 08/19/13 14:28

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	4.3		0.15	0.050	0.031	ug/L		08/27/13 22:00	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:00	1
2,4,6-Trinitrotoluene	3.3	M	0.15	0.10	0.050	ug/L		08/27/13 22:00	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/28/13 20:31	1
2,6-Dinitrotoluene	0.083	J M	0.13	0.10	0.050	ug/L		08/27/13 22:00	1
2-Amino-4,6-dinitrotoluene	2.9	M	0.15	0.10	0.015	ug/L		08/27/13 22:00	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/27/13 22:00	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.057	ug/L		08/27/13 22:00	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/28/13 20:31	1
4-Amino-2,6-dinitrotoluene	2.9	M	0.15	0.10	0.050	ug/L		08/27/13 22:00	1
HMX	0.39	J M	0.15	0.050	0.036	ug/L		08/27/13 22:00	1
RDX	0.98	M	0.15	0.050	0.036	ug/L		08/27/13 22:00	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:00	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:00	1
Nitroglycerin	0.50	U	0.66	0.50	0.33	ug/L		08/27/13 22:00	1
PETN	0.50	U	0.66	0.50	0.30	ug/L		08/27/13 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	128	M Q	79 - 111	08/23/13 08:00	08/27/13 22:00	1
3,4-Dinitrotoluene	97		79 - 111	08/23/13 08:00	08/28/13 20:31	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:04	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGLL3mw-241C-0360-GF**

**Lab Sample ID: 240-28110-14**

**Date Collected: 08/19/13 14:28**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 10:03	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:03	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 10:03	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:03	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:03	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:03	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:03	1
Barium	5.9	J	200	5.0	2.8	ug/L		09/09/13 10:03	1
Calcium	19000		5000	1000	630	ug/L		09/09/13 10:03	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:03	1
Magnesium	6500		5000	300	120	ug/L		09/09/13 10:03	1
Manganese	3.0	J	15	5.0	1.8	ug/L		09/09/13 10:03	1
Nickel	2.2	J	40	5.0	2.2	ug/L		09/09/13 10:03	1
Potassium	1000	J	5000	900	300	ug/L		09/09/13 10:03	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 13:26	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 13:26	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 13:26	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 13:26	1
Iron	100	U	150	100	44	ug/L		09/09/13 13:26	1
Sodium	3400		1000	400	160	ug/L		09/09/13 13:26	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 13:26	1
Zinc	50	U	50	50	27	ug/L		09/09/13 13:26	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:30	1

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## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGFWGmw-002-0317-GF**

**Lab Sample ID: 240-28110-15**

**Date Collected: 08/19/13 15:38**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

**Method: 6860 - Perchlorate by IC/MS or IC/MS/MS**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/06/13 15:57	1



## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGFWGmw-DUP2-0337-GF**

**Lab Sample ID: 240-28110-16**

**Date Collected: 08/19/13 15:58**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

**Method: 6860 - Perchlorate by IC/MS or IC/MS/MS**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/06/13 16:25	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGFWGmw-004-0346-GW

Lab Sample ID: 240-28110-17

Date Collected: 08/19/13 17:08

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.25</b>	<b>J</b>	2.1	0.53	0.23	ug/L		08/30/13 13:31	1
Butyl benzyl phthalate	0.53	U	2.1	0.53	0.27	ug/L		08/30/13 13:31	1
Diethyl phthalate	1.1	U	2.1	1.1	0.63	ug/L		08/30/13 13:31	1
Dimethyl phthalate	0.53	U	2.1	0.53	0.31	ug/L		08/30/13 13:31	1
Di-n-butyl phthalate	1.1	U	2.1	1.1	0.71	ug/L		08/30/13 13:31	1
Di-n-octyl phthalate	0.53	U	2.1	0.53	0.24	ug/L		08/30/13 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	56		50 - 110	08/21/13 09:37	08/30/13 13:31	1
2-Fluorophenol (Surr)	52		20 - 110	08/21/13 09:37	08/30/13 13:31	1
Nitrobenzene-d5 (Surr)	56		40 - 110	08/21/13 09:37	08/30/13 13:31	1
Phenol-d5 (Surr)	59		10 - 115	08/21/13 09:37	08/30/13 13:31	1
Terphenyl-d14 (Surr)	68		50 - 135	08/21/13 09:37	08/30/13 13:31	1
2,4,6-Tribromophenol (Surr)	79		40 - 125	08/21/13 09:37	08/30/13 13:31	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U Q	0.053	0.021	0.010	ug/L		08/23/13 21:54	1
4,4'-DDE	0.021	U	0.053	0.021	0.010	ug/L		08/23/13 21:54	1
4,4'-DDT	0.021	U	0.053	0.021	0.017	ug/L		08/23/13 21:54	1
Aldrin	0.021	U	0.032	0.021	0.0087	ug/L		08/23/13 21:54	1
alpha-BHC	0.021	U	0.032	0.021	0.0074	ug/L		08/23/13 21:54	1
alpha-Chlordane	0.021	U	0.053	0.021	0.015	ug/L		08/23/13 21:54	1
beta-BHC	0.021	U	0.053	0.021	0.0089	ug/L		08/23/13 21:54	1
<b>delta-BHC</b>	<b>0.038</b>	<b>J</b>	0.053	0.021	0.0093	ug/L		08/23/13 21:54	1
Dieldrin	0.021	U	0.032	0.021	0.0080	ug/L		08/23/13 21:54	1
Endosulfan I	0.021	U	0.053	0.021	0.014	ug/L		08/23/13 21:54	1
Endosulfan II	0.021	U	0.053	0.021	0.013	ug/L		08/23/13 21:54	1
Endosulfan sulfate	0.021	U	0.053	0.021	0.012	ug/L		08/23/13 21:54	1
Endrin	0.021	U	0.053	0.021	0.012	ug/L		08/23/13 21:54	1
Endrin aldehyde	0.021	U	0.053	0.021	0.012	ug/L		08/23/13 21:54	1
Endrin ketone	0.021	U	0.053	0.021	0.0083	ug/L		08/23/13 21:54	1
gamma-BHC (Lindane)	0.021	U	0.053	0.021	0.0068	ug/L		08/23/13 21:54	1
gamma-Chlordane	0.021	U	0.053	0.021	0.013	ug/L		08/23/13 21:54	1
Heptachlor	0.021	U	0.032	0.021	0.0085	ug/L		08/23/13 21:54	1
Heptachlor epoxide	0.021	U	0.032	0.021	0.0076	ug/L		08/23/13 21:54	1
Methoxychlor	0.053	U	0.11	0.053	0.034	ug/L		08/23/13 21:54	1
Toxaphene	0.85	U	2.1	0.85	0.34	ug/L		08/23/13 21:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	30		30 - 135	08/20/13 11:25	08/23/13 21:54	1
DCB Decachlorobiphenyl	33		30 - 135	08/20/13 11:25	08/23/13 21:54	1
Tetrachloro-m-xylene	72		25 - 140	08/20/13 11:25	08/23/13 21:54	1
Tetrachloro-m-xylene	77		25 - 140	08/20/13 11:25	08/23/13 21:54	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 12:46	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGFWGmw-004-0346-GW

Lab Sample ID: 240-28110-17

Date Collected: 08/19/13 17:08

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.050	U	0.15	0.050	0.031	ug/L		08/27/13 22:43	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:43	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:43	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/27/13 22:43	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/27/13 22:43	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/27/13 22:43	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/27/13 22:43	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.058	ug/L		08/27/13 22:43	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/27/13 22:43	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:43	1
HMX	0.050	U	0.15	0.050	0.036	ug/L		08/27/13 22:43	1
RDX	0.050	U	0.15	0.050	0.036	ug/L		08/27/13 22:43	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:43	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		08/27/13 22:43	1
Nitroglycerin	0.50	U	0.66	0.50	0.33	ug/L		08/27/13 22:43	1
PETN	0.50	U	0.66	0.50	0.30	ug/L		08/27/13 22:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90		79 - 111	08/23/13 08:00	08/27/13 22:43	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/22/13 14:08	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:06	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGFWGmw-004-0346-GF**

**Lab Sample ID: 240-28110-18**

**Date Collected: 08/19/13 17:08**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 10:09	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:09	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 10:09	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:09	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:09	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:09	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:09	1
Barium	23	J	200	5.0	2.8	ug/L		09/09/13 10:09	1
Calcium	96000		5000	1000	630	ug/L		09/09/13 10:09	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:09	1
Magnesium	47000		5000	300	120	ug/L		09/09/13 10:09	1
Manganese	2.4	J	15	5.0	1.8	ug/L		09/09/13 10:09	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 10:09	1
Potassium	710	J	5000	900	300	ug/L		09/09/13 10:09	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 13:34	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 13:34	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 13:34	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 13:34	1
Iron	100	U	150	100	44	ug/L		09/09/13 13:34	1
Sodium	4700		1000	400	160	ug/L		09/09/13 13:34	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 13:34	1
Zinc	50	U	50	50	27	ug/L		09/09/13 13:34	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:32	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGTEAM3-TRIP**

**Lab Sample ID: 240-28110-19**

**Date Collected: 08/19/13 11:00**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:23	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:23	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 15:23	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:23	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:23	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:23	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 15:23	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:23	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 15:23	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:23	1
<b>Acetone</b>	<b>1.1</b>	<b>J</b>	10	1.1	1.1	ug/L		08/28/13 15:23	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:23	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 15:23	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 15:23	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:23	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:23	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:23	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:23	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 15:23	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 15:23	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:23	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 15:23	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:23	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:23	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 15:23	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 15:23	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 15:23	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 15:23	1
<b>Methylene Chloride</b>	<b>0.52</b>	<b>J</b>	1.0	0.50	0.33	ug/L		08/28/13 15:23	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 15:23	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 15:23	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:23	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:23	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:23	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:23	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:23	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:23	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 15:23	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 120		08/28/13 15:23	1
4-Bromofluorobenzene (Surr)	93		75 - 120		08/28/13 15:23	1
Toluene-d8 (Surr)	89		85 - 120		08/28/13 15:23	1
Dibromofluoromethane (Surr)	103		85 - 115		08/28/13 15:23	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-009C-0371-GW

Lab Sample ID: 240-28110-20

Date Collected: 08/19/13 13:23

Matrix: Water

Date Received: 08/20/13 08:03

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:45	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:45	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 15:45	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:45	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:45	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:45	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 15:45	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:45	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 15:45	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:45	1
Acetone	3.2	J	10	1.1	1.1	ug/L		08/28/13 15:45	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:45	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 15:45	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 15:45	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:45	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:45	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:45	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:45	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 15:45	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 15:45	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:45	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 15:45	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 15:45	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:45	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 15:45	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 15:45	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 15:45	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 15:45	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 15:45	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 15:45	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 15:45	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 15:45	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 15:45	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:45	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 15:45	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 15:45	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 15:45	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 15:45	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 120		08/28/13 15:45	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/28/13 15:45	1
Toluene-d8 (Surr)	88		85 - 120		08/28/13 15:45	1
Dibromofluoromethane (Surr)	103		85 - 115		08/28/13 15:45	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 15:30	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		08/29/13 15:30	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-009C-0371-GW

Lab Sample ID: 240-28110-20

Date Collected: 08/19/13 13:23

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		08/29/13 15:30	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		08/29/13 15:30	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		08/29/13 15:30	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		08/29/13 15:30	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		08/29/13 15:30	1
Benzoic acid	19	U	24	19	9.5	ug/L		08/29/13 15:30	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		08/29/13 15:30	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		08/29/13 15:30	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		08/29/13 15:30	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		08/29/13 15:30	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.37</b>	<b>J</b>	1.9	0.48	0.21	ug/L		08/29/13 15:30	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 15:30	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/29/13 15:30	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		08/29/13 15:30	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 15:30	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 15:30	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		08/29/13 15:30	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		08/29/13 15:30	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		08/29/13 15:30	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		08/29/13 15:30	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 15:30	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		08/29/13 15:30	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		08/29/13 15:30	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		08/29/13 15:30	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		08/29/13 15:30	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		08/29/13 15:30	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		08/29/13 15:30	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/29/13 15:30	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		08/29/13 15:30	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/29/13 15:30	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/29/13 15:30	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		08/29/13 15:30	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		08/29/13 15:30	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/29/13 15:30	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 15:30	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		08/29/13 15:30	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		08/29/13 15:30	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		08/29/13 15:30	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		08/29/13 15:30	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		08/29/13 15:30	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		08/29/13 15:30	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		08/29/13 15:30	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		08/29/13 15:30	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		08/29/13 15:30	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		08/29/13 15:30	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		08/29/13 15:30	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 15:30	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 15:30	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 15:30	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-009C-0371-GW

Lab Sample ID: 240-28110-20

Date Collected: 08/19/13 13:23

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 15:30	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		08/29/13 15:30	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		08/29/13 15:30	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		08/29/13 15:30	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		08/29/13 15:30	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		08/29/13 15:30	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		08/29/13 15:30	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		08/29/13 15:30	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		08/29/13 15:30	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		08/29/13 15:30	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		08/29/13 15:30	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		08/29/13 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	73		50 - 110	08/21/13 09:37	08/29/13 15:30	1
2-Fluorophenol (Surr)	75		20 - 110	08/21/13 09:37	08/29/13 15:30	1
Nitrobenzene-d5 (Surr)	75		40 - 110	08/21/13 09:37	08/29/13 15:30	1
Phenol-d5 (Surr)	80		10 - 115	08/21/13 09:37	08/29/13 15:30	1
Terphenyl-d14 (Surr)	81		50 - 135	08/21/13 09:37	08/29/13 15:30	1
2,4,6-Tribromophenol (Surr)	98		40 - 125	08/21/13 09:37	08/29/13 15:30	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U Q	0.048	0.019	0.0091	ug/L		08/23/13 22:15	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/23/13 22:15	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 22:15	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/23/13 22:15	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 22:15	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 22:15	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/23/13 22:15	1
delta-BHC	0.019	J	0.048	0.019	0.0083	ug/L		08/23/13 22:15	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/23/13 22:15	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 22:15	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 22:15	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:15	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:15	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:15	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/23/13 22:15	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/23/13 22:15	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 22:15	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/23/13 22:15	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 22:15	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/23/13 22:15	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/23/13 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	40		30 - 135	08/20/13 11:25	08/23/13 22:15	1
DCB Decachlorobiphenyl	44		30 - 135	08/20/13 11:25	08/23/13 22:15	1
Tetrachloro-m-xylene	79		25 - 140	08/20/13 11:25	08/23/13 22:15	1
Tetrachloro-m-xylene	86		25 - 140	08/20/13 11:25	08/23/13 22:15	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-009C-0371-GW

Lab Sample ID: 240-28110-20

Date Collected: 08/19/13 13:23

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 01:51	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/29/13 01:51	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 01:51	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/29/13 01:51	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/29/13 01:51	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 01:51	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 01:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		40 - 140	08/20/13 11:31	08/29/13 01:51	1
Tetrachloro-m-xylene	84		40 - 140	08/20/13 11:31	08/29/13 01:51	1
DCB Decachlorobiphenyl	29	Q	40 - 135	08/20/13 11:31	08/29/13 01:51	1
DCB Decachlorobiphenyl	23	Q	40 - 135	08/20/13 11:31	08/29/13 01:51	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 13:04	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/27/13 23:27	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 23:27	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 23:27	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/27/13 23:27	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/27/13 23:27	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/27/13 23:27	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/27/13 23:27	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.059	ug/L		08/27/13 23:27	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/27/13 23:27	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 23:27	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/27/13 23:27	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/27/13 23:27	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 23:27	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/27/13 23:27	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/27/13 23:27	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/27/13 23:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	89		79 - 111	08/23/13 08:00	08/27/13 23:27	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:36	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:08	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-009C-0371-GF**

**Lab Sample ID: 240-28110-21**

**Date Collected: 08/19/13 13:23**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	43		10	10	3.3	ug/L		09/09/13 10:15	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:15	1
Cobalt	6.0	J	7.0	4.0	1.5	ug/L		09/09/13 10:15	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:15	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:15	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:15	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:15	1
Barium	53	J	200	5.0	2.8	ug/L		09/09/13 10:15	1
Calcium	30000		5000	1000	630	ug/L		09/09/13 10:15	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:15	1
Magnesium	39000		5000	300	120	ug/L		09/09/13 10:15	1
Manganese	1500		15	5.0	1.8	ug/L		09/09/13 10:15	1
Nickel	6.8	J	40	5.0	2.2	ug/L		09/09/13 10:15	1
Potassium	4200	J	5000	900	300	ug/L		09/09/13 10:15	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 13:41	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 13:41	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 13:41	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 13:41	1
Iron	13000		150	100	44	ug/L		09/09/13 13:41	1
Sodium	1700		1000	400	160	ug/L		09/09/13 13:41	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 13:41	1
Zinc	50	U	50	50	27	ug/L		09/09/13 13:41	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:34	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-DUP5-0377-GW

Lab Sample ID: 240-28110-22

Date Collected: 08/19/13 14:23

Matrix: Water

Date Received: 08/20/13 08:03

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:07	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:07	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 16:07	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:07	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:07	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:07	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 16:07	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:07	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 16:07	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:07	1
Acetone	1.8	J	10	1.1	1.1	ug/L		08/28/13 16:07	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:07	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 16:07	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 16:07	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:07	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:07	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:07	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:07	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 16:07	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 16:07	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:07	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 16:07	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:07	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:07	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 16:07	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 16:07	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 16:07	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 16:07	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 16:07	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 16:07	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 16:07	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:07	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:07	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:07	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:07	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:07	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:07	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 16:07	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 120		08/28/13 16:07	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/28/13 16:07	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 16:07	1
Dibromofluoromethane (Surr)	95		85 - 115		08/28/13 16:07	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 15:55	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		08/29/13 15:55	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-DUP5-0377-GW

Lab Sample ID: 240-28110-22

Date Collected: 08/19/13 14:23

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		08/29/13 15:55	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		08/29/13 15:55	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		08/29/13 15:55	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		08/29/13 15:55	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		08/29/13 15:55	1
Benzoic acid	19	U	24	19	9.5	ug/L		08/29/13 15:55	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		08/29/13 15:55	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		08/29/13 15:55	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		08/29/13 15:55	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		08/29/13 15:55	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.32</b>	<b>J</b>	1.9	0.48	0.21	ug/L		08/29/13 15:55	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 15:55	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/29/13 15:55	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		08/29/13 15:55	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 15:55	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 15:55	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		08/29/13 15:55	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		08/29/13 15:55	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		08/29/13 15:55	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		08/29/13 15:55	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 15:55	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		08/29/13 15:55	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		08/29/13 15:55	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		08/29/13 15:55	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		08/29/13 15:55	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		08/29/13 15:55	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		08/29/13 15:55	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/29/13 15:55	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		08/29/13 15:55	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/29/13 15:55	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/29/13 15:55	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		08/29/13 15:55	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		08/29/13 15:55	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/29/13 15:55	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		08/29/13 15:55	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		08/29/13 15:55	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		08/29/13 15:55	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		08/29/13 15:55	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		08/29/13 15:55	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		08/29/13 15:55	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		08/29/13 15:55	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		08/29/13 15:55	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		08/29/13 15:55	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		08/29/13 15:55	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		08/29/13 15:55	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		08/29/13 15:55	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 15:55	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 15:55	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 15:55	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-DUP5-0377-GW

Lab Sample ID: 240-28110-22

Date Collected: 08/19/13 14:23

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 15:55	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		08/29/13 15:55	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		08/29/13 15:55	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		08/29/13 15:55	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		08/29/13 15:55	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		08/29/13 15:55	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		08/29/13 15:55	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		08/29/13 15:55	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		08/29/13 15:55	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		08/29/13 15:55	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		08/29/13 15:55	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		08/29/13 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	59		50 - 110	08/21/13 09:37	08/29/13 15:55	1
2-Fluorophenol (Surr)	56		20 - 110	08/21/13 09:37	08/29/13 15:55	1
Nitrobenzene-d5 (Surr)	59		40 - 110	08/21/13 09:37	08/29/13 15:55	1
Phenol-d5 (Surr)	63		10 - 115	08/21/13 09:37	08/29/13 15:55	1
Terphenyl-d14 (Surr)	89		50 - 135	08/21/13 09:37	08/29/13 15:55	1
2,4,6-Tribromophenol (Surr)	98		40 - 125	08/21/13 09:37	08/29/13 15:55	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U Q	0.048	0.019	0.0091	ug/L		08/23/13 22:35	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/23/13 22:35	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 22:35	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/23/13 22:35	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 22:35	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 22:35	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/23/13 22:35	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/23/13 22:35	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/23/13 22:35	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 22:35	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 22:35	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:35	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:35	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:35	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/23/13 22:35	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/23/13 22:35	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 22:35	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/23/13 22:35	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 22:35	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/23/13 22:35	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/23/13 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	37		30 - 135	08/20/13 11:25	08/23/13 22:35	1
DCB Decachlorobiphenyl	38		30 - 135	08/20/13 11:25	08/23/13 22:35	1
Tetrachloro-m-xylene	76	M	25 - 140	08/20/13 11:25	08/23/13 22:35	1
Tetrachloro-m-xylene	81		25 - 140	08/20/13 11:25	08/23/13 22:35	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-DUP5-0377-GW

Lab Sample ID: 240-28110-22

Date Collected: 08/19/13 14:23

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 02:36	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/29/13 02:36	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 02:36	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/29/13 02:36	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/29/13 02:36	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 02:36	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 02:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		40 - 140	08/20/13 11:31	08/29/13 02:36	1
Tetrachloro-m-xylene	86		40 - 140	08/20/13 11:31	08/29/13 02:36	1
DCB Decachlorobiphenyl	29	Q	40 - 135	08/20/13 11:31	08/29/13 02:36	1
DCB Decachlorobiphenyl	29	Q	40 - 135	08/20/13 11:31	08/29/13 02:36	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 13:22	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.031	ug/L		08/28/13 00:10	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:10	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:10	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 00:10	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 00:10	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/28/13 00:10	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		08/28/13 00:10	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/28/13 00:10	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		08/28/13 00:10	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:10	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 00:10	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 00:10	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:10	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:10	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/28/13 00:10	1
PETN	0.51	U	0.66	0.51	0.30	ug/L		08/28/13 00:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	89	M	79 - 111	08/23/13 08:00	08/28/13 00:10	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:36	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:10	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-DUP5-0377-GF**

**Lab Sample ID: 240-28110-23**

**Date Collected: 08/19/13 14:23**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	39		10	10	3.3	ug/L		09/09/13 10:21	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:21	1
Cobalt	4.8	J	7.0	4.0	1.5	ug/L		09/09/13 10:21	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:21	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:21	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:21	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:21	1
Barium	49	J	200	5.0	2.8	ug/L		09/09/13 10:21	1
Calcium	28000		5000	1000	630	ug/L		09/09/13 10:21	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:21	1
Magnesium	36000		5000	300	120	ug/L		09/09/13 10:21	1
Manganese	1400		15	5.0	1.8	ug/L		09/09/13 10:21	1
Nickel	5.4	J	40	5.0	2.2	ug/L		09/09/13 10:21	1
Potassium	4000	J	5000	900	300	ug/L		09/09/13 10:21	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 13:49	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 13:49	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 13:49	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 13:49	1
Iron	12000		150	100	44	ug/L		09/09/13 13:49	1
Sodium	1700		1000	400	160	ug/L		09/09/13 13:49	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 13:49	1
Zinc	50	U	50	50	27	ug/L		09/09/13 13:49	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:36	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-006C-0368-GW**

**Lab Sample ID: 240-28110-24**

**Date Collected: 08/19/13 16:19**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:29	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:29	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 16:29	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:29	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:29	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:29	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 16:29	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:29	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 16:29	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:29	1
Acetone	3.4	J	10	1.1	1.1	ug/L		08/28/13 16:29	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:29	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 16:29	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 16:29	1
Carbon disulfide	0.16	J	1.0	0.25	0.13	ug/L		08/28/13 16:29	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:29	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:29	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:29	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 16:29	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 16:29	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:29	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 16:29	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:29	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:29	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 16:29	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 16:29	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 16:29	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 16:29	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 16:29	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 16:29	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 16:29	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:29	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:29	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:29	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:29	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:29	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:29	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 16:29	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 120		08/28/13 16:29	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/28/13 16:29	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 16:29	1
Dibromofluoromethane (Surr)	100		85 - 115		08/28/13 16:29	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.096	U	0.19	0.096	0.043	ug/L		08/29/13 16:21	1
Acenaphthylene	0.096	U	0.19	0.096	0.046	ug/L		08/29/13 16:21	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-006C-0368-GW

Lab Sample ID: 240-28110-24

Date Collected: 08/19/13 16:19

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.096	U	0.19	0.096	0.085	ug/L		08/29/13 16:21	1
Benzo[a]anthracene	0.096	U	0.19	0.096	0.028	ug/L		08/29/13 16:21	1
Benzo[a]pyrene	0.096	U	0.19	0.096	0.049	ug/L		08/29/13 16:21	1
Benzo[b]fluoranthene	0.096	U	0.19	0.096	0.038	ug/L		08/29/13 16:21	1
Benzo[g,h,i]perylene	0.096	U	0.19	0.096	0.045	ug/L		08/29/13 16:21	1
Benzoic acid	19	U	24	19	9.6	ug/L		08/29/13 16:21	1
Benzo[k]fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		08/29/13 16:21	1
Benzyl alcohol	0.48	U	4.8	0.48	0.37	ug/L		08/29/13 16:21	1
Bis(2-chloroethoxy)methane	0.48	U	0.96	0.48	0.31	ug/L		08/29/13 16:21	1
Bis(2-chloroethyl)ether	0.096	U	0.96	0.096	0.096	ug/L		08/29/13 16:21	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.51</b>	<b>J</b>	1.9	0.48	0.21	ug/L		08/29/13 16:21	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 16:21	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/29/13 16:21	1
Carbazole	0.48	U	0.96	0.48	0.27	ug/L		08/29/13 16:21	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 16:21	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 16:21	1
2-Chloronaphthalene	0.48	U	0.96	0.48	0.096	ug/L		08/29/13 16:21	1
2-Chlorophenol	0.48	U	0.96	0.48	0.28	ug/L		08/29/13 16:21	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		08/29/13 16:21	1
Chrysene	0.096	U	0.19	0.096	0.048	ug/L		08/29/13 16:21	1
Dibenz(a,h)anthracene	0.096	U	0.19	0.096	0.043	ug/L		08/29/13 16:21	1
Dibenzofuran	0.096	U	0.96	0.096	0.019	ug/L		08/29/13 16:21	1
1,2-Dichlorobenzene	0.48	U	0.96	0.48	0.28	ug/L		08/29/13 16:21	1
1,3-Dichlorobenzene	0.48	U	0.96	0.48	0.22	ug/L		08/29/13 16:21	1
1,4-Dichlorobenzene	0.48	U	0.96	0.48	0.33	ug/L		08/29/13 16:21	1
3,3'-Dichlorobenzidine	0.96	U	4.8	0.96	0.36	ug/L		08/29/13 16:21	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		08/29/13 16:21	1
Diethyl phthalate	0.96	U	1.9	0.96	0.58	ug/L		08/29/13 16:21	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		08/29/13 16:21	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/29/13 16:21	1
Di-n-butyl phthalate	0.96	U	1.9	0.96	0.64	ug/L		08/29/13 16:21	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		08/29/13 16:21	1
2,4-Dinitrophenol	0.96	U	4.8	0.96	0.31	ug/L		08/29/13 16:21	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/29/13 16:21	1
Fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		08/29/13 16:21	1
Fluorene	0.096	U	0.19	0.096	0.039	ug/L		08/29/13 16:21	1
Hexachlorobenzene	0.096	U	0.19	0.096	0.082	ug/L		08/29/13 16:21	1
Hexachlorobutadiene	0.48	U	0.96	0.48	0.26	ug/L		08/29/13 16:21	1
Hexachlorocyclopentadiene	0.48	U	9.6	0.48	0.23	ug/L		08/29/13 16:21	1
Hexachloroethane	0.48	U	0.96	0.48	0.18	ug/L		08/29/13 16:21	1
Indeno[1,2,3-cd]pyrene	0.096	U	0.19	0.096	0.042	ug/L		08/29/13 16:21	1
Isophorone	0.48	U	0.96	0.48	0.26	ug/L		08/29/13 16:21	1
2-Methylnaphthalene	0.096	U	0.19	0.096	0.087	ug/L		08/29/13 16:21	1
2-Methylphenol	0.48	U	0.96	0.48	0.16	ug/L		08/29/13 16:21	1
3 & 4 Methylphenol	0.96	U	1.9	0.96	0.77	ug/L		08/29/13 16:21	1
Naphthalene	0.096	U	0.19	0.096	0.060	ug/L		08/29/13 16:21	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/29/13 16:21	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 16:21	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		08/29/13 16:21	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-006C-0368-GW

Lab Sample ID: 240-28110-24

Date Collected: 08/19/13 16:19

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		08/29/13 16:21	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		08/29/13 16:21	1
N-Nitrosodi-n-propylamine	0.48	U	0.96	0.48	0.23	ug/L		08/29/13 16:21	1
N-Nitrosodiphenylamine	0.48	U	0.96	0.48	0.30	ug/L		08/29/13 16:21	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.96	0.48	0.38	ug/L		08/29/13 16:21	1
Pentachlorophenol	0.96	U	4.8	0.96	0.26	ug/L		08/29/13 16:21	1
Phenanthrene	0.096	U	0.19	0.096	0.060	ug/L		08/29/13 16:21	1
Phenol	0.96	U	0.96	0.96	0.58	ug/L		08/29/13 16:21	1
Pyrene	0.096	U	0.19	0.096	0.040	ug/L		08/29/13 16:21	1
1,2,4-Trichlorobenzene	0.48	U	0.96	0.48	0.27	ug/L		08/29/13 16:21	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		08/29/13 16:21	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		08/29/13 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	67		50 - 110	08/21/13 09:37	08/29/13 16:21	1
2-Fluorophenol (Surr)	65		20 - 110	08/21/13 09:37	08/29/13 16:21	1
Nitrobenzene-d5 (Surr)	66		40 - 110	08/21/13 09:37	08/29/13 16:21	1
Phenol-d5 (Surr)	72		10 - 115	08/21/13 09:37	08/29/13 16:21	1
Terphenyl-d14 (Surr)	90		50 - 135	08/21/13 09:37	08/29/13 16:21	1
2,4,6-Tribromophenol (Surr)	91		40 - 125	08/21/13 09:37	08/29/13 16:21	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U Q	0.048	0.019	0.0091	ug/L		08/23/13 22:56	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/23/13 22:56	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 22:56	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/23/13 22:56	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 22:56	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 22:56	1
beta-BHC	0.013	J	0.048	0.019	0.0080	ug/L		08/23/13 22:56	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/23/13 22:56	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/23/13 22:56	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 22:56	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 22:56	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:56	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:56	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/23/13 22:56	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/23/13 22:56	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/23/13 22:56	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 22:56	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/23/13 22:56	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 22:56	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/23/13 22:56	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/23/13 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	40		30 - 135	08/20/13 11:25	08/23/13 22:56	1
DCB Decachlorobiphenyl	42		30 - 135	08/20/13 11:25	08/23/13 22:56	1
Tetrachloro-m-xylene	69		25 - 140	08/20/13 11:25	08/23/13 22:56	1
Tetrachloro-m-xylene	81		25 - 140	08/20/13 11:25	08/23/13 22:56	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGRQLmw-006C-0368-GW

Lab Sample ID: 240-28110-24

Date Collected: 08/19/13 16:19

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 02:50	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/29/13 02:50	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 02:50	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/29/13 02:50	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/29/13 02:50	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 02:50	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 02:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	80		40 - 140	08/20/13 11:31	08/29/13 02:50	1
Tetrachloro-m-xylene	87		40 - 140	08/20/13 11:31	08/29/13 02:50	1
DCB Decachlorobiphenyl	32	Q	40 - 135	08/20/13 11:31	08/29/13 02:50	1
DCB Decachlorobiphenyl	29	Q	40 - 135	08/20/13 11:31	08/29/13 02:50	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 13:39	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/28/13 00:54	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/29/13 00:53	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:54	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 00:54	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 00:54	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/28/13 00:54	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 00:54	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/28/13 00:54	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 00:54	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:54	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 00:54	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 00:54	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 00:54	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/29/13 00:53	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/28/13 00:54	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/28/13 00:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	87	M	79 - 111	08/23/13 08:00	08/28/13 00:54	1
3,4-Dinitrotoluene	94		79 - 111	08/23/13 08:00	08/29/13 00:53	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:31	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:12	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

**Client Sample ID: FWGRQLmw-006C-0368-GF**

**Lab Sample ID: 240-28110-25**

**Date Collected: 08/19/13 16:19**

**Matrix: Water**

**Date Received: 08/20/13 08:03**

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/06/13 19:16	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	13		10	10	3.3	ug/L		09/09/13 10:27	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:27	1
Cobalt	9.2		7.0	4.0	1.5	ug/L		09/09/13 10:27	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:27	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:27	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:27	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:27	1
Barium	7.9	J	200	5.0	2.8	ug/L		09/09/13 10:27	1
Calcium	62000		5000	1000	630	ug/L		09/09/13 10:27	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:27	1
Magnesium	28000		5000	300	120	ug/L		09/09/13 10:27	1
Manganese	6800		15	5.0	1.8	ug/L		09/09/13 10:27	1
Nickel	19	J	40	5.0	2.2	ug/L		09/09/13 10:27	1
Potassium	1000	J	5000	900	300	ug/L		09/09/13 10:27	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 13:56	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 13:56	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 13:56	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 13:56	1
Iron	54000		150	100	44	ug/L		09/09/13 13:56	1
Sodium	1500		1000	400	160	ug/L		09/09/13 13:56	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 13:56	1
Zinc	50	U	50	50	27	ug/L		09/09/13 13:56	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:38	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGEQUIPRINSE1-0340-GW

Lab Sample ID: 240-28110-26

Date Collected: 08/19/13 17:53

Matrix: Water

Date Received: 08/20/13 08:03

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:52	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:52	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 16:52	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:52	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:52	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:52	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 16:52	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:52	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 16:52	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:52	1
Acetone	19		10	1.1	1.1	ug/L		08/28/13 16:52	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:52	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 16:52	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 16:52	1
Carbon disulfide	0.13	J	1.0	0.25	0.13	ug/L		08/28/13 16:52	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 16:52	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:52	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:52	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 16:52	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 16:52	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:52	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 16:52	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 16:52	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:52	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 16:52	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 16:52	1
2-Butanone (MEK)	1.5	J	10	0.57	0.57	ug/L		08/28/13 16:52	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 16:52	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 16:52	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 16:52	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 16:52	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 16:52	1
Toluene	0.14	J	1.0	0.25	0.13	ug/L		08/28/13 16:52	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:52	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 16:52	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 16:52	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 16:52	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 16:52	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 120		08/28/13 16:52	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/28/13 16:52	1
Toluene-d8 (Surr)	88		85 - 120		08/28/13 16:52	1
Dibromofluoromethane (Surr)	101		85 - 115		08/28/13 16:52	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		08/30/13 13:05	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		08/30/13 13:05	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGEQUIPRINSE1-0340-GW

Lab Sample ID: 240-28110-26

Date Collected: 08/19/13 17:53

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		08/30/13 13:05	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		08/30/13 13:05	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		08/30/13 13:05	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		08/30/13 13:05	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		08/30/13 13:05	1
Benzoic acid	19	U M	24	19	9.5	ug/L		08/30/13 13:05	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		08/30/13 13:05	1
<b>Benzyl alcohol</b>	<b>0.44</b>	<b>J</b>	4.8	0.48	0.36	ug/L		08/30/13 13:05	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		08/30/13 13:05	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		08/30/13 13:05	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.38</b>	<b>J</b>	1.9	0.48	0.21	ug/L		08/30/13 13:05	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		08/30/13 13:05	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/30/13 13:05	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		08/30/13 13:05	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/30/13 13:05	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		08/30/13 13:05	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		08/30/13 13:05	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		08/30/13 13:05	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		08/30/13 13:05	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		08/30/13 13:05	1
Dibenz[a,h]anthracene	0.095	U	0.19	0.095	0.042	ug/L		08/30/13 13:05	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		08/30/13 13:05	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		08/30/13 13:05	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		08/30/13 13:05	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		08/30/13 13:05	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		08/30/13 13:05	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		08/30/13 13:05	1
<b>Diethyl phthalate</b>	<b>1.3</b>	<b>J</b>	1.9	0.95	0.57	ug/L		08/30/13 13:05	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		08/30/13 13:05	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/30/13 13:05	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/30/13 13:05	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		08/30/13 13:05	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		08/30/13 13:05	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/30/13 13:05	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		08/30/13 13:05	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		08/30/13 13:05	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		08/30/13 13:05	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		08/30/13 13:05	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		08/30/13 13:05	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		08/30/13 13:05	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		08/30/13 13:05	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		08/30/13 13:05	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		08/30/13 13:05	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		08/30/13 13:05	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		08/30/13 13:05	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		08/30/13 13:05	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		08/30/13 13:05	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		08/30/13 13:05	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		08/30/13 13:05	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGEQUIPRINSE1-0340-GW

Lab Sample ID: 240-28110-26

Date Collected: 08/19/13 17:53

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		08/30/13 13:05	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		08/30/13 13:05	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		08/30/13 13:05	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		08/30/13 13:05	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		08/30/13 13:05	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		08/30/13 13:05	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		08/30/13 13:05	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		08/30/13 13:05	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		08/30/13 13:05	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		08/30/13 13:05	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		08/30/13 13:05	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		08/30/13 13:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	51		50 - 110	08/21/13 09:37	08/30/13 13:05	1
2-Fluorophenol (Surr)	52		20 - 110	08/21/13 09:37	08/30/13 13:05	1
Nitrobenzene-d5 (Surr)	53		40 - 110	08/21/13 09:37	08/30/13 13:05	1
Phenol-d5 (Surr)	55		10 - 115	08/21/13 09:37	08/30/13 13:05	1
Terphenyl-d14 (Surr)	87		50 - 135	08/21/13 09:37	08/30/13 13:05	1
2,4,6-Tribromophenol (Surr)	71		40 - 125	08/21/13 09:37	08/30/13 13:05	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U Q	0.048	0.019	0.0092	ug/L		08/23/13 23:16	1
4,4'-DDE	0.019	U	0.048	0.019	0.0093	ug/L		08/23/13 23:16	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/23/13 23:16	1
Aldrin	0.019	U	0.029	0.019	0.0079	ug/L		08/23/13 23:16	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/23/13 23:16	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 23:16	1
beta-BHC	0.018	J	0.048	0.019	0.0081	ug/L		08/23/13 23:16	1
delta-BHC	0.019	U	0.048	0.019	0.0084	ug/L		08/23/13 23:16	1
Dieldrin	0.019	U	0.029	0.019	0.0072	ug/L		08/23/13 23:16	1
Endosulfan I	0.019	U	0.048	0.019	0.013	ug/L		08/23/13 23:16	1
Endosulfan II	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 23:16	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 23:16	1
Endrin	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 23:16	1
Endrin aldehyde	0.019	U	0.048	0.019	0.011	ug/L		08/23/13 23:16	1
Endrin ketone	0.019	U	0.048	0.019	0.0075	ug/L		08/23/13 23:16	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0062	ug/L		08/23/13 23:16	1
gamma-Chlordane	0.019	U	0.048	0.019	0.012	ug/L		08/23/13 23:16	1
Heptachlor	0.019	U	0.029	0.019	0.0077	ug/L		08/23/13 23:16	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/23/13 23:16	1
Methoxychlor	0.048	U	0.096	0.048	0.031	ug/L		08/23/13 23:16	1
Toxaphene	0.77	U	1.9	0.77	0.31	ug/L		08/23/13 23:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	71		30 - 135	08/20/13 11:25	08/23/13 23:16	1
DCB Decachlorobiphenyl	75	M	30 - 135	08/20/13 11:25	08/23/13 23:16	1
Tetrachloro-m-xylene	83		25 - 140	08/20/13 11:25	08/23/13 23:16	1
Tetrachloro-m-xylene	86		25 - 140	08/20/13 11:25	08/23/13 23:16	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGEQUIPRINSE1-0340-GW

Lab Sample ID: 240-28110-26

Date Collected: 08/19/13 17:53

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 03:05	1
Aroclor-1221	0.19	U	0.48	0.19	0.13	ug/L		08/29/13 03:05	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 03:05	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/29/13 03:05	1
Aroclor-1248	0.19	U	0.48	0.19	0.096	ug/L		08/29/13 03:05	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/29/13 03:05	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/29/13 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	80		40 - 140	08/20/13 11:31	08/29/13 03:05	1
Tetrachloro-m-xylene	88		40 - 140	08/20/13 11:31	08/29/13 03:05	1
DCB Decachlorobiphenyl	54		40 - 135	08/20/13 11:31	08/29/13 03:05	1
DCB Decachlorobiphenyl	43		40 - 135	08/20/13 11:31	08/29/13 03:05	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 13:57	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/29/13 03:04	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 01:38	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 01:38	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 01:38	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 01:38	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/28/13 01:38	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 01:38	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.059	ug/L		08/28/13 01:38	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 01:38	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 01:38	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/29/13 03:04	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 01:38	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/29/13 03:04	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 01:38	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/28/13 01:38	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/28/13 01:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90	M	79 - 111	08/23/13 08:00	08/28/13 01:38	1
3,4-Dinitrotoluene	188	Q	79 - 111	08/23/13 08:00	08/29/13 03:04	1

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/06/13 19:44	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 10:33	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:33	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 10:33	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:33	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28110-1

Client Sample ID: FWGEQUIPRINSE1-0340-GW

Lab Sample ID: 240-28110-26

Date Collected: 08/19/13 17:53

Matrix: Water

Date Received: 08/20/13 08:03

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:33	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:33	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:33	1
Barium	5.0	U	200	5.0	2.8	ug/L		09/09/13 10:33	1
Calcium	1000	U	5000	1000	630	ug/L		09/09/13 10:33	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:33	1
Magnesium	300	U	5000	300	120	ug/L		09/09/13 10:33	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 10:33	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 10:33	1
Potassium	900	U	5000	900	300	ug/L		09/09/13 10:33	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 14:04	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 14:04	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 14:04	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 14:04	1
Iron	100	U	150	100	44	ug/L		09/09/13 14:04	1
<b>Sodium</b>	<b>410</b>	<b>J</b>	1000	400	160	ug/L		09/09/13 14:04	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 14:04	1
Zinc	50	U	50	50	27	ug/L		09/09/13 14:04	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/22/13 12:40	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:36	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/04/13 15:14	1

TestAmerica Canton



# Shipping and Receiving Documents



# TestAmerica Canton

4101 Shuffel Street, N. H.

North Canton, OH 44720

Phone: 330.497.9396 Fax: 330.



240-28110 Chain of Custody

## Chain of Custody Record

☒ NPDES ☐ RCRA ☐ Other:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Client Contact		Project Manager: John Miller		Site Contact: Erik Corbin		Date: 8/19/13		COC No: SR 81913			
Company Name: EOM		Tel/Fax: 513 825 7495		Lab Contact: Mark Zapp		Carrier: Lab Pickup		1 of 1 COCs			
Address: 1800 Carillon Blvd		Analysis Turnaround Time		VOC 8200 SVOC 4 Pest 8081 PCB 8082 EXPLO 8330 Propellants Cyanide 9013 Metals 9013 Perchlorate SVOC 1		Sampler: EC SR		For Lab Use Only:			
City/State/Zip: Cincinnati OH 45240		<input checked="" type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below 21				Walk-in Client:		Lab Sampling:			
Phone: 513 825 7500		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day				Job / SDG No.:					
Fax:											
Project Name: RYAAPUB (OH)											
Site: 3074, 0016, 001-10.1											
PO#											
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	cooler ID#		
FNGTeam1-Trip		8/19/13	11:00	G	N	2	NN	X	SR1		
*FNGRQLmw-008C-0370-GW		8/19/13	12:45	G	GW	37	NY	XXXXXXX	msmsd H113, C119, SR1*		
*FNGRQLmw-008C-0370-GF		8/19/13	12:45	G	GW	3	YY		msmsd H113, C119, SR1*		
FNGRQLmw-011C-0320-GW		8/19/13	14:55	G	GW	13	NN	XXXXXX	SR1, ID27		
FNGRQLmw-011C-0320-GF		8/19/13	14:55	G	GW	2	YN		ID27		
FNGFWGmw-010-0351-GW		8/19/13	16:51	G	GW	5	NN	XX	B81		
FNGFWGmw-010-0351-GF		8/19/13	16:51	G	GW	1	YN		B81		
FNGFWGmw-015-0350-GW		8/19/13	17:41	G	GW	5	NN	XX	13		
FNGFWGmw-015-0350-GF		8/19/13	17:41	G	GW	1	YN		13		
		EC 8/19/13									
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other											
Possible Hazard Identification:					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.											
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months						
Special Instructions/QC Requirements & Comments:											
*Do Not perform msmsd on cyanide & PCB all metals, perchlorate samples are field filtered Temps may not meet requirements if sample collection is close to job pickup time											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (C): Obs'd:		Cor'd:		Therm ID No.:			
Relinquished by: Erik Corbin		Company: EA		Date/Time: 8/19/13 18:30		Received by: ipe		Company: IAL-XC			
Relinquished by: EC		Company: IAL-XC		Date/Time: 8-19-13 19:00		Received by: Perry Burns		Company: TA			
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:			

all VOAs in cooler SR1



# TestAmerica Canton

4101 Shuffel Street, N. W.

North Canton, OH 44720

Phone: 330.497.9396 Fax: 330.497.0772

## Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
TestAmerica Laboratories, Inc.

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: <i>J. Miller</i>		Site Contact: <i>E. Corbin</i>		Date: <i>08/19/2013</i>		COC No: <i>CA1031913</i>	
Company Name: <i>EQM</i>		Tel/Fax:		Lab Contact: <i>M. Loeber</i>		Carrier:		1 of 1 COCs	
Address: <i>1800 CARILLON BLVD</i>		Analysis Turnaround Time		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input checked="" type="checkbox"/> 2 weeks <i>2 wks?</i> <input type="checkbox"/> 1 week <i>1 wk</i> <input type="checkbox"/> 2 days <i>2 d</i> <input type="checkbox"/> 1 day <i>1 d</i>		Filtered Sample (Y/N) Perform MS/MSD (Y/N) <i>SVOC 1 8/270</i> <i>Pesticides 8081</i> <i>Explosives 8090</i> <i>Propellants</i> <i>Cyanide</i>		Sampler: <i>C. LEAR</i>	
City/State/Zip: <i>CINCINNATI OH 45240</i>								For Lab Use Only:	
Phone: <i>513 825 7500</i>								Walk-in Client:	
Fax: <i>513 825 7495</i>								Lab Sampling:	
Project Name: <i>RVAAP-66</i>								Job / SDG No.:	
Site: <i>Ravenna OH</i>								Cooler ID#	
PO#								Sample Specific Notes:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered	Perform MS/MSD	SVOC	Pesticides	Explosives	Propellants	Cyanide	Metals	Perchlorates	Sample Specific Notes
<i>FWGU3mw-239C-0322-GF</i>	<i>8/19/13</i>	<i>1100</i>	<i>G</i>	<i>GW</i>	<i>1</i>	<i>N</i>	<i>N</i>							<i>X</i>	<i>4P2</i>
<i>FWGU3mw-238C-0359-GW</i>	<i>8/19/13</i>	<i>1332</i>	<i>G</i>	<i>GN</i>	<i>7</i>	<i>N</i>	<i>N</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>				<i>4P2</i>
<i>FWGU3mw-238C-0359-GF</i>	<i>↓</i>	<i>↓</i>	<i>G</i>	<i>GW</i>	<i>1</i>	<i>Y</i>	<i>N</i>						<i>X</i>		<i>4P2</i>
<i>FWGU3mw-241C-0360-GW</i>	<i>8/19/13</i>	<i>1428</i>	<i>G</i>	<i>GW</i>	<i>7</i>	<i>N</i>	<i>N</i>	<i>X</i>	<i>X</i>	<i>X</i>					<i>E115</i>
<i>FWGU3mw-241C-0360-GF</i>	<i>↓</i>	<i>↓</i>	<i>G</i>	<i>GW</i>	<i>1</i>	<i>Y</i>	<i>N</i>						<i>X</i>		<i>E115</i>
<i>FWGFWGmw-002-0317-GF</i>	<i>8/19/13</i>	<i>1538</i>	<i>G</i>	<i>GW</i>	<i>1</i>	<i>Y</i>	<i>N</i>						<i>X</i>		<i>E115</i>
<i>FWGFWGmw-DUP2-0337-GF</i>	<i>8/19/13</i>	<i>1558</i>	<i>G</i>	<i>GW</i>	<i>1</i>	<i>Y</i>	<i>N</i>						<i>X</i>		<i>E115</i>
<i>FWGFWGmw-004-0346-GW</i>	<i>8/19/13</i>	<i>1708</i>	<i>G</i>	<i>GW</i>	<i>8</i>	<i>N</i>	<i>N</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>				<i>0450</i>
<i>FWGFWGmw-004-0346-GF</i>	<i>↓</i>	<i>↓</i>	<i>G</i>	<i>GW</i>	<i>1</i>	<i>Y</i>	<i>N</i>						<i>X</i>		<i>0450</i>

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

Possible Hazard Identification:  
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ 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/OC Requirements & Comments:  
*See lab list for SVOC/phthalates list. Metals and perchlorates are field filtered*

Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Cor'd: _____	Therm ID No.:
Relinquished by: <i>Erik Corbin</i>	Company: <i>EQM</i>	Date/Time: <i>8/19/13 18:30</i>	Received by: <i>NE (Corbin)</i>
Relinquished by: <i>SC (Loeber)</i>	Company: <i>IAI-XC</i>	Date/Time: <i>8-19-13 1921</i>	Received by: <i>Querry Burns</i>
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:



North Canton

**Regulatory program:**

☐ NPDES☐ RCRA

☐ Other

THE LEADER IN ENVIRONMENTAL TESTING

COC No:

Client Contact		Client Project Manager:		Site Contact:		Lab Contact:		TestAmerica Laboratories, Inc.	
Company Name: EQM		John Miller		Erik Corbin		Mark Loeb		COC No: A008191300	
Address: 1800 Carillon Blvd		Telephone: 513-825-7500		Telephone: Same		Telephone: 330-497-9396		1 of 1 COCs	
City/State/Zip: Cincinnati Ohio 45240		Email: ecorbin@eqm.com		TAT if different from below <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Analysis VOC 8260 SVOC 8270 SVOC 8270 Pest 8081 PCB 8082 Explosives/Propellants Cyanide 9012 Metals 3010, 3020, 3030, 3040, 3050, 3060, 3070, 3080, 3090, 3100, 3110, 3120, 3130, 3140, 3150, 3160, 3170, 3180, 3190, 3200, 3210, 3220, 3230, 3240, 3250, 3260, 3270, 3280, 3290, 3300, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3380, 3390, 3400, 3410, 3420, 3430, 3440, 3450, 3460, 3470, 3480, 3490, 3500, 3510, 3520, 3530, 3540, 3550, 3560, 3570, 3580, 3590, 3600, 3610, 3620, 3630, 3640, 3650, 3660, 3670, 3680, 3690, 3700, 3710, 3720, 3730, 3740, 3750, 3760, 3770, 3780, 3790, 3800, 3810, 3820, 3830, 3840, 3850, 3860, 3870, 3880, 3890, 3900, 3910, 3920, 3930, 3940, 3950, 3960, 3970, 3980, 3990, 4000, 4010, 4020, 4030, 4040, 4050, 4060, 4070, 4080, 4090, 4100, 4110, 4120, 4130, 4140, 4150, 4160, 4170, 4180, 4190, 4200, 4210, 4220, 4230, 4240, 4250, 4260, 4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350, 4360, 4370, 4380, 4390, 4400, 4410, 4420, 4430, 4440, 4450, 4460, 4470, 4480, 4490, 4500, 4510, 4520, 4530, 4540, 4550, 4560, 4570, 4580, 4590, 4600, 4610, 4620, 4630, 4640, 4650, 4660, 4670, 4680, 4690, 4700, 4710, 4720, 4730, 4740, 4750, 4760, 4770, 4780, 4790, 4800, 4810, 4820, 4830, 4840, 4850, 4860, 4870, 4880, 4890, 4900, 4910, 4920, 4930, 4940, 4950, 4960, 4970, 4980, 4990, 5000, 5010, 5020, 5030, 5040, 5050, 5060, 5070, 5080, 5090, 5100, 5110, 5120, 5130, 5140, 5150, 5160, 5170, 5180, 5190, 5200, 5210, 5220, 5230, 5240, 5250, 5260, 5270, 5280, 5290, 5300, 5310, 5320, 5330, 5340, 5350, 5360, 5370, 5380, 5390, 5400, 5410, 5420, 5430, 5440, 5450, 5460, 5470, 5480, 5490, 5500, 5510, 5520, 5530, 5540, 5550, 5560, 5570, 5580, 5590, 5600, 5610, 5620, 5630, 5640, 5650, 5660, 5670, 5680, 5690, 5700, 5710, 5720, 5730, 5740, 5750, 5760, 5770, 5780, 5790, 5800, 5810, 5820, 5830, 5840, 5850, 5860, 5870, 5880, 5890, 5900, 5910, 5920, 5930, 5940, 5950, 5960, 5970, 5980, 5990, 6000, 6010, 6020, 6030, 6040, 6050, 6060, 6070, 6080, 6090, 6100, 6110, 6120, 6130, 6140, 6150, 6160, 6170, 6180, 6190, 6200, 6210, 6220, 6230, 6240, 6250, 6260, 6270, 6280, 6290, 6300, 6310, 6320, 6330, 6340, 6350, 6360, 6370, 6380, 6390, 6400, 6410, 6420, 6430, 6440, 6450, 6460, 6470, 6480, 6490, 6500, 6510, 6520, 6530, 6540, 6550, 6560, 6570, 6580, 6590, 6600, 6610, 6620, 6630, 6640, 6650, 6660, 6670, 6680, 6690, 6700, 6710, 6720, 6730, 6740, 6750, 6760, 6770, 6780, 6790, 6800, 6810, 6820, 6830, 6840, 6850, 6860, 6870, 6880, 6890, 6900, 6910, 6920, 6930, 6940, 6950, 6960, 6970, 6980, 6990, 7000, 7010, 7020, 7030, 7040, 7050, 7060, 7070, 7080, 7090, 7100, 7110, 7120, 7130, 7140, 7150, 7160, 7170, 7180, 7190, 7200, 7210, 7220, 7230, 7240, 7250, 7260, 7270, 7280, 7290, 7300, 7310, 7320, 7330, 7340, 7350, 7360, 7370, 7380, 7390, 7400, 7410, 7420, 7430, 7440, 7450, 7460, 7470, 7480, 7490, 7500, 7510, 7520, 7530, 7540, 7550, 7560, 7570, 7580, 7590, 7600, 7610, 7620, 7630, 7640, 7650, 7660, 7670, 7680, 7690, 7700, 7710, 7720, 7730, 7740, 7750, 7760, 7770, 7780, 7790, 7800, 7810, 7820, 7830, 7840, 7850, 7860, 7870, 7880, 7890, 7900, 7910, 7920, 7930, 7940, 7950, 7960, 7970, 7980, 7990, 8000, 8010, 8020, 8030, 8040, 8050, 8060, 8070, 8080, 8090, 8100, 8110, 8120, 8130, 8140, 8150, 8160, 8170, 8180, 8190, 8200, 8210, 8220, 8230, 8240, 8250, 8260, 8270, 8280, 8290, 8300, 8310, 8320, 8330, 8340, 8350, 8360, 8370, 8380, 8390, 8400, 8410, 8420, 8430, 8440, 8450, 8460, 8470, 8480, 8490, 8500, 8510, 8520, 8530, 8540, 8550, 8560, 8570, 8580, 8590, 8600, 8610, 8620, 8630, 8640, 8650, 8660, 8670, 8680, 8690, 8700, 8710, 8720, 8730, 8740, 8750, 8760, 8770, 8780, 8790, 8800, 8810, 8820, 8830, 8840, 8850, 8860, 8870, 8880, 8890, 8900, 8910, 8920, 8930, 8940, 8950, 8960, 8970, 8980, 8990, 9000, 9010, 9020, 9030,			



## TestAmerica Canton Sample Receipt Form/Narrative

Login #: 28110

## Canton Facility

Client EQM Site Name Ravenna Cooler unpacked by: Derry Bruno

Cooler Received on 8/20/13 Opened on 8/20/13

FedEx: 1<sup>st</sup> Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other \_\_\_\_\_

TestAmerica Cooler # \_\_\_\_\_ Foam Box Client Cooler Box Other Multiple

Packing material used: Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# A (CF -1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	<input checked="" type="checkbox"/> See Multiple Cooler Form
<u>IR GUN# 4</u> (CF 0 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
IR GUN# 5 (CF +1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
<u>IR GUN# 8</u> (CF -0 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity each ☒ Yes ☐ No

-Were custody seals on the outside of the cooler(s) signed & dated? ☒ Yes ☐ No NA

-Were custody seals on the bottle(s)? ☒ Yes ☐ No

3. Shippers' packing slip attached to the cooler(s)? ☒ Yes ☐ No

4. Did custody papers accompany the sample(s)? ☒ Yes ☐ No

5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes ☐ No

6. Did all bottles arrive in good condition (Unbroken)? ☒ Yes ☐ No

7. Could all bottle labels be reconciled with the COC? ☒ Yes ☐ No

8. Were correct bottle(s) used for the test(s) indicated? ☒ Yes ☐ No

9. Sufficient quantity received to perform indicated analyses? ☒ Yes ☐ No

10. Were sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA pH Strip Lot# HC376062

11. Were VOAs on the COC? ☒ Yes ☐ No

12. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No NA

13. Was a trip blank present in the cooler(s)? ☒ Yes ☐ No

Contacted PM MJL Date 8/20/13 by TR via ☒ Verbal ☐ Voice Mail Other \_\_\_\_\_

Concerning #14 + #16

## 14. CHAIN OF CUSTODY &amp; SAMPLE DISCREPANCIES

Samples processed by: [Signature]

FWGRQLMW-008C-0370-GW (MS/MSD)

only rec'd 1X250 ml CN bottle, 2X250ml CN bottles

not rec'd

## 15. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

## 16. SAMPLE PRESERVATION

Sample(s) FWGFWG MW-004-6346-GF were further preserved in the laboratory.

Time preserved: 0830 Preservative(s) added/Lot number(s): 1113620 (500ml) (metals)



Login # : \_\_\_\_\_

[illegible]



# **Appendix I**



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28110 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1,
3. Were holding times met?	X				QAPP Table 5-1, J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1,
5. Were all QAPP addendum-specified target analytes reported?	X				QAPP Table 4-5
6. Was the GC/MS system tuned with bromofluorobenzene (BFB) during each 12 hour shift (prior to ICAL and Cal Ver.)?	X				QSM Table F-4
7. Calibration					
7a. Did the initial calibration curve consist of 5 concentration levels?	X			Instrument A3UX15-8/22/13	QSM Table F-4 R
7b. Did the Calibration Check Compounds (CCCs) (see Table 1 below) relative standard deviations (%RSD) $\leq$ 30%?	X				QSM Table F-4 R
7c. Were the minimum response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) met?	X				QSM Table F-4
7d. Did target analytes with an average calibration type have an RSD $\leq$ 15%?	X				QSM Table F-4 15% <RSD< 20% = J/UJ
7e. IF the RSD was >15% was a different calibration option used?	X				
7f. If a linear regression curve was used, was the correlation coefficient $r > 0.995$ ?	X			A3UX15-Acetone and methylene chloride used a linear fit with $r > 0.995$ .	QSM Table F-4 R<0.99=-J/R
7g. If a non-linear regression was used, was the COD $r \geq 0.99$ , with a minimum of 6 points for second order and 7 points for third order?			X		QSM Table F-4 R<0.99=-J/R
8. Was a LOD Level Verification performed quarterly for each reported analyte with detected results?	X				QSM Table F-4 and section D.1.2.1



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28110 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
9. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours?	X				
10. Were the QC/MRL recoveries 70-130%	X			The opening MRL analyzed 8/28/13 @ 1140 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 145%. The closing MRL analyzed at 2119 recovered above control limits of 70-130% for chloroethane at 132% and methylene chloride at 160%. The methylene chloride result for sample FWGTEAM1-Trip was qualified, "J". No additional qualifications were required for cis-1,3-dichloropropene or chloroethane as there were no detected concentrations of these analytes reported for the bracketed field samples. The opening MRL analyzed 8/31/13 @ 0824 recovered above control limits of 70-130% for bromomethane at 157%, chloroethane at 139%, chloromethane at 149%, methylene chloride at 254% and vinyl chloride at 134%. The closing MRL analyzed at 1255 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 135% and methylene chloride at 183%. No qualifications were required as there were no detected concentrations reported for sample FWGRQLmw-011c-0326-GW.	Louisville Supplement to the DOD QSM
11. Was a second source verification (ICV) analyzed? Were results 80-120%?	X			A3UX15-8/22/13 @ 2329	QSM Table F-4 J=<80% and >120%
12. Was a CCV run daily prior to analysis and every 12 hours of analysis time?	X			A3UX15-8/22/13 @ 1031, 8/31/13 @ 0717	QSM Table F-4
12a. Were the average response factors (RFs) for the (SPCCs) (see Table 2 below) met?	X				QSM Table F-4
12b. Were all target analytes ≤ 20%D?	X			The CCV analyzed 8/28/13 @ 1031 had a %D above control limits of 20% for acetone at 23.2% and 4-methyl-2-pentanone at 21.4%. The acetone results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-006c-0368-GW, FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGTEAM1-Trip, FWGTEAM3-Trip and FWGEQUIPRINSE1-0340-GW were qualified as estimated, "J". No qualifications were made for the 4-methyl-2-pentanone outlier as there were no detected 4-methyl-2-pentanone concentrations reported for the bracketed field samples. The CCV analyzed 8/31/13 @ 0717 had a %D above control limits of 20% for methylene chloride at 20.5%, carbon tetrachloride at 21.2%, trans-1,3-dichloropropene at 21.6%. No qualifications were required as there were no detected concentrations reported for sample FWGRQLmw-011c-0326-GW.	QSM Table F-4 %D <20% = J/UJ



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28110 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
13. Were the internal standards added to every sample?	X				QSM Table F-4
13a. Was the EICP area between -50% and +100% of the ICAL mid-point standard?	X				QSM Table F-4 R
13b. Were the retention times for all IS compounds within $\pm 30$ seconds from the RT of the mid-point standard in the ICAL?	X				QSM Table F-4 J/UJ
14. Were the retention times for target analytes within $\pm 0.06$ RRT units from the RT of the mid-point standard in the ICAL or the most recently updated RRT for all samples?	X				QSM Table F-4 J
15. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-4
15a. Were target analytes detected in the method blank $> 1/2$ the MRL $> RL$ for common contaminants?	X			Checked by ADR. Methylene chloride was detected in the method blank from batch 240-99810 analyzed 8/31/13 at 0.893 $\mu$ g/L. No qualifications were required as there were no detected concentrations of methylene chloride reported for the bracketed field sample, FWGRQLmw-011c-0326-GW.	QSM Table F-4 <5/10X =B
16. Was a field blank (equipment and/or trip) collected and analyzed?	X				
16a. Were target analytes detected in the field blanks?	X			Checked by ADR. Acetone was detected in FWGTEAM1-TRIP at 1.2 $\mu$ g/L and methylene chloride at 0.55 $\mu$ g/L. FWGTeam3-Trip had acetone detected at 1.1 $\mu$ g/L and methylene chloride at 0.52 $\mu$ g/L. FWGEQUIPRINSE1-0340-GW had acetone detected at 19 $\mu$ g/L, carbon disulfide at 0.13 $\mu$ g/L, toluene at 0.14 $\mu$ g/L and 2-butanone at 1.5 $\mu$ g/L. The acetone results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-006c-0368-GW and FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW were qualified, "B", as the detected concentrations were $< 10 \times$ blank contamination. The carbon disulfide result for sample FWGRQLmw-006c-0368-GW was qualified, "B", as the detected concentration was $< 5 \times$ blank contamination. There were no detected 2-butanone or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone or toluene contamination.	QSM Table F-4 <5/10X =B
17. Was a LCS prepared and analyzed with each batch?	X				QSM Table F-4
17a. Were the LCS recoveries within limits specified in Table G-5 of the DoD QSM?	X			ADR checked section;	QSM Table F-4, Table G-5, J/UJ



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28110 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
18. Was a MS/MSD prepared with each batch?	X			A matrix spike was performed on sample FWGRQLmw-008-0370-GW.	QSM Table F-4
18a. Were the MS/MSD recoveries within limits specified in Table G-4 of the DoD QSM with an RPD <30%?	X				QSM Table F-4, Table G-5 J/UJ Parent sample only
19. Was a field duplicate analyzed?	X			A field duplicate was analyzed on sample FWGRQLmw-009c-0371-GW.	QSM Table F-4,
19a. Were the field duplicates RPDs within $\pm 30\%$ ?	X			Checked by ADR. The field duplicate, FWGRQLmw-DUP5-0377-GW, collected on sample FWGRQLmw-009c-0371-GW had an RPD above control limits of 30% for acetone at 56%. The acetone result for sample FWGRQLmw-009c-0371-GW was qualified as estimated, "J".	QSM Table F-4, RPD >30=J Parent sample only
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% -50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:

Table1- CCCs

Analyte
1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene

Table 2- SPCCs

Analyte	Minimum RF
Chloromethane	0.10
1,1-Dichlorethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ December 9, 2013

**SDG:** 240-28110-0 R1

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1,
3. Were holding times met?	X				QAPP Table 5-1, J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1,
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-6
6. Was the GC/MS system tuned each 12 hour shift (prior to ICAL and Cal Ver.)?	X				QSM Table F-4
7. Initial Calibration					
7a. Did the initial calibration curve consist of 5 concentration levels?	X			Instrument A4HP9–8/26/13	QSM Table F-4 R
7b. Did the Calibration Check Compounds (CCCs) (see Table 1 below) relative standard deviations (%RSD) $\leq$ 30%?	X				QSM Table F-4 R
7c. Were the minimum response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) $\leq$ 0.050?	X				QSM Table F-4
7d. Were all other target analytes reported with an avg response have an RSD $\leq$ 15%?	X				QSM Table F-4 15% <RSD< 20% = J/UJ
7e. IF the RSD was >15% was a different calibration option used?	X				
7f. If a linear regression curve was used, was the correlation coefficient $r > 0.995$ ?	X				QSM Table F-4 R<0.99=J/R
7g. If a non-linear regression was used, was the COD $r \geq 0.99$ , with a minimum of 6 points for second order and 7 points for third order?	X			A4HP9 (8/26/13) - Benzoic acid, 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol used a linear fit.	QSM Table F-4 R<0.99=J/R
8. Was a LOD Level Verification performed quarterly for each reported analyte?	X				QSM Table F-4 and section D.1.2.1
9. Was a breakdown check run at the beginning of every 12 hours with DDT degradation <20% and tailing factors of benzidine and pentachlorophenol $\leq 2$ ?	X				QSM Table F-4 R



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ December 9, 2013

**SDG:** 240-28110-0 R1

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
10. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours with recoveries within 70-130%?	X			8/29/13 @ 0957 and 1712 8/30/13 @ 0909 and 1838	Louisville Supplement to the DOD QSM
11. Was a second source verification (ICV) analyzed? Were results 80-120%?	X			A4HP9 8/26/13 @ 1509,	QSM Table F-4 J=<80% and >120%
12. Was a CCV run daily prior to analysis and every 12 hours of analysis time?	X			A4HP9 8/29/13 @0904, 8/30/13 @0817	QSM Table F-4
12a. Were the average response factors (RFs) for the System Performance Check Compounds (SPCCs) $\geq 0.050$ ?	X				QSM Table F-4
12b. Were all target analytes $\leq 20\%D$ ?		X		The CCV analyzed 8/29/13 @0904 had 4-nitrophenol with a %D above control limits of 20% D at 21.2%. The CCV analyzed 8/30/13 had 4-nitrophenol with a %D above control limits of 20% D at 34.9% and 4-nitroaniline at 22.1%. No qualifications were made as there were no detected concentrations of 4-nitrophenol or 4-nitroaniline reported for the associated field samples.	QSM Table F-4 %D <20% = J/UJ
13. Were the internal standards added to every sample?	X				QSM Table F-4
13a. Was the EICP area between -50% and +100% of the ICAL mid-point standard?	X				QSM Table F-4 R
13b. Were the retention times for all IS compounds within $\pm 30$ seconds from the RT of the mid-point standard in the ICAL?	X				QSM Table F-4 J/UJ
14. Were the retention times for target analytes within $\pm 0.06$ RRT units from the RT of the mid-point standard in the ICAL or the most recently updated RRT for all samples?	X				QSM Table F-4 J
15. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-4
15a. Were target analytes detected in the method blank $>1/2$ the MRL, $>RL$ for common contaminants?	X			Checked by ADR. bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98336 at 0.593 $\mu$ g/L. The bis (2-ethylhexyl) phthalate results for samples FWGFWGmw-004-0346-GW, FWGFWGmw-015-0350-GW, FWGFWGmw-016-0351-GW, FWGLL3mw-238c-0359-GW and FWGLL3mw-241c-0360-GW were qualified, "B".	QSM Table F-4 <5/10X =B



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ December 9, 2013

**SDG:** 240-28110-0 R1

**Analysis:** SW846 8270

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>Qual/Criteria</b>
16. Was a field blank (equipment and/or trip) collected and analyzed?	<b>X</b>			FWGEQUIPRINSE1-0340-GW	
16a. Were target analytes detected in the field blank?	<b>X</b>			Checked by ADR. bis (2-Ethylhexyl) phthalate was detected at 0.38µg/L, diethylphthalate at 1.3µg/L and benzyl alcohol at 0.44µg/L in FWGEQUIPRINSE1-0340-GW. The bis(2-ethylhexyl)phthalate results for samples FWGRQLmw-011c-0326-GW, FWGRQLmw-006c-0368-GW, FWGRQLmw-009c-0371-GW and FWGRQLmw-DUP5-0377-GW were qualified, "B". No qualifications were made for the diethylphthalate or benzyl alcohol contamination as there were no detected 2-butanone or benzyl alcohol concentrations reported for these analytes in the associated field samples.	QSM Table F-4 <5/10X =B
17. Was a LCS prepared and analyzed with each batch?	<b>X</b>				QSM Table F-4
17a. Were the LCS recoveries within limits specified in Table G-6 of the DoD QSM?	<b>X</b>			ADR checked section;	QSM Table F-4, Table G-6 J/UJ
18. Was a MS/MSD prepared with each batch?	<b>X</b>			A matrix spike was performed on sample FWGRQLmw-008-0370-GW.	
18a. Were the MS/MSD recoveries within limits specified in Table G-6 of the DoD QSM with an RPD <30%?		<b>X</b>		The matrix spike and spike duplicate recoveries were below control limits of 20-110 for 3,3'-dichlorobenzidine at 0% in the MS and MSD. The benzo (a) pyrene matrix spike and matrix spike duplicate recovered below control limits of 55-110% at 54% in both the MS and MSD. The hexachlorocyclopentadiene MS/MSD RPD was above control limits 30% at 37%.. The 3,3'-dichlorobenzidine result for sample FWGRQLmw-008c-0370-GW was qualified as unusable, "R", while the benzo(a) pyrene result for sample FWGRQLmw-008c-0370-GW was qualified as estimated, "UJ". No qualifications were made for the hexachlorocyclopentadiene RPD outlier as there was no detected concentration of hexachlorocyclopentadiene reported for sample FWGRQLmw-008c-0370-GW.	QSM Table F-4, Table G-6 J/UJ Parent sample only
19. Was a field duplicate analyzed?	<b>X</b>			A field duplicate was analyzed on sample FWGRQLmw-009c-0371-GW.	
19a. Were the field duplicates RPDs within ±50%?	<b>X</b>			Checked by ADR.	QSM Table F-4, RPD >50=J Parent sample only



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ December 9, 2013

**SDG:** 240-28110-0 R1

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% - 50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				

## References:

- DoD Quality Systems Manual (QSM), version 4.1, October 2010
- Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007
- Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012
- Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

## Additional Comments:

Table 1: CCCs (All analytes if CCCs not included in standard)

Base / Neutral Compounds	Acid Compounds
Acenaphthalene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
N-Nitrosodiphenylamine	Phenol
Di-n-octylphthalate	Pentachlorophenol
Fluoroanthene	2,4,6-Trichlorophenol
Benzo(a)pyrene	

Table 2: SPCCs -

N-Nitroso-di-n-propylamine	0.050
Hexachlorocyclopentadiene	0.050
2,4-Dinitrophenol	0.050
4-Nitrophenol	0.050



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 20, 2013

**SDG:** 240-28110-0 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% - 50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				

## References:

- DoD Quality Systems Manual (QSM), version 4.1, October 2010
- Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007
- Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012
- Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

## Additional Comments:

Table 1: CCCs (All analytes if CCCs not included in standard)

Base / Neutral Compounds	Acid Compounds
Acenaphthalene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
N-Nitrosodiphenylamine	Phenol
Di-n-octylphthalate	Pentachlorophenol
Fluoroanthene	2,4,6-Trichlorophenol
Benzo(a)pyrene	

Table 2: SPCCs -

N-Nitroso-di-n-propylamine	0.050
Hexachlorocyclopentadiene	0.050
2,4-Dinitrophenol	0.050
4-Nitrophenol	0.050



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / September 20, 2013

**SDG:** 240-28110 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X			Checked by ADR	QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a DDT standard analyzed every 12 hours? Was the DDT %breakdown <15%?	X				QSM Table F-2 >15%=J/R
7. Was an endrin standard analyzed every 12 hours? Was the endrin %breakdown <15%?	X				QSM Table F-2 >15%=J/R
8. Initial Calibration					
8a. Does the initial calibration curve consist of 5 concentration levels?	X			Instrument A2HP9 8/23/13, 8/29/13	QSM Table F-2 R
8a. Were the %RSDs for each analyte $\leq 20\%$ ? OR was the average %RSD $\geq 20\%$ with the $r^2 > 0.990$ ?	X			CLP-1 (8/23/13) Delta-BHC, 4,4'-DDE and 4,4'-DDD used a linear fit. CLP-2 (8/23/13) Delta-BHC used a quadratic fit. The peaks for 4,4'-DDD and Endosulfan II co-eluted on the confirmation column. No qualification of the data was required as there were no detected concentrations of 4,4'-DDD and Endosulfan II reported for the associated field samples.	QSM Table F-2 RSD>20% or $r<0.99$ =J/R
9. Was a LOD Level Verification performed once per quarter with all target analytes detected?	X				QSM Table F-2 R
10. Was a MRL Verification performed at the beginning and end of the sequence or every 12 hours with results within limits of 70-130%?	X			<p>The opening MRL analyzed on 8/23/13 recovered above control limits of 70-130% at 165% on CLP-1 for 4,4'-DDD. No qualifications were required as there were no detected 4,4-DDD concentrations reported for the bracketed field samples.</p> <p>The closing MRL analyzed on 8/23/13 recovered above control limits of 70-130 at 306% on CLP-1 for 4,4'-DDD and at 131% for methoxychlor. 4,4'-DDE recovered above limits of 70-130% on CLP-1 and CLP-2 at 169% and 138%, beta-BHC at 142% and 132% and delta-BHC at 157% and 171%. Detected concentrations of beta-BHC, 4,4'-DDE, delta-BHC were qualified as estimated, "J", for samples FWGRQLmw-008c-0370-GW, FWGLL3mw-238c-0359-GW, FWGLL3mw-241c-0360-GW, FWGFWGmw-004-0346-GW, FWGRQLmw-009c-0371-GW, FWGRQLmw-006c-0368-GW and FWGEQUIPRINSE1-0340-GW.</p>	QSM Table F-2, G-14 >UL=J; <LL=J/UJ/R



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta / September 20, 2013

SDG: 240-28110 R0

Analysis: SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
				<p>The opening MRL analyzed on 9/9/13 recovered below control limits of 70-130% at 4% on CLP-1 for 4,4'-DDE and at 62% for 4,4'-DDT and did not recover (0%) on CLP-and CLP-2 for 4,4'-DDD and endosulfan II. Delta-BHC recovered below control limits of 70-130% on CLP-1 and CLP-2 at 69% and 61%. No qualifications were required as only heptachlor epoxide was reported from this analysis.</p> <p>The closing MRL analyzed on 9/9/13 did not recover (0%) on CLP-and CLP-2 for 4,4'-DDD and above limits of 70-130% on CLP-2 at 163% for endosulfan II. No qualifications were required as only heptachlor epoxide was reported from this analysis.</p>	
11. Was a second source (ICV) verification analyzed after the ICAL? Were results 80-120%?	X			A2HP9 8/23/13 @ 1238, 1830 (tox), 8/29/13 @ 1829	QSM Table F-2 >120%=J;<80%=J/UJ
12. Was a CCV run every 12 hours or at the beginning and end of the analytical run with the %D for all target analytes ≤20%?	X			<p>A2HP9 8/23/13 @, 1952, 2326 and 8/24/13@0219 and 8/24/13 0159 (tox). For the analytical sequence beginning on 8/23/13, Only FWGLL3mw-238c-0359-GW had 4,4-DDE reported from CLP-2, all other targets were reported from CLP-1 as there were no detected concentrations above the LOQ requiring confirmation. CCVs were only evaluated for targets/ columns with reported results.</p> <p>The CCV analyzed 8/23/13 @ 2336 did not recover for delta-BHC. The delta-BHC results for samples FWGRQLmw-008C-0370-GW, FWGRQLmw-011C-0326-GW, FWGLL3mw-238C-0359-GW, FWGLL3mw-241C-0360-GW, FWGFWGmw-004-0346-GW, FWGRQLmw-009C-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGRQLmw-006C-0368-GW and FWGEQUIPRINSE1-0340-GW were qualified as unusable," R".</p> <p>The CCV analyzed 8/23/13 at 2336(CLP-1) had a %D above control limits of 20% for the following analytes; gamma- BHC at 23.7%, beta-BHC at 29.5%, heptachlor epoxide at 27.9%, gamma chlordane at 28.2%, alpha-chlordane at 23.5%, endosulfan I at 24.7%, 4,4'-DDE at 27.5%, dieldrin at 24%, endrin at 27.1%, 4,4'-DDD at 127.6%, endosulfan II at 20.6%, 4,4'-DDT at 28.7% and methoxychlor at 45.8%. The CCV analyzed 8/23/13 at 2336(CLP-2) had a %D above control limits of 20% for 4,4'-DDE at 46.3%. The 4,4'-DDE and beta-BHC result for sample FWGRQLmw-008c-0370-GW, the 4,4'-DDE result for FWGLL3mw-238c-0359-GW and the beta-BHC results for samples</p>	QSM Table F-2 >120%=J; <80%=J/UJ



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / September 20, 2013

**SDG:** 240-28110 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
				<p>FWGRQLmw-006c-0368-GW and FWGEQUIPRINSE1-0340-GW were qualified as estimated, "J". No additional qualifications were required for the other outliers as there were no detected concentration reported for outlier target analytes.</p> <p>The closing CCV analyzed 8/24/13 at 0219(CLP-1) had a %D above control limits of 20% for the following analytes; gamma- BHC at 28.6%, beta-BHC at 37%, delta-BHC at 23.3%, heptachlor at 28.8%, heptachlor epoxide at 34.3%, gamma chlordane at 34.6%, alpha-chlordane at 30.2%, endosulfan I at 32.3%, 4,4'-DDE at 35.7%, dieldrin at 32.2%, endrin at 35.1%, 4,4'-DDD at 137.1%, endosulfan II at 26.1%, 4,4'-DDT at 33.7%, endrin aldehyde at 20.5%, methoxychlor at 53.8% and endosulfan sulfate at 22.8%. The closing CCV analyzed on CLP-2 on 8/24/13 at 0219 had 4,4'-DDE above the 20%D criteria at 52.9%. No qualifications were required as there were no field samples bracketed by this CCV.</p> <p>A2HP9 CCV analyzed 9/9/13 at 1819 and 21:22. Evaluated for heptachlor epoxide only. CCVs recovered within control limits.</p>	
13. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-2
14. Were target analytes detected > ½ the RL?		X			QSM Table F-2 <5x=B
15. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW	
16. Were target analytes detected in the field blank analyses >1/2 the MRL?	X			FWGEQUIPRINSE1-0340-GW had beta-BHC detected at 0.018µg/L. The beta-BHC results for samples FWGRQLmw-006c-0268-GW and FWGRQLmw-008C-0370-GW were qualified, "B".	QSM Table F-2 <5x=B
17. Was an LCS prepared and analyzed with each batch?	X				QSM Table F-2
18. Were the LCS recoveries within limits specified in QSM Table G-14?		X		Checked by ADR. The 4,4'-DDD LCS recovered above control limits of 25-150% at 155%. No qualification was required as there were no detected concentrations of 4,4-DDD reported for the associated field samples.	QSM Table G-14 >UL=J; <LL=J/UJ/R
19. Was a MS/MSD pair prepared with each batch?	X				QSM Table F-2
20. Was the MS/MSD parent a Ravenna sample?	X			A matrix spike analysis was performed on sample FWGRQLmw-008c-0370-GW.	



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / September 20, 2013

**SDG:** 240-28110 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
21. Were MS/MSD recoveries and RPD within limits specified in QSM Table G-14?		X		Checked by ADR. The matrix spike analyzed on sample FWGRQLmw-008c-0370-GW recovered above control limits of 25-150% for 4,4'-DDD at 154%. No qualification was required as 4,4'-DDD was not detected in sample FWGRQLmw-008c-0370-GW.	QSM Table F-2 Pj with >UL=J; <LL=J/UJ/R
22. Were surrogate recoveries as specified in QSM table G-3?		X		The surrogate DCB did not recover in sample FWGLL3mw-238c-0359-GW when analyzed at a dilution on 9/9/13. The heptachlor epoxide result for sample FWGLL3mw-238c-0359-GW was qualified as estimated, "UJ" as opposed to unusable because of the dilution. The original analysis, without dilution, of sample FWGLL3mw-238c-0359-GW had acceptable surrogate recoveries.	QSM Table F-2 >LL=J; <LL=UJ/J/R
23. Was a field duplicate analyzed? Were the RPDs $\leq 50\%$ ?	X			Checked by ADR. A field duplicate was collected and analyzed for sample FWGRQLmw-009c-0371-GW.	RPD >50=J parent sample only
24. Were all positive results verified by a second column confirmation? Were the RPD's $\leq 40$ ?			X	There were no detected concentrations greater than the LOQ, so no evaluation was made.	QSM Table F-2 >40 RPD=J

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 25, 2013

**SDG:** 240-28110-1 R0

**Analysis:** SW846 8082

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Calibration					
6a. Does the initial calibration curve consist of 5 concentration levels of Aroclors 1016 and 1260?	X			Instrument A2HP12 8/27/13 Stds = 0.05, 0.1, 0.2, 0.5, 1.0, 2.0	QSM Table F-2 R
6b. Was the % RSD $\leq$ 20%? or Were the $r^2$ s $>0.990$ ?	X				QSM Table F-2 RSD $>$ 20% or $r<0.99$ = J/R
7. Was a LOD Verification performed once per quarter? Were all target analytes detected?	X				QSM Table F-2 R
8. Was an MRL Level Verification performed at the beginning and end of the sequence or every 12 hours? Were recoveries 70-130%?	X				LCG Table 3 $>UCL=J$ ; $<LCL=J/UJ/R$ ;
9. Was a second source (ICV) verification performed after the ICAL? Were the avg of all peaks for each aroclor 80-120%?	X			A2HP4 8/28/13	QSM Table F-2 $>120\%=J$ ; $<80\%=J/UJ/R$
10. Were single standards of the other five Aroclors run to aid in pattern recognition and to determine a single point calibration factor?		X		All aroclors had a multi-point calibration.	Method 8082 Section 5.6.2
11. Was a CCV run every 12 hours?	X			8/28/13 @ 2340, 8/29/13@0221, 0334	QSM Table F-2
12. Was the % D $\leq$ 20 % for each analyte?	X				QSM Table F-2 D $>$ 20%(neg)=J/R D $>$ 20% (pos) =J



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ September 25, 2013

SDG: 240-28110-1 R0

Analysis: SW846 8082

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
13. Was a method blank prepared and analyzed with each batch?	X			Section checked by ADR	QSM Table F-2
14. Were target analytes <1/2 the MRL?	X				QSM Table F-2 <5x = B
15. Was an equipment blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW	
16. Were target analytes in the field blank analyses (equipment) <1/2 the MRL?	X			Section checked by ADR	QSM Table F-2 <5x = B
17. Was an LCS prepared and analyzed with each batch?	X				QSM Table F-2
18. Were the LCS recoveries within limits specified in LCG Appendix C?	X			Section checked by ADR	QSM Table F-2, Table G-16, >UL=J; <LCL%=J/R/UJ;
19. Was a MS/MSD pair prepared with each batch?	X			A matrix spike analysis was performed on sample FWGRQLmw-008c-0370-GW	LCG Table 3
20. Was the MS/MSD parent a Ravenna sample?	X				
21. Were MS/MSD recoveries and RPD within limits specified in the DOD QSM Table G-16?	X				QSM Table F-2, Table G-16, >UL=J; <LCL%=J/R/UJ;
22. Was the surrogate spiked into all samples?	X				
23. Were surrogate recoveries As specified in table G-3 of the DoD QSM?		X		Checked by ADR. As there were no detected target analyte concentrations reported in the associated field samples, only the primary column was evaluated. The surrogate, DCB, recovered below control limits of 40-135% for sample FWGRQLmw-008c-0370-GW at 27%, FWGRQLmw-009c-0371-GW and FWGRQLmw-DUP5-0377-GW at 29% and FWGRQLmw-006c-0368-GW at 32%. The results for samples FWGRQLmw-008c-0370-GW, FWGRQLmw-009c-0371-GW, FWGRQLmw-DUP5-0377-GW and FWGRQLmw-006c-0368-GW were qualified as estimated, "UJ".	QSM Table F-2, Table G-3 >UCL=J; <LCL=J/UJ/R
24. Was a field duplicate analyzed? Were the RPDs <50%?	X			Checked by ADR. Field duplicates were collected and analyzed for sample FWGRQLmw-009c-0371-GW.	QSM Table F-2, RPD >50=J
25. Were all positive results verified by a second dissimilar column confirmation? Was the RPD ≤ 40?			X	No detected concentrations were reported for the reported field samples.	QSM Table F-2, RPD>40=J



## Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 25, 2013

**SDG:** 240-28110-1 R0

**Analysis:** SW846 8082

### *References:*

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

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*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 26, 2013

**SDG:** 240-28110-0

**Analysis:** SW846 9012

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Does the initial calibration curve consist of at least 6 standards and one blank, with the correlation coefficient $R \geq 0.995$ ?	X				DoD QSM Table F-10 R
7. Were a high and low standard distilled and analyzed with results within $\pm 15\%$ ?	X				DoD QSM Table F-10 R
8. Was an LOD Verification performed at least once per quarter with all target analytes detected?	X				LCG Table 10 R
9. Was a MRL Level Verification performed at the beginning and end of the daily sequence? Were results within 70-130%?		X		No closing MRL check was analyzed bracketing samples FWGRQLmw-009C-0371-GW, FWGRQLmw-DUP5-0377-GW, FWGRQLmw-006C-0368-GW, and FWGEQUIPRINSE1-0340-GW. Since the opening MRL check recovered within control limits, the data was qualified estimated, "UJ" instead of unusable.	LCG Table 10, LS >130%=J; 65-70%=J/UJ; <65%=J/R
10. Was a second source verification (ICV) analyzed after the ICAL and all analytes 85-115%?	X				DoD QSM Table F-10 >115%=J; 80-85%=J/UJ; <80%=J/R
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-10
12. Were target analytes detected in the method blank >1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-10 <5x=B
13. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW	
14. Were target analytes in the field blank analyses <1/2 the MRL?	X				DoD QSM Table F-10 <5x=B
15. Was a field duplicate analyzed? Were the RPDs <20%?	X			Checked by ADR.	>30% = J



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 26, 2013

**SDG:** 240-28110-0

**Analysis:** SW846 9012

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>QUAL/Criteria</b>
16. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-10
17. Were the LCS recoveries 80-118%?	X			Checked by ADR.	DoD QSM Table F-10 Lab Limits >118%=J; 50-79%=J/UJ; <50%=R
18. Was a MS and duplicate (sample or matrix) prepared once per every 10 samples?		X		A matrix spike was not requested on this batch of samples. Matrix spike data was not provided by the laboratory or evaluated.	DoD QSM Table F-10
19. Was the MS parent a Ravenna sample?			X		
20. Were matrix spike recoveries 42-140%?			X	Checked by ADR.	DoD QSM Table F-10 >140%=J; <42%=J/UJ/R

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

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*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 26, 2013

**SDG:** 240-28110-1 R1

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Was a LOD Verification performed once per quarter with all target analytes detected?	X				DoD QSM Table F-8
7. Tuning (ICP MS Only)					
7a. Was a tune performed daily prior to calibration	X				DoD QSM Table F-8 R
7b. Mass Calibration <0.1 amu from true value	X				
7c. Resolution <0.9 amu full width at 10 % peak height	X				
7d. RSD <%5 for a minimum of four replicate analyses	X				
8. Calibration	X				
8a. Was the ICAL performed daily with at least	X				DoD QSM Tables F-8 and F-7
1 high standard and a blank for ICP & ICPMS	X				
5 standards and a blank for Hg	X				
8b. Was the correlation coefficient $r \geq 0.995$ for each Hg?	X				DoD QSM Tables F-8 and F-7 $r < 0.995 = J/R$
8c. Was the ICV (second source verification) analyzed after the ICAL with results 90-110% of the true value?	X				DoD QSM Tables F-8 and F-7
8d. Was the ICB analyzed after the ICV with detected results <1/2 the MRL?	X			ICP The ICB analyzed 9/9/13 @ 0749 had magnesium detected at 100µg/L. No qualifications were required as the detected magnesium results for the associated field samples were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 < 5x = U



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ September 26, 2013

SDG: 240-28110-1 R1

Analysis: SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
Sample Analysis					
9. Was a MRL Level Verification performed at the beginning of the daily sequence and end of the analytical sequence bracketing samples? Were results 70-130%?	X				LS to the DoD QSM DoD QSM Table G-18 >130%=J; 70-80%=J/UJ; <70%=J/UJ <65%=R, unless DL check with detected results
10. Were CCVs analyzed every 10 samples and at the end of the analytical sequence with results 90-110% of the true value?	X				DoD QSM Tables F-8 and F-7 >110%=J, <85%=J/R 90-85%=J/UJ;
11. Were the CCBs run every 10 samples and at the end of the analytical sequence? Were results <1/2 the MRL?	X			<u>ICP</u> The CCBs analyzed 9/9/13 had magnesium detected from 101 µg/L to 102µg/L. No qualifications were required as the detected magnesium results for the bracketed field samples were greater than 5x blank contamination. <u>ICPMS</u> The CCBs analyzed 9/9/13 had cadmium detected from 0.03µg/L to 0.067µg/L, iron from 15.9 µg/L to 47.1µg/L and sodium from 12.6 µg/L to 25.8 µg/L. No qualifications were required as the detected cadmium, iron and sodium results for the bracketed field samples were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 <5x = U
12. Was an Interelement Check Standard run at the beginning of the analytical sequence and every 12 hours with the ICS recovery within 80 to 120% of true value for each element of interest (ICP and ICPMS only)?	X				DoD QSM Tables F-8 and F-7 >120%=J; 50-79%=J/UJ; <50%=Pj/R
13. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Tables F-8 and F-7
14. Were target analytes detected >1/2 the MRL in the method blank?	X			Checked by ADR. ICP- Manganese was detected in the method blank at 2.75 µg/L. The manganese results for samples FWGFWGmw-004-0346-GF, FWGLL3mw-238C-0359-GF and FWGLL3mw-241C-0360-GF were qualified, "B".	DoD QSM Tables F-8 and F-7 <5x = B



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 26, 2013

**SDG:** 240-28110-1 R1

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
15. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0305-GW	
16. Were target analytes reported in the field blank analyses >1/2 the MRL?	X			ADR checked section. ICPMS- FWGEQUIPRINSE1-0340-GW had sodium detected at 410 µg/L. The sodium results for samples FWGRQLmw-006c-0368-GF, FWGRQLmw-009c-0371-GF, FWGRQLmw-011c-0326-GF and FWGRQLmw-DUP5-0377-GF were qualified, "B".	DoD QSM Tables F-8 and F-7
17. Was a LCS prepared and analyzed with each batch?	X				DoD QSM Tables F-8 and F-7
18. Were the LCS recoveries within limits specified in LCG Appendix C?	X			Checked by ADR.	DoD QSM Tables G-18, F-8 and F-7 >120%=J; 70-79%=J/UJ; <70%=J/R
19. Was a matrix spike (MS) and lab duplicate sample prepared with each batch?	X				DoD QSM Tables F-8 and F-7
20. Was the MS and Lab Duplicate parent a Ravenna sample?	X			A matrix spike analysis was performed on sample FWGRQLmw-008C-0370-GF.	
21. Were the MS recoveries within 80-120%?	X				DoD QSM Tables G-18, F-8 and F-7, >120%=J; 70-79%=J/UJ; <70%=J/R All samples in batch
22. Was the lab sample duplicate RPD ≤ 20%?		X		ICP- The lab duplicate analyzed on sample FWGRQLmw-008C-0370-GF had an RPD above control limits of 20% at 26% for nickel. No qualifications were made as the detected concentration was less than the LOQ.	DoD QSM Tables F-8 and F-7 >20% = J All samples in batch
23. Was a serial dilution performed, with the five fold dilution within ± 10% of the original result?	X				DoD QSM Tables F-8 and F-7 >20% = J All samples in batch
24. Was a Post Digestion Spike analyzed as needed? Were results within 75-125%?	X			Only results with the spike concentration <4x sample result were evaluated.	LCG Table 7 >125%=J; 30-75%=J/UJ; <30%=R



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/December 9, 2013

**SDG:** 240-28110-1 R1

**Analysis:** SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a LOD Verification analyzed once per quarter with all target analytes detected?	X				DoD QSM Table F-3 R
7. Calibration					
7a. Does the initial calibration curve consist of 5 concentration levels? (6 stds for quadratic curves)	X			LC10 7/24/13 LC12 8/14/13, 2-nitrotoluene coelutes with 4-nitrotoluene, LC12 not used as primary reporting column of 2-nitrotoluene and 4-nitrotoluene	DoD QSM Table F-3 R
7b. Did all target analytes using avg response have an RSD $\leq$ 15% ?	X				
7c. If a linear regression curve was used, was the correlation coefficient $r \geq 0.995$ ? (0.990 for a quadratic curve).			X		
8. Was a second source verification (ICV) analyzed after the ICAL and all analytes 80-120%?	X			LC10 7/24/13 @1750 LC12 8/15/13 @ 0118	DoD QSM Table F-3 >120%=J; <80%= J/UJ;
Sample Analysis					
9. Was a CCV run at the beginning of the analytical sequence, every 10 samples and at the end of the analytical run with targets and surrogates recovering 80-120% of the true value?	X			LC10- 8/27/13 @1400, 2116, 8/28/13 @0432, 1604 LC12 8/29/13 @ 0158, 0832, 1503	DoD QSM Table F-3 J/UJ
10. Was a MRL Level verification run at the beginning and end of every daily? Was the %D < 30%?		X		LC10- 8/27/13 @1316, 8/28/13 @ 0516, 1352 LC12 8/27/13 @ 1712 , 8/29/13@ 0937	LCG Table 5 >30%=J
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-3
12. Were target analytes detected in the method blank <1/2 the MRL?				Checked by ADR.	DoD QSM Table F-3 <5x = B
13. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW	



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/December 9, 2013

**SDG:** 240-28110-1 R1

**Analysis:** SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
14. Were target analytes detected in the field blank analyses > ½ the MRL?		X		Checked by ADR	DoD QSM Table F-3 <5x=B
15. Was a field duplicate analyzed? Were the RPDs ≤30%?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs ≤ 40%?		X		The confirmation column RPD was above control limits of 40% for 2,6-dinitrotoluene in sample FWGLL3mw-238C-0359-GW at 54% and nitrobenzene at 69.9%. The HMX result for sample FWGLL3mw-241C-0360-GW had a duplicate column confirmation RPD above control limits of 40% at 49.3%. No confirmation column data was provided for sample FWGRQLmw-008c-0370-GW. The 2,6-dinitrotoluene result for FWGRQLmw-008c-0370-GW, the nitrobenzene and 2,6-dinitrotoluene results for FWGLL3mw-238C-0359-GW and the HMX result for sample FWGLL3mw-241C-0360-GW were qualified as estimated, "J".	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within limits specified in table G-12 of the DoD QSM?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J;30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X			A matrix spike analysis was performed on sample FWGRQLmw-008C-0370-GW.	DoD QSM Table F-3
20. Were MS/MSD recoveries within limits specified in table G-12 of the DoD QSM with an RPD ≤30%?	X			The matrix spike and spike duplicate recovery for 2-nitrotoluene recovered below control limits of 45-135% at 43% and 40%. As the associated LCS recovered within limits, the 2-nitrotoluene result for FWGRQLmw-008c-370-GW was qualified as estimated, "UJ".	DoD QSM Table F-3 Pj
21. Were surrogate recoveries within laboratory limits (79-111%)?	X				QSM Tables F-2 >UL=J; <LL =J/UJ

*References: DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

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# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/September 26th, 2013

**SDG:** 240-28110-1 R0

**Analysis:** SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
14. Were target analytes detected in the field blank analyses > ½ the MRL?		X		Checked by ADR	DoD QSM Table F-3 <5x=B
15. Was a field duplicate analyzed? Were the RPDs ≤30%?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs ≤ 40%?		X		The confirmation column RPD was above control limits of 40% for 2,6-dinitrotoluene in sample FWGLL3mw-238C-0359-GW at 54% and nitrobenzene at 69.9%. The HMX result for sample FWGLL3mw-241C-0360-GW had a duplicate column confirmation RPD above control limits of 40% at 49.3%. No confirmation column data was provided for sample FWGRQLmw-008c-0370-GW. The 2,6-dinitrotoluene result for FWGRQLmw-008c-0370-GW, the nitrobenzene and 2,6-dinitrotoluene results for FWGLL3mw-238C-0359-GW and the HMX result for sample FWGLL3mw-241C-0360-GW were qualified as estimated, "J".	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within limits specified in table G-12 of the DoD QSM?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J;30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X			A matrix spike analysis was performed on sample FWGRQLmw-008C-0370-GW.	DoD QSM Table F-3
20. Were MS/MSD recoveries within limits specified in table G-12 of the DoD QSM with an RPD ≤30%?	X			The matrix spike and spike duplicate recovery for 1,3,5-trinitrobenzene was below control limits 65- 140% at -160% and -170%. The 2-nitrotoluene MS/MSD recovered below control limits of 45-135% at 43% and 40%. As the associated LCS recovered within limits, the 1,3,5-trinitrobenzene and 2-nitrotoluene results for FWGRQLmw-008c-370-GW were qualified as estimated, "UJ".	DoD QSM Table F-3 Pj
21. Were surrogate recoveries within laboratory limits (79-111%)?	X				QSM Tables F-2 >UL=J; <LL =J/UJ

*References: DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



**Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/September 26, 2013

**SDG:** 240-28110-1

**Analysis:** SW846 8330M Nitroguanidine

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a LOD Verification analyzed once per quarter with all target analytes detected?	X				DoD QSM Table F-3 R
7. Calibration					
7a. Does the initial calibration curve consist of 5 concentration levels? (6 stds for quadratic curves)	X			PDA-1 8/20/13	DoD QSM Table F-3 R
7b. Did all target analytes using avg response have an $RSD \leq 15\%$ ?	X				
7c. If a linear regression curve was used, was the correlation coefficient $r \geq 0.995$ ? (0.990 for Quadratic curve).			X		
7d. Did reanalysis of the low level standard after calibration, recover within 15%?	X				
8. Was a second source verification (ICV) analyzed after the ICAL and all analytes 80-120%?	X			8/20/13 @1843	DoD QSM Table F-3 >120%=J; <80%= J/UJ;
Sample Analysis					
9. Was a CCV run at the beginning of the analytical sequence, every 10 samples and at the end of the analytical run with targets and surrogates recovering 80-120% of the true value?	X			8/26/13 @ 0914, 1211, 1526	DoD QSM Table F-3 J/UJ
10. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours? Was the %D < 30%?	X				LCG Table 5 >30%=J
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-3



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/September 26, 2013

**SDG:** 240-28110-1

**Analysis:** SW846 8330M Nitroguanidine

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
12. Were target analytes detected in the method blank <1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x = B
13. Was a field blank collected and analyzed?	X				
14. Were target analytes detected in the field blank analyses < 1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x=B
15. Was a field duplicate analyzed? Were the RPDs ≤30%?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs ≤ 40%?			X	No detected concentrations were reported.	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within laboratory limits of 79%-119%?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J; 30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X				DoD QSM Table F-3
20. Were MS/MSD recoveries within laboratory limits of 40%-150% with an RPD ≤20%?	X				DoD QSM Table F-3 Pj

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 26, 2013

**SDG:** 240-28110-0

**Analysis:** TAL SOP WS-WC-0050

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>Qualifier</b>
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Does the initial calibration curve consist of 5 concentration levels with the low standard near but > MDL?	X				STL SOP Section 10.2 R
7. Was the correlation coefficient >0.995?	X				STL SOP Section 10.2
8. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours? Was the %D <30%?	X				LCG Table 5 >30%=J
9. Was a second source verification (ICV) analyzed after the ICAL? Were all analytes 90-110%?	X				STL SOP Section 9.8, 10.3, LCG >110%=J; 90-85%=J/UJ; <85%=J/R
10. Was the ICB analyzed after the ICV with results <1/2 the MRL?	X				STL SOP Section 9.8, LCG, < 5x = U
11. Was a CCV run every 10 samples and at the end of the analytical run?	X				STL SOP Section 10.4
12. Was the ICV and CCV a mid-level standard from the initial calibration curve?	X				STL SOP Section 10.3.1
13. Were all CCV calibration analytes within 90-110%?	X				STL SOP Section 10.4, >110%=J; 85-90%=J/UJ; <85%=J/R
14. Was the ICB analyzed after the ICV with results <1/2 the MRL?	X				STL SOP Section 10.4, QSM, < 5x = U



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 26, 2013

**SDG:** 240-28110-0

**Analysis:** TAL SOP WS-WC-0050

Review Questions:	Yes	No	N/A	Comments	Qualifier
15. Was the Nitrocellulose assay available and/or analyzed to be within 10%?	X				STL SOP Section 7.14.1, R
16. Was a method blank prepared and analyzed with each batch?	X				
17. Were target analytes detected in the method blank <1/2 the MRL?		X		ADR checked section.	STL SOP Section 9.4, LCG, <5x=B
18. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW	
19. Were target analytes detected in the field blank analyses <1/2 the MRL?		X			<5x=B
20. Was a field duplicate analyzed? Were the RPDs <30%?	X			ADR checked section	QAPP Table 3-2 RPD > 30% = J
21. Was an LCS prepared and analyzed with each batch? Was the LCS recovery within lab's in-house limits% (26-144%)?	X				>UL%=J; 50-LL%=J/UJ; <50%=J/R
22. Was a MS/MSD pair prepared with each batch?	X				
23. Was the MS/MSD parent a Ravenna sample?	X			A matrix spike analysis was performed on sample FWGRQLmw-008C-0370-GW	
24. Were MS/MSD recoveries 26-144% and RPD ≤20?	X			ADR checked section.	Method EPA 353.2 Section 9.4.2 >UL%=J; <LL%=J/UJ; RPD>20%=J/UJ

## References:

STL SOP SAC-WC-0050 "Preparation and Analysis of Nitrocellulose in Aqueous and Soil/Sediment Samples by Colorimetric Autoanalyzer", Jan 2007, rev. 2.0

DoD Quality Systems Manual (QSM), version 4.1, October 2010

Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007

Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012

Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

Additional Comments:



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28110-0, rev1

**Analysis:** SW846 6860/ Perchlorate

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>Qual/Criteria</b>
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				
3. Were holding times met (28 days)?	X				UJ/J/R
4. Were sample storage requirements met?	X				
5. Was the DOD specified PQLs of 0.5ug/L achieved?	X				
6. Were all QAPP-specified target analytes reported?	X				
7. Did the initial calibration curve consist of 5 concentration levels?	X			LC_LCMS1 9/4/13 Standards(ng/L): 20, 50, 100, 200, 500, 1000	R
8. Was the correlation coefficient $r \geq 0.995$ ?	X				$R < 0.995 = J/R$
9. Was a second source verification (SSCV) analyzed after the ICAL? Were results 90-110%?	X				LCG Table 1 >120%=J; 60-80%=J/UJ; <60%=J/R
10. Was an ICV analyzed after the ICAL and daily before sample analysis?	X			9/4/13 @1850	R
11. Was the %Difference $\leq 15\%$ ?	X				R
12. Was a CCV analyzed after every 10 samples?	X			09/06/2013 @ 1206, 1750, 2206	
13. Was the %Difference $\leq 15\%$ ?	X				%D > 15% = UJ/J
14. Was a Limit of Detection Verification (LODV) analyzed before and after every batch?	X				
15. Was the LODV recovery within 70-130%?	X				>130%=J; 70-60%=J/UJ; <60%=J/R
16. Was an Interference Check Sample extracted and analyzed with every batch?	X				
17. Was the ICS recovery within 70 to 130%?	X				>120%=J; 50-79%=J/UJ; <50%=Pj/R
18. Was a method blank prepared and analyzed with each batch?	X				
19. Were target analytes detected in the method blank at >1/2 the MRL?		X		Checked by ADR.	<5X =B
20. Was a field blank (equipment) collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW	



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28110-0, rev1

**Analysis:** SW846 6860/ Perchlorate

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
21. Were target analytes detected in the field blank analyses >1/2 the MRL?		X		Checked by ADR.	<5X =B
22. Were target analytes detected in the ICB/CCB blank analyses >1/2 the MRL?	X			Perchlorate was detected at 0.0130µg/L in the CCB analyzed 9/6/13 at 1137, at 0.0122 µg/L in the CCB analyzed 9/6/13 at 1847 and at 0.0117 µg/L in the CCB analyzed 9/6/13 at 2303. The perchlorate result for sample FWGLL3mw-239c-0322-GF was qualified "U".	<5X =U
23. Was a LCS prepared and analyzed with each batch, with recoveries within 85-115%?	X			Checked by ADR.	>115%=J; 50%-85%=J/UJ; <50%=J/R
24. Was a MS/MSD prepared with each batch?	X				
25. Were MS/MSD recoveries 75-125% and RPD values ≤20%?	X			A matrix spike was performed on sample FWGFWGmw-DUP2-0337-GF with acceptable results.	>125% = J 30% - 75% = J/UJ <30% = J/R
26. Was a Laboratory Reagent Blank (LRB) analyzed prior to calibration and after high concentration samples?			x		
27. Were target analytes detected in the LRB at >1/2 the MRL?					<5X =B
28. Was a MRL Verification run with every ICAL?	X				
29. Were the MRL recoveries 70-130%?	X				R
30. Were the internal standards added to every sample?	X				
31. Did the IS recover within 50% to 150% of the ICAL mid-point standard?	X				R
32. Was a field duplicate analyzed? Were the RPDs within ±30%?		X		No field duplicate was collected or analyzed.	RPD >30=J
33. Was the Isotope ratio between 101 and 85 monitored and fell between 2.3 and 3.08?	X				J/UJ
34. Were reported sample concentrations within calibration range?	X				

*References:*

*DOD Perchlorate Handbook, March 2006; Section G "Selecting Analytical Methods and Services"*

Additional Comments:



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
6010B	FWGFWGmw-004-0346-GF	AQ	N	MANGANESE	5.0	2.4J		B	ug/L	Mb
				POTASSIUM	900	710J		J	ug/L	RI
6010B	FWGFWGmw-015-0350-GF	AQ	N	COBALT	4.0	2.9J		J	ug/L	RI
				NICKEL	5.0	2.5J		J	ug/L	RI
6010B	FWGFWGmw-016-0351-GF	AQ	N	ARSENIC	10	4.3J		J	ug/L	RI
6010B	FWGLL3mw-238C-0359-GF	AQ	N	MANGANESE	5.0	2.6J		B	ug/L	Mb
6010B	FWGLL3mw-241C-0360-GF	AQ	N	MANGANESE	5.0	3.0J		B	ug/L	Mb
				NICKEL	5.0	2.2J		J	ug/L	RI
6010B	FWGRQLmw-008C-0370-GF	AQ	N	COBALT	4.0	1.5J		J	ug/L	RI
				NICKEL	5.0	2.9J		J	ug/L	RI
6010B	FWGRQLmw-011C-0326-GF	AQ	N	LEAD	5.0	2.3J		J	ug/L	RI
6020	FWGFWGmw-016-0351-GF	AQ	N	ALUMINUM	60	27J		J	ug/L	RI
6020	FWGLL3mw-238C-0359-GF	AQ	N	ALUMINUM	60	27J		J	ug/L	RI
6020	FWGRQLmw-006C-0368-GF	AQ	N	SODIUM	400	1500		B	ug/L	Eb

*N* = Normal Sample    *TB* = Trip Blank  
*FD* = Field Duplicate    *FB* = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
6020	FWGRQLmw-008C-0370-GF	AQ	N	SODIUM THALLIUM	400 1.5	6600 1.2J		B J	ug/L ug/L	RI
6020	FWGRQLmw-009C-0371-GF	AQ	N	SODIUM	400	1700		B	ug/L	Eb
6020	FWGRQLmw-011C-0326-GF	AQ	N	SODIUM ZINC	400 50	1800 35J		B J	ug/L ug/L	Eb RI
6020	FWGRQLmw-DUP5-0377-GF	AQ	FD	SODIUM	400	1700		B	ug/L	Eb
6860	FWGLL3mw-239C-0322-GF	AQ	N	PERCHLORATE	0.020	0.031J		U	ug/L	
8081A	FWGEQUIPRINSE1-0340-GW	AQ	EB	BETA-BHC DELTA-BHC	0.019 0.019	0.018J 0.019U		J R	ug/L ug/L	RI, Ccv, Pr
8081A	FWGFWGmw-004-0346-GW	AQ	N	DELTA-BHC	0.021	0.038J		R	ug/L	ProfJudg
8081A	FWGLL3mw-238C-0359-GW	AQ	N	4,4'-DDE DELTA-BHC ENDRIN ALDEHYDE HEPTACHLOR EPOXIDE	0.021 0.021 0.021 1.0	0.020J 0.021U 0.011J 1.0U		J R J UJ	ug/L ug/L ug/L ug/L	RI, Ccv, Pr  RI Surr
8081A	FWGLL3mw-241C-0360-GW	AQ	N	DELTA-BHC	0.019	0.038J		R	ug/L	ProfJudg

N = Normal Sample    TB = Trip Blank  
FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
8081A	FWGRQLmw-006C-0368-GW	AQ	N	BETA-BHC	0.019	0.013J		JB	ug/L	Eb, Ccv, Pr
				DELTA-BHC	0.019	0.019U		R	ug/L	
8081A	FWGRQLmw-008C-0370-GW	AQ	N	4,4'-DDE	0.019	0.038J		J	ug/L	Ccv, ProfJ
				BETA-BHC	0.019	0.0093J		JB	ug/L	Eb, Ccv, Pr
				DELTA-BHC	0.019	0.041J		R	ug/L	ProfJudg
8081A	FWGRQLmw-009C-0371-GW	AQ	N	DELTA-BHC	0.019	0.019J		R	ug/L	ProfJudg
8081A	FWGRQLmw-011C-0326-GW	AQ	N	DELTA-BHC	0.019	0.019U		R	ug/L	
8081A	FWGRQLmw-DUP5-0377-GW	AQ	FD	DELTA-BHC	0.019	0.019U		R	ug/L	
8082	FWGRQLmw-006C-0368-GW	AQ	N	AROCLOR 1016	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1221	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1232	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1242	0.38	0.38U		UJ	ug/L	Surr
				AROCLOR 1248	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1254	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1260	0.19	0.19U		UJ	ug/L	Surr

*N = Normal Sample*    *TB = Trip Blank*  
*FD = Field Duplicate*    *FB = Field Blank*



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
8082	FWGRQLmw-008C-0370-GW	AQ	N							
				AROCLOR 1016	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1221	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1232	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1242	0.38	0.38U		UJ	ug/L	Surr
				AROCLOR 1248	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1254	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1260	0.19	0.19U		UJ	ug/L	Surr
8082	FWGRQLmw-009C-0371-GW	AQ	N							
				AROCLOR 1016	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1221	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1232	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1242	0.38	0.38U		UJ	ug/L	Surr
				AROCLOR 1248	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1254	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1260	0.19	0.19U		UJ	ug/L	Surr
8082	FWGRQLmw-DUP5-0377-GW	AQ	FD							
				AROCLOR 1016	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1221	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1232	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1242	0.38	0.38U		UJ	ug/L	Surr
				AROCLOR 1248	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1254	0.19	0.19U		UJ	ug/L	Surr
				AROCLOR 1260	0.19	0.19U		UJ	ug/L	Surr
8260B	FWGEQUIPRINSE1-0340-GW	AQ	EB							
				ACETONE	1.1	19		J	ug/L	Ccv
				CARBON DISULFIDE	0.25	0.13J		J	ug/L	RI
				TOLUENE	0.25	0.14J		J	ug/L	RI

*N = Normal Sample    TB = Trip Blank*  
*FD = Field Duplicate    FB = Field Blank*



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
8260B	FWGRQLmw-006C-0368-GW	AQ	N	ACETONE	1.1	3.4J		JB	ug/L	Tb, Eb, Cc
				CARBON DISULFIDE	0.25	0.16J		B	ug/L	Eb
8260B	FWGRQLmw-008C-0370-GW	AQ	N	ACETONE	1.1	2.3J		JB	ug/L	Tb, Eb, Cc
8260B	FWGRQLmw-009C-0371-GW	AQ	N	ACETONE	1.1	3.2J		JB	ug/L	Tb, Eb, Fd,
8260B	FWGRQLmw-DUP5-0377-GW	AQ	FD	ACETONE	1.1	1.8J		JB	ug/L	Tb, Eb, Cc
8260B	FWGTEAM1-TRIP	AQ	TB	ACETONE	1.1	1.2J		J	ug/L	Ccv
				METHYLENE CHLORIDE	0.50	0.55J		J	ug/L	ProfJudg
8260B	FWGTEAM3-TRIP	AQ	TB	ACETONE	1.1	1.1J		J	ug/L	Ccv
8270C -SVOC1	FWGFWGmw-004-0346-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.53	0.25J		B	ug/L	Mb
8270C -SVOC1	FWGFWGmw-015-0350-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.45J		B	ug/L	Mb
8270C -SVOC1	FWGFWGmw-016-0351-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.50	0.32J		B	ug/L	Mb
8270C -SVOC1	FWGLL3mw-238C-0359-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.53	0.39J		B	ug/L	Mb
8270C -SVOC1	FWGLL3mw-241C-0360-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.52	0.57J		B	ug/L	Mb

*N = Normal Sample*    *TB = Trip Blank*  
*FD = Field Duplicate*    *FB = Field Blank*



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
8270C-SVOC4	FWGEQUIPRINSE1-0340-GW	AQ	EB							
				BENZYL ALCOHOL	0.48	0.44J		J	ug/L	RI
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.38J		J	ug/L	RI
8270C-SVOC4	FWGRQLmw-006C-0368-GW	AQ	N							
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.51J		B	ug/L	Eb
8270C-SVOC4	FWGRQLmw-008C-0370-GW	AQ	N							
				3,3'-DICHLOROBENZIDINE	0.95	0.95U J		R	ug/L	Ms
				BENZO(A)PYRENE	0.095	0.095U J		UJ	ug/L	Ms
8270C-SVOC4	FWGRQLmw-009C-0371-GW	AQ	N							
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.37J		B	ug/L	Eb
8270C-SVOC4	FWGRQLmw-011C-0326-GW	AQ	N							
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.22J		B	ug/L	Eb
8270C-SVOC4	FWGRQLmw-DUP5-0377-GW	AQ	FD							
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.32J		B	ug/L	Eb
8330	FWGLL3mw-238C-0359-GW	AQ	N							
				2,6-DINITROTOLUENE	0.11	0.52J M		J	ug/L	ProfJudg
				NITROBENZENE	0.11	0.17J		J	ug/L	ProfJudg
8330	FWGLL3mw-241C-0360-GW	AQ	N							
				2,6-DINITROTOLUENE	0.10	0.083J M		J	ug/L	RI
				Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.050	0.39J M		J	ug/L	ProfJudg
8330	FWGRQLmw-008C-0370-GW	AQ	N							
				2-NITROTOLUENE	0.10	0.10U		UJ	ug/L	Ms

*N* = Normal Sample    *TB* = Trip Blank  
*FD* = Field Duplicate    *FB* = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28110-1</b>										
9012A	FWGEQUIPRINSE1-0340-GW	AQ	EB							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGRQLmw-006C-0368-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGRQLmw-009C-0371-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGRQLmw-DUP5-0377-GW	AQ	FD							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg



# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: GENCHEM

Method: 6860

Matrix: AQ

Sample ID: FWGLL3mw-239C-0322-GF

Collected: 8/19/2013 12:52:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PERCHLORATE	0.031	J	0.0088	MDL	0.020	LOD	ug/L	U	Cb

Method Category: GENCHEM

Method: 9012A

Matrix: AQ

Sample ID: FWGEQUIPRINSE1-0340-GW

Collected: 8/19/2013 5:53:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJudg

Sample ID: FWGRQLmw-006C-0368-GW

Collected: 8/19/2013 4:19:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJudg

Sample ID: FWGRQLmw-009C-0371-GW

Collected: 8/19/2013 1:23:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJudg

Sample ID: FWGRQLmw-DUP5-0377-GW

Collected: 8/19/2013 2:23:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJudg

Method Category: METALS

Method: 6010B

Matrix: AQ

Sample ID: FWGFWGmw-004-0346-GF

Collected: 8/19/2013 5:08:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MANGANESE	2.4	J	1.8	MDL	5.0	LOD	ug/L	U	Mb
POTASSIUM	710	J	300	MDL	900	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6010B

Matrix: AQ

Sample ID: FWGFWGmw-015-0350-GF

Collected: 8/19/2013 5:41:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COBALT	2.9	J	1.5	MDL	4.0	LOD	ug/L	J	RI
NICKEL	2.5	J	2.2	MDL	5.0	LOD	ug/L	J	RI

Sample ID: FWGFWGmw-016-0351-GF

Collected: 8/19/2013 4:51:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ARSENIC	4.3	J	3.3	MDL	10	LOD	ug/L	J	RI

Sample ID: FWGLL3mw-238C-0359-GF

Collected: 8/19/2013 1:32:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MANGANESE	2.6	J	1.8	MDL	5.0	LOD	ug/L	U	Mb

Sample ID: FWGLL3mw-241C-0360-GF

Collected: 8/19/2013 2:28:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MANGANESE	3.0	J	1.8	MDL	5.0	LOD	ug/L	U	Mb
NICKEL	2.2	J	2.2	MDL	5.0	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-008C-0370-GF

Collected: 8/19/2013 12:45:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COBALT	1.5	J	1.5	MDL	4.0	LOD	ug/L	J	RI
NICKEL	2.9	J	2.2	MDL	5.0	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-011C-0326-GF

Collected: 8/19/2013 2:55:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	2.3	J	1.7	MDL	5.0	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6020

Matrix: AQ

Sample ID: FWGFWGmw-016-0351-GF

Collected: 8/19/2013 4:51:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	27	J	20	MDL	60	LOD	ug/L	J	RI

Sample ID: FWGLL3mw-238C-0359-GF

Collected: 8/19/2013 1:32:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	27	J	20	MDL	60	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-006C-0368-GF

Collected: 8/19/2013 4:19:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SODIUM	1500		160	MDL	400	LOD	ug/L	U	Eb

Sample ID: FWGRQLmw-008C-0370-GF

Collected: 8/19/2013 12:45:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
THALLIUM	1.2	J	0.79	MDL	1.5	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-009C-0371-GF

Collected: 8/19/2013 1:23:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SODIUM	1700		160	MDL	400	LOD	ug/L	U	Eb

Sample ID: FWGRQLmw-011C-0326-GF

Collected: 8/19/2013 2:55:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SODIUM	1800		160	MDL	400	LOD	ug/L	U	Eb
ZINC	35	J	27	MDL	50	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-DUP5-0377-GF

Collected: 8/19/2013 2:23:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SODIUM	1700		160	MDL	400	LOD	ug/L	U	Eb

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGEQUIPRINSE1-0340-GW

Collected: 8/19/2013 5:53:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.018	J	0.0081	MDL	0.019	LOD	ug/L	J	RI, ProfJudg, Ccv
DELTA-BHC	0.019	U	0.0084	MDL	0.019	LOD	ug/L	R	Ccv

Sample ID: FWGFWGmw-004-0346-GW

Collected: 8/19/2013 5:08:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DELTA-BHC	0.038	J	0.0093	MDL	0.021	LOD	ug/L	R	ProfJudg, Ccv

Sample ID: FWGLL3mw-238C-0359-GW

Collected: 8/19/2013 1:32:00

Analysis Type: RE2-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.020	J	0.010	MDL	0.021	LOD	ug/L	J	RI, ProfJudg, Ccv
DELTA-BHC	0.021	U	0.0091	MDL	0.021	LOD	ug/L	R	Ccv
ENDRIN ALDEHYDE	0.011	J	0.011	MDL	0.021	LOD	ug/L	J	RI

Sample ID: FWGLL3mw-238C-0359-GW

Collected: 8/19/2013 1:32:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 50

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HEPTACHLOR EPOXIDE	1.0	U	0.37	MDL	1.0	LOD	ug/L	UJ	Surr

Sample ID: FWGLL3mw-241C-0360-GW

Collected: 8/19/2013 2:28:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DELTA-BHC	0.038	J	0.0084	MDL	0.019	LOD	ug/L	R	ProfJudg, Ccv

Sample ID: FWGRQLmw-006C-0368-GW

Collected: 8/19/2013 4:19:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.013	J	0.0080	MDL	0.019	LOD	ug/L	UJ	Eb, ProfJudg, Ccv
DELTA-BHC	0.019	U	0.0083	MDL	0.019	LOD	ug/L	R	Ccv

Sample ID: FWGRQLmw-008C-0370-GW

Collected: 8/19/2013 12:45:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.038	J	0.0092	MDL	0.019	LOD	ug/L	J	ProfJudg, Ccv

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGRQLmw-008C-0370-GW

Collected: 8/19/2013 12:45:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.0093	J	0.0080	MDL	0.019	LOD	ug/L	UJ	Eb, ProfJudg, Ccv
DELTA-BHC	0.041	J	0.0083	MDL	0.019	LOD	ug/L	R	ProfJudg, Ccv

Sample ID: FWGRQLmw-009C-0371-GW

Collected: 8/19/2013 1:23:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DELTA-BHC	0.019	J	0.0083	MDL	0.019	LOD	ug/L	R	ProfJudg, Ccv

Sample ID: FWGRQLmw-011C-0326-GW

Collected: 8/19/2013 2:55:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DELTA-BHC	0.019	U	0.0083	MDL	0.019	LOD	ug/L	R	Ccv

Sample ID: FWGRQLmw-DUP5-0377-GW

Collected: 8/19/2013 2:23:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DELTA-BHC	0.019	U	0.0083	MDL	0.019	LOD	ug/L	R	Ccv

Method Category: SVOA

Method: 8082

Matrix: AQ

Sample ID: FWGRQLmw-006C-0368-GW

Collected: 8/19/2013 4:19:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1221	0.19	U	0.12	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1232	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1242	0.38	U	0.21	MDL	0.38	LOD	ug/L	UJ	Surr
AROCLOR 1248	0.19	U	0.095	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1254	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1260	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8082

Matrix: AQ

Sample ID: FWGRQLmw-008C-0370-GW

Collected: 8/19/2013 12:45:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1221	0.19	U	0.12	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1232	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1242	0.38	U	0.21	MDL	0.38	LOD	ug/L	UJ	Surr
AROCLOR 1248	0.19	U	0.095	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1254	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1260	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr

Sample ID: FWGRQLmw-009C-0371-GW

Collected: 8/19/2013 1:23:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1221	0.19	U	0.12	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1232	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1242	0.38	U	0.21	MDL	0.38	LOD	ug/L	UJ	Surr
AROCLOR 1248	0.19	U	0.095	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1254	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1260	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr

Sample ID: FWGRQLmw-DUP5-0377-GW

Collected: 8/19/2013 2:23:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1221	0.19	U	0.12	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1232	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1242	0.38	U	0.21	MDL	0.38	LOD	ug/L	UJ	Surr
AROCLOR 1248	0.19	U	0.095	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1254	0.19	U	0.15	MDL	0.19	LOD	ug/L	UJ	Surr
AROCLOR 1260	0.19	U	0.16	MDL	0.19	LOD	ug/L	UJ	Surr

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

<b>Method Category:</b>	<b>SVOA</b>
<b>Method:</b>	<b>8270C -SVOC1</b>
<b>Matrix:</b>	<b>AQ</b>

Sample ID: FWGFWGmw-004-0346-GW Collected: 8/19/2013 5:08:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.25	J	0.23	MDL	0.53	LOD	ug/L	U	Mb

Sample ID: FWGFWGmw-015-0350-GW Collected: 8/19/2013 5:41:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.45	J	0.21	MDL	0.48	LOD	ug/L	U	Mb

Sample ID: FWGFWGmw-016-0351-GW Collected: 8/19/2013 4:51:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.32	J	0.22	MDL	0.50	LOD	ug/L	U	Mb

Sample ID: FWGLL3mw-238C-0359-GW Collected: 8/19/2013 1:32:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.39	J	0.23	MDL	0.53	LOD	ug/L	U	Mb

Sample ID: FWGLL3mw-241C-0360-GW Collected: 8/19/2013 2:28:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.57	J	0.23	MDL	0.52	LOD	ug/L	U	Mb

<b>Method Category:</b>	<b>SVOA</b>
<b>Method:</b>	<b>8270C-SVOC4</b>
<b>Matrix:</b>	<b>AQ</b>

Sample ID: FWGEQUIPRINSE1-0340-GW Collected: 8/19/2013 5:53:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZYL ALCOHOL	0.44	J	0.36	MDL	0.48	LOD	ug/L	J	RI
BIS(2-ETHYLHEXYL)PHthalate	0.38	J	0.21	MDL	0.48	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-006C-0368-GW Collected: 8/19/2013 4:19:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.51	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

<b>Method Category:</b>	<b>SVOA</b>		
<b>Method:</b>	<b>8270C-SVOC4</b>	<b>Matrix:</b>	<b>AQ</b>

**Sample ID:** FWGRQLmw-008C-0370-GW **Collected:** 8/19/2013 12:45:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3,3'-DICHLOROBENZIDINE	0.95	U J	0.35	MDL	0.95	LOD	ug/L	R	Ms, Ms
BENZO(A)PYRENE	0.095	U J	0.049	MDL	0.095	LOD	ug/L	UJ	Ms

**Sample ID:** FWGRQLmw-009C-0371-GW **Collected:** 8/19/2013 1:23:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.37	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

**Sample ID:** FWGRQLmw-011C-0326-GW **Collected:** 8/19/2013 2:55:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.22	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

**Sample ID:** FWGRQLmw-DUP5-0377-GW **Collected:** 8/19/2013 2:23:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.32	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

<b>Method Category:</b>	<b>SVOA</b>		
<b>Method:</b>	<b>8330</b>	<b>Matrix:</b>	<b>AQ</b>

**Sample ID:** FWGLL3mw-238C-0359-GW **Collected:** 8/19/2013 1:32:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.52	J M	0.053	MDL	0.11	LOD	ug/L	J	ProfJug
NITROBENZENE	0.17	J	0.053	MDL	0.11	LOD	ug/L	J	ProfJug

**Sample ID:** FWGLL3mw-241C-0360-GW **Collected:** 8/19/2013 2:28:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.083	J M	0.050	MDL	0.10	LOD	ug/L	J	RI
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.39	J M	0.036	MDL	0.050	LOD	ug/L	J	ProfJug

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8330

Matrix: AQ

Sample ID: FWGRQLmw-008C-0370-GW

Collected: 8/19/2013 12:45:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-NITROTOLUENE	0.10	U	0.090	MDL	0.10	LOD	ug/L	UJ	Ms

Method Category: VOA

Method: 8260B

Matrix: AQ

Sample ID: FWGEQUIPRINSE1-0340-GW

Collected: 8/19/2013 5:53:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	19		1.1	MDL	1.1	LOD	ug/L	J	Ccv
CARBON DISULFIDE	0.13	J	0.13	MDL	0.25	LOD	ug/L	J	RI
TOLUENE	0.14	J	0.13	MDL	0.25	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-006C-0368-GW

Collected: 8/19/2013 4:19:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	3.4	J	1.1	MDL	1.1	LOD	ug/L	UJ	Eb, Tb, Ccv
CARBON DISULFIDE	0.16	J	0.13	MDL	0.25	LOD	ug/L	U	Eb

Sample ID: FWGRQLmw-008C-0370-GW

Collected: 8/19/2013 12:45:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	2.3	J	1.1	MDL	1.1	LOD	ug/L	UJ	Eb, Tb, Ccv

Sample ID: FWGRQLmw-009C-0371-GW

Collected: 8/19/2013 1:23:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	3.2	J	1.1	MDL	1.1	LOD	ug/L	UJ	Eb, Tb, Ccv, Fd

Sample ID: FWGRQLmw-DUP5-0377-GW

Collected: 8/19/2013 2:23:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	1.8	J	1.1	MDL	1.1	LOD	ug/L	UJ	Eb, Tb, Ccv

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: VOA

Method: 8260B

Matrix: AQ

Sample ID: FWGTEAM1-TRIP

Collected: 8/19/2013 11:00:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	1.2	J	1.1	MDL	1.1	LOD	ug/L	J	Ccv
METHYLENE CHLORIDE	0.55	J	0.33	MDL	0.50	LOD	ug/L	J	ProfJudg

Sample ID: FWGTEAM3-TRIP

Collected: 8/19/2013 11:00:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	1.1	J	1.1	MDL	1.1	LOD	ug/L	J	Ccv

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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## Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

### Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Eb	Equipment Blank Contamination
Fd	Field Duplicate Precision
Lcs	Laboratory Control Spike Upper Estimation
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Upper Estimation
Tb	Trip Blank Contamination

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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## Data Qualifier Summary

Lab Reporting Batch ID: 240-28110-1

Laboratory: TA CAN

EDD Filename: Prep240-28110-1

eQAPP Name: RVAAP 66-rev July 2012

### Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Eb	Equipment Blank Contamination
Fd	Field Duplicate Precision
Lcs	Laboratory Control Spike Upper Estimation
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Upper Estimation
Tb	Trip Blank Contamination

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP (66) OH

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## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28145

**Date:** December 9, 2013

**Revision:** 1

Data Reviewer: Angye Dragotta /Environmental Quality Management, Inc. (EQM, Inc.)

### QA/QC Summary

On August 19<sup>th</sup> and 20<sup>th</sup>, 2013 the following samples were collected from groundwater-monitoring wells at Ravenna Army Ammunition Plant and analyzed as part of SDG 240-28145. Sample analysis was performed by Test America. Test America-North Canton performed all analyses with the exception of the analytical for methods 8330, M8330, TALSOPWS-WC-0050 and 6860. Methods 8330, M8330 and TALSOPWS-WC-0050 were analyzed by Test America, West Sacramento and method 6860 was analyzed by Test America-Denver.

Sample ID	VOC by SW846 8260	SVOC 4 by SW846 8270	SVOC 1 and 2 by SW846 8270	SVOC 1 by SW846 8270	Pesticides by SW846 8081	PCBs/ SW846 8082	Explosives/Propellants by SW846 8330, Mod. 8330 and TALSOP WS-WC-0050	Cyanide SW846 9012	Perchlorate by SW846 6860	NO2/NO3, EPA 353.2	Metals <sup>4</sup>		
											SW846 6010B	SW846 6020	Mercury by SW846 7470A
FWGLL12mw-187C-0363-GW/GF	X			X	X		X			X	X	X	X
FWGLL12mw-242C-0364- GW/GF	X			X	X		X			X	X	X	X
FWGLL12mw-247-0336-GW/GF	X			X	X		X			X	X	X	X
FWGLL12mw-DUP3-0338-GW/GF	X			X	X		X			X	X	X	X
FWGDETmw-002C-0315-GW/GF	X	X			X	X	X	X	X		X	X	X
FWGDA2mw-114-0312-GW/GF	X	X			X	X	X	X			X	X	X
FWGLL1mw-087C-0356-GW/GF				X	X		X				X	X	X
FWGSCFmw-002-0327-GW/GF				X	X		X				X	X	X
FWGSCFmw-004-0372-GW/GF				X	X		X				X	X	X
FWGSCFmw-DUP6-0378-GW/GF				X	X		X				X	X	X
FWGDA2mw-115-0313-GW/GF	X	X			X	X	X	X			X	X	X
FWGEQUIPRINSE2-0341-GW	X	X			X	X	X	X	X	X	X	X	X
FWGDA2mw-DUP1-0336-GW/GF		X					X				X	X	X
FWGLL12mw-245C-0365-GW/GF	X			X	X		X			X	X	X	X
FWGLL12mw-185C-0362-GW/GF										X	X	X	X
FWGLL3mw-244-0323-GW/GF				X	X		X				X	X	X
FWGDETmw-001C-0314-GW/GF	X	X			X	X	X	X	X		X	X	X
FWGDETmw-003C-0343-GW/GF	X	X			X	X	X	X	X		X	X	X
FWGBKGmw-010C-0311-GF									X				
FWGB12mw-013-0313-GW					X	X							
FWGFWGmw-011-0348-GW/GF				X			X				X	X	X
FWGFWGmw-012-0349-GW/GF				X			X				X	X	X
FWGLL10mw-003C-0361-GW/GF	X										X	X	X
FWGLL1mw-064C-0352-GW/GF				X	X		X				X	X	X
FWGRQLmw-007C-0369-GW/GF	X	X			X	X	X	X			X	X	X
FWGRQLmw-010C-0325-GW/GF	X	X			X	X	X	X			X	X	X
FWGEBGmw-131-0316-GW/GF	X	X			X	X	X	X			X	X	X

Notes:

- 1) All metals and perchlorate samples with the exception of FWGEQUIPRINSE2-0341-GW were field filtered (GF).



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28145

**Date:** December 9, 2013

**Revision:** 1

- 2) FWGTEAM1-TRIP, FWGTEAM2-TRIP, FWGTEAM3-TRIP and FWGTEAM4-TRIP were collected on 8/20/13, and FWGTEAM4-TRIP was collected on 08/19/13. The trip blanks were analyzed for VOC by EPA 8260B.
- 3) SVOC4= Full SVOC List and SVOC 1= Nitroaromatics and phthalates
- 4) EPA 6020 metals include aluminum, antimony, beryllium, cadmium, iron, sodium, thallium and zinc. EPA 6010B metals include arsenic, chromium, cobalt, lead, selenium, silver, vanadium, barium, calcium, copper, magnesium, manganese, nickel and potassium.

The data presented in this report were evaluated according to the *Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January, 2012*. The following documents were used as needed to supplement the project documentation: The United States Department of Defense (DoD) Quality Services Manual (QSM) for Environmental Laboratories, Version 4.1, and the United States Army Corps of Engineers (USACE), Louisville District Quality Systems Manual Supplement (LS), *EPA National Functional Guidelines (NFG) for Organic Data Review, EPA-540/R-08-01, June 2008, NFG for Inorganic Data Review, EPA-540/R-04-004, October 2004*, Analytical Methods, and Laboratory Standard Operating Procedures. The QC criteria provided in the reference documents represent accuracy and precision performance goals for each analytical method. QC criteria reviewed for each method are listed below, along with any outliers.

All analytical results have been verified against compliance requirements specified in the project QAPP, QSM, LS, associated analytical methods and/or SOPs, as appropriate, and reported by the laboratory as directed by the DoD QSM.

Per the DoD QSM, the laboratory data is reported as follows: Non detected results were reported at the LOD with a "U" flag. Detected results between the DL and LOQ were reported as estimated, qualified with a "J" flag.

LOD - An estimate of the minimum amount of a substance that an analytical process can reliably detect.

LOQ - The lowest concentration that produces a quantitative result within specified limits of precision and bias.

DL- The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence.

Checklists used in review of the data have been presented in Appendix 1. Outliers have been noted below and results requiring qualification, as a result of this verification process, have been summarized in Appendix 2.

The completeness objective for the project was 90%. The completeness objective was met for this SDG, at 100%. Limitations, if any, on the data are indicated with qualifiers detailed below.

### **VOAs - 8260B**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Tuning criteria
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Internal standard area counts and retention times
- LOD and MRL verification criteria
- Method/Field/Trip blank Criteria
- Surrogate recoveries
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28145

**Date:** December 9, 2013

**Revision:** 1

### MRL Recovery

The opening MRL analyzed 8/28/13 @ 1140 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 145%. The closing MRL analyzed at 2119 recovered above control limits of 70-130% for chloroethane at 132% and methylene chloride at 160%. The methylene chloride result for sample FWGTEAM1-Trip was qualified, "J". No additional qualifications were required for cis-1,3-dichloropropene or chloroethane as there were no detected concentrations of these analytes reported for the bracketed field samples.

The opening MRL analyzed 8/29/13 @ 1836 recovered above control limits of 70-130% for toluene at 142% and trichloroethene at 143%. No qualifications were required as there were no detected toluene or trichloroethene concentrations reported for the bracketed field samples.

### CCV

The CCV analyzed 8/28/13 @ 1031 had a %D above control limits of 20% for acetone at 23.2% and 4-methyl-2-pentanone at 21.4%. The acetone result for sample FWGEQUIPRINSE2-0341-GW was qualified as estimated, "J". No qualifications were made for the 4-methyl-2-pentanone outlier as there were no detected 4-methyl-2-pentanone concentrations reported for the bracketed field samples.

### Blanks

Toluene was detected at 0.164µg/L in the method blank from batch 240-99628. No qualifications were required as there were no detected toluene concentrations reported for the associated field samples.

Methylene chloride was detected in FWGTEAM1-TRIP at 0.33µg/L, in FWGTEAM2-TRIP at 0.59µg/L, in FWGTEAM3-TRIP at 0.45µg/L, FWGTeam4-Trip (collected 8/19/13) at 0.61µg/L and FWGTeam4-Trip (collected 8/20/13) at 0.52µg/L. FWGEQUIPRINSE1-0340-GW had acetone detected at 19µg/L, carbon disulfide at 0.13µg/L, toluene at 0.14µg/L and 2-butanone at 1.5µg/L. FWGEQUIPRINSE2-0341-GW had acetone detected at 21µg/L, carbon disulfide at 1.3µg/L and 2-butanone at 1.1µg/L. The carbon disulfide result for sample FWGDA2mw-115-0313-GW were qualified, "B" as the detected concentrations were <5x blank contamination. The acetone results for samples FWGRQLmw-007c-0369-GW and FWGRQLmw-010c-0325-GW were qualified, "B" as the detected concentrations were <10x blank contamination. There were no detected 2-butanone or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone or toluene contamination.

### Matrix Spike Analysis

A matrix spike was not requested on a sample from this laboratory batch so no matrix spike information was provided or evaluated.

### SVOCs- 8270C

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Tuning criteria
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Internal standard area counts and retention times
- LOD and MRL verification criteria
- Method/Field blank Criteria
- Surrogate recoveries
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD

### MRL Verification

The opening and closing MRL checks analyzed 8/31/13 recovered above control limits of 70-130% for 4-nitrophenol at 136% and 138%, respectively. No qualification of the data was required as there were no detected concentrations of 4-nitrophenol reported for the bracket field samples.



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28145

**Date:** December 9, 2013

**Revision:** 1

### CCV

- The CCV analyzed 8/31/13 @1101 had 4-nitrophenol with a %D above control limits of 20% D at 26.6% and 4-nitroaniline above limits at 20.9%.
- The CCV analyzed 9/3/13 @0727 had 4-nitrophenol with a %D above control limits of 20% D at 31.7%.
- The CCV analyzed 9/4/13 @0808 had 4-nitrophenol with a %D above control limits of 20% D at 37.1% and 4-nitroaniline above limits at 24.2%.

No qualifications were made as there were no detected concentrations of 4-nitrophenol or 4-nitroaniline reported for the associated field samples.

### Blanks

bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98943 at 0.376µg/L and at 0.601µg/L in the method blank from batch 240-984497. The bis (2-ethylhexyl) phthalate results for samples FWGFWGmw-012-0349-GW, FWGLL12mw-187-0363-GW, FWGLL12mw-242-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified, "B".

- bis (2-Ethylhexyl) phthalate was detected at 0.38µg/L, diethylphthalate at 1.3µg/L and benzyl alcohol at 0.44µg/L in FWGEQUIPRINSE1-0340-GW.
- bis (2-Ethylhexyl) phthalate was detected at 0.53µg/L, diethylphthalate at 1.4µg/L, phenol at 0.61µg/L and benzyl alcohol at 0.66µg/L in FWGEQUIPRINSE2-0341-GW.

The bis (2-ethylhexyl) phthalate results for samples FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDA2mw-DUP1-0336-GW, FWGDETMw-001c-0314-GW, FWGDETMw-002c-0315-GW, FWGDETMw-003c-0343-GW, FWGFWGmw-012-0349-GW, FWGLL12mw-187-0363-GW, FWGLL12mw-242-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified, "B". No qualifications were made for the diethylphthalate, phenol or benzyl alcohol contamination as there were no detected 2-butanone, phenol or benzyl alcohol concentrations reported for the associated field samples.

### Pesticides- 8081A

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Preservation, holding time and sample handling
- Initial Calibration criteria
- DDT and Endrin breakdown criteria
- Retention time criteria
- ICV criteria
- CCV Criteria
- Method/Field blank Criteria
- LCS Recoveries
- Field Duplicate Criteria
- LOD and MRL verification criteria
- Matrix Spike Recovery Criteria and RPD
- Surrogate Recoveries
- Second Column confirmation criteria

### MRL Recovery

- The MRL analyzed on 8/29/13@ 2251 recovered above control limits of 70-130% at 143% on CLP-2 for delta-BHC.
- The MRL analyzed on 8/30/13@ 0337 recovered above control limits of 70-130% at 149% on CLP-2 for delta-BHC.
- The closing MRL analyzed on 9/12/13 at 0209 recovered above control limits of 70-130 on CLP-1 and CLP-2 at 135% and 141% for 4,4'-DDE and at 131% and 135% for aldrin.



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28145

**Date:** December 9, 2013

**Revision:** 1

No qualifications were required as there were no detected concentrations reported for delta-BHC, 4,4'-DDD or aldrin in the bracketed field samples.

### CCV

The CCV analyzed 8/30/13 @ 0316 had a %D above control limits of 20% for endrin at 20.6% (CLP-1) and above limits for 4,4'-DDD at 23% and methoxychlor at 23.5% (CLP-2). No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 8/30/13 @ 1044 had a %D above control limits of 20% for gamma-BHC at 24.3%, beta-BHC at 21.9%, heptachlor epoxide at 22.7%, gamma-chlordane at 24.4%, dieldrin at 25.9%, endrin at 34.9%, 4,4'-DDD at 42.3%, endosulfan II at 31.4%, endosulfan sulfate at 26.4 % and endrin ketone at 25% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-BHC at 21.6%, heptachlor epoxide at 20.7%, gamma-chlordane at 23.2%, dieldrin at 23.9%, endrin at 36.5%, 4,4'-DDD at 36%, endosulfan II at 21.9%, endosulfan sulfate at 30.2 %, endrin ketone at 29% and methoxychlor at 20.8%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 8/30/13 @ 1155 had a %D above control limits of 20% for alpha-BHC at 22.4%, gamma-BHC at 30.9%, beta-BHC at 28.3%, delta-BHC at 22.5%, heptachlor epoxide at 27.3%, gamma-chlordane at 30.9, alpha-chlordane at 26.3%, 4,4'-DDE at 23.7%, dieldrin at 31.7%, endrin at 28.1%, 4,4'-DDD at 35.8%, endosulfan II at 27.3%, endosulfan sulfate at 24.3 % and endrin ketone at 24.2% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-chlordane at 21%, 4,4'-DDD at 22.6%, endosulfan sulfate at 21 % and endrin ketone at 20.9%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 9/12/13 @ 0006 had a %D above control limits of 20% for alpha-BHC at 46.8%, gamma-BHC at 29.7%, beta-BHC at 41.7%, delta-BHC at 38%, aldrin at 51.4%, heptachlor epoxide at 43.4%, gamma-chlordane at 37.2%, alpha-chlordane at 42%, endosulfan I at 25.6%, 4,4'-DDE at 53.1%, dieldrin at 38.3%, endrin at 30.4% and 4,4'-DDD at 25.7%, (CLP-1). CLP-2 had a %D above control limits of 20% for alpha-BHC at 56%, gamma-BHC at 36.9%, beta-BHC at 47.5%, delta-BHC at 45.5%, aldrin at 60.4%, heptachlor epoxide at 54.6%, gamma-chlordane at 41.9%, alpha-chlordane at 53%, endosulfan I at 32.8%, 4,4'-DDE at 60.9%, dieldrin at 45.8%, endrin at 36.9%, 4,4'-DDD at 36.1%, endosulfan II at 29.9% and endosulfan sulfate at 27%. The beta-BHC results for samples FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW, FWGSCFmw-DUP6-0378-GW, FWGDA2mw-115-0313-GW, FWGLL12mw-245c-0365-GW and FWGLL3mw-244-0323-GW and the endrin ketone result for sample FWGDETMw-001c-0314-GW were qualified as estimated, "J".

The CCV analyzed 9/12/13 @ 1531 had a %D above control limits of 20% for alpha-BHC at 24.3%, gamma-BHC at 21.4%, delta-BHC at 21.4%, heptachlor at 20.5%, aldrin at 26.9%, 4,4'-DDE at 26.3%, endrin at 23.5%, 4,4'-DDD at 21% and below limits for endrin ketone at 20.9%(CLP-1). CLP-2 had a %D above control limits of 20% for alpha-BHC at 29.2%, gamma-BHC at 26%, beta-BHC at 24.3%, delta-BHC at 26%, heptachlor at 23.6%, aldrin at 30.7%, heptachlor epoxide at 23.9%, gamma-chlordane at 22.4%, alpha-chlordane at 23.7%, endosulfan I at 21.1%, 4,4'-DDE at 30.6%, dieldrin at 23.5%, endrin at 27.6% , 4,4'-DDD at 26.1%, endosulfan II at 20.9%, 4,4'-DDT at 21.9%, methoxychlor at 23% and endosulfan sulfate at 21.1%. The beta-BHC result for sample FWGDETMw-003c-0343-GW was qualified as estimated, "J".

### Blanks

FWGEQUIPRINSE1-0340-GW had beta-BHC detected at 0.018µg/L. No qualifications were required as there were no detected beta-BHC concentrations reported for the samples associated with FWGEQUIPRINSE1-0340-GW.

### Matrix Spike Recovery

A matrix spike was not requested on a sample from this laboratory reporting batch, so data matrix spike data was provided or evaluated.

### Surrogate Recovery

The surrogate DCB recovered below control limits of 30-135 in sample FWGLL12mw-247-0336-GW at 25% on CLP-1 and CLP-2. TCMX recovered above control limits of 25-140% in sample FWGSCFmw-002-0327-GW at



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194% (CLP-1), in sample FWGDA2mw-115-0313-GW at 181% (CLP-1) and in sample FWGDETMw-003c-0343-GW at 151% (CLP-2). The results for sample FWGLL12mw-247-0336-GW were qualified as estimated, "UJ". The beta-BHC- results for samples FWGSCFmw-002-0327-GW and FWGDA2mw-115-0313-GW were qualified as estimated, "J". No qualifications were required for FWGDETMw-003c-0343-GW, as there were no detected concentrations associated with the sample.

### Field Duplicate RPD

A field duplicate was collected and analyzed for samples FWGLL12mw-247-0336-GW and FWGSCFmw-004-0372-GW. The field duplicate RPD was above control limits of 50% for the beta-BHC field duplicate RPD on sample FWGLL12mw-247-0336-GW at 200%. The beta-BHC result for sample FWGLL12mw-247-0336-GW was qualified as estimated, "J".

### Second Column Confirmation

The second column confirmation analysis was above control limits of 40% for beta-BHC at 174% on sample FWGLL12mw-247-0336-GW. The beta-BHC result for sample FWGLL12mw-247-0336-GW was qualified as estimated, "J".

### PCB- 8082

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Preservation, holding time and sample handling
- Initial Calibration criteria
- DDT and Endrin breakdown criteria
- Retention time criteria
- ICV criteria
- CCV Criteria
- Method/Field blank Criteria
- LCS Recoveries
- Field Duplicate Criteria
- LOD and MRL verification criteria
- Matrix Spike Recovery Criteria and RPD
- Surrogate Recoveries
- Second Column confirmation criteria

### Holding Time

Samples FWGB12mw-013-0313-GW, FWGDETMw-001c-0314-GW, FWGDETMw-002c-0315-GW, FWGEQUIPRINSE2-0341-GW, FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDETMw-003c-0343-GW, FWGEBGmw-131-0316-GW, FWGRQLmw-007c-0369-GW and FWGRQLmw-010c-0325-GW were reextracted outside of hold but within two times hold due to surrogate outliers in the initial extraction. All data was reported from the reextract and qualified as estimated, "UJ".

### Matrix Spike Recovery

A matrix spike analysis was not designated with this group of samples, so no information was provided or evaluated. As there were no detected target analyte concentrations reported in the associated field samples, only the primary column was evaluated.

### Surrogate Recovery

The surrogate, DCB, recovered below control limits of 40-135% for samples FWGB12mw-013-0313-GW at 33%, FWGDETMw-001c-0314-GW at 28%, FWGDETMw-002c-0315-GW at 37% and FWGEQUIPRINSE2-0341-GW at 31%. The results for samples FWGB12mw-013-0313-GW, FWGDETMw-001c-0314-GW, FWGDETMw-002c-0315-GW and FWGEQUIPRINSE2-0341-GW were qualified as estimated, "UJ".



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### **Metals - 6010B**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field duplicate RPD criteria
- Post digestion spike and serial dilution results

### **Blanks**

The ICB analyzed 9/9/13 @ 0749 had magnesium detected at 100µg/L. No qualifications were required as the detected magnesium results for the associated field samples were greater than 5x blank contamination.

The CCBs analyzed 9/9/13 had magnesium detected from 101 µg/L to 105µg/L. No qualifications were required as the detected magnesium results for the bracketed field samples were greater than 5x blank contamination. Manganese was detected in the method blank at 2.75µg/L (batch 240-98385) and at 6.26µg/L(batch 240-98503). No qualifications were required as the detected manganese results were greater than 5x blank contamination.

### **Lab Duplicate RPD**

The lab duplicate analyzed on FWGLL12mw-245C-0365-GF had an RPD above control limits of 20% at 30% for cobalt. No qualifications were made as the detected concentration was less than the LOQ.

### **Field Duplicate RPD**

The field duplicate analyzed on sample FWGSCFmw-004-0372-GF was above control limits of 50% for barium at 63%, calcium at 53%, magnesium at 73%, and manganese at 164%. The barium, calcium, magnesium and manganese results for sample FWGSCFmw-004-0372-GF were qualified as estimated, "J".

### **Metals - 6020**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- Internal standards within 30-120% of the internal standard in the ICAL
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field Duplicate RPD Criteria
- Post digestion spike and serial dilution results

### **Blanks**

The CCBs analyzed 9/9/13 had beryllium detected from 0.068µg/L to 0.103µg/L, cadmium from 0.03µg/L to 0.252µg/L, iron from 13.9 µg/L to 47.1µg/L, sodium from 6.45µg/L to 25.8µg/L and thallium at 0.0609µg/L (9/9/13 at 1311). No qualifications were required as the detected cadmium, iron and sodium results for the bracketed field samples were greater than 5x blank contamination.



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FWGEQUIPRINSE1-0340-GW had sodium detected at 410 µg/L. No qualifications were required as the detected sodium results associated FWGEQUIPRINSE1-0340-GW with were greater than 5x blank contamination.

### CCV

The beryllium CCV analyzed 9/9/13 at 1603 recovered above control limits of 90-110% at 112% and at 1902 with a recovery of 114%. No qualifications were made as there were no detected concentrations of beryllium reported for the bracketed field samples.

### Field Duplicate RPD

The field duplicate analyzed on sample FWGLL12mw-247-0336-GF was above control limits of 50% for aluminum at 54%. The aluminum result for sample FWGLL12mw-247-0336-GF was qualified as estimated, "J".

The field duplicate analyzed on sample FWGSCFmw-004-0372-GF was above control limits of 50% for sodium at 67%. The sodium result for sample FWGSCFmw-004-0372-GF was qualified as estimated, "J".

### Mercury - 7470A

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field duplicate RPD criteria

No QC outliers were noted.

### Cyanide - 9012

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and MDL verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

### MRL Recovery

No closing MRLs were analyzed. As the opening MRL checks recovered within limits, the cyanide results for samples FWGDETMw-002C-0315-GW, FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGEQUIPRINSE2-0341-GW, FWGDETMw-001C-0314-GW, FWGDETMw-003C-0343-GW, FWGRQLmw-007C-0369-GW, FWGRQLmw-010C-0325-GW and FWGEBGmw-131-0316-GW were qualified estimated, "J/UJ" as opposed to unusable.



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### **Explosives- 8330**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration Criteria
- ICV and CCV criteria
- Retention time criteria
- LOD and MRL verification criteria
- Surrogate recovery criteria
- Equipment and method blanks free from contamination
- LCS/LCD Recovery and RPD Criteria

### **Confirmation Analysis**

1,3-dinitrobenzene and nitrobenzene were reported as detected for sample FWGSCFmw-002-0327-GW by the laboratory. Analysis on the second column did not confirm detection. The 1,3-dinitrobenzene and nitrobenzene results for sample FWGSCFmw-002-0327-GW were qualified, "U".

### **Surrogate Recovery**

The surrogate 3,4-dinitrobenzene recovered above control limits of 79-111% for samples FWGFWGmw-012-0349-GW at 117% and FWGLL1mw-064c-0352-GW at 120%. No qualification of the data was required for the surrogate outliers as there were no detected target analyte concentrations reported for either sample, FWGFWGmw-012-0349-GW or FWGLL1mw-064c-0352-GW.

### **Nitroguanidine- 8330M**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- Retention time criteria
- LOD and MRL verification criteria
- ICV and CCV criteria
- The method blank and equipment blanks were free from contamination
- LCS/LCSD percent recoveries and RPD value criteria
- Matrix spike recovery criteria

No QC outliers were noted.

### **Nitrocellulose – WS-WC-0050**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Sample preparation criteria
- Initial Calibration criteria
- ICV and CCV criteria
- The method and equipment blanks were free from contamination
- LOD and MRL verification criteria
- ICB and CCBs were free from contamination
- LCS/LCSD percent recoveries and RPD value criteria
- MS/MSD percent recoveries

### **MRL Recovery**

The MRL analyzed 9/11/13 at 1707 recovered above control limits of 70-130% at 136%. No qualifications were required as there were no detected nitrocellulose concentrations reported for the field samples bracketed by the outlier MRL.



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### Matrix Spike Recovery and RPD

The matrix spike recoveries associated with sample FWGLL12mw-245C-0365-GW were within control limits, however the matrix spike/spike duplicate RPD was above control limits of 20% at 41%. The nitrocellulose results for samples FWGDEtmw-001c-0314-GW, FWGDEtmw-002c-0315-GW, FWGEQUIPRINSE2-0341-GW, FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDEtmw-003c-0343-GW, FWGFWGmw-011-0348-GW, FWGFWGmw-012-0349-GW, FWGLL12mw-187c-0363-GW, FWGLL12mw-242c-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified as estimated, "J/UJ".

### Perchlorate 6860

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and LOD verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

### Matrix Spike Recovery

A matrix spike analysis was not requested on samples from this batch, so no data was provided or evaluated.

### Blanks

The CCB analyzed 9/6/13 @ 2303 had perchlorate detected at 0.0117µg/L. The perchlorate results for samples FWGBKGmw-010c-0311-GF and FWGRQLmw-010c-0325-GF were qualified, "U".

### Nitrate Nitrite 353.2

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and LOD verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

### Blanks

The CCB analyzed 9/6/13 at 1712, had nitrate/nitrite detected at 0.004mg/L. No qualifications were made as there were no detected nitrate nitrite concentrations reported <5x blank contamination.



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## SAMPLE SUMMARY

Client: Environmental Quality Mgt., Inc.

Job Number: 240-28145-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
240-28145-1	FWGTEAM1-TRIP	Water	08/20/2013 0800	08/21/2013 0700
240-28145-2	FWGLL12mw-187C-0363-GW	Water	08/20/2013 0935	08/21/2013 0700
240-28145-3	FWGLL12mw-187C-0363-GF	Water	08/20/2013 0935	08/21/2013 0700
240-28145-4	FWGLL12mw-242C-0364-GW	Water	08/20/2013 1111	08/21/2013 0700
240-28145-5	FWGLL12mw-242C-0364-GF	Water	08/20/2013 1111	08/21/2013 0700
240-28145-6	FWGLL12mw-247-0336-GW	Water	08/20/2013 1301	08/21/2013 0700
240-28145-7	FWGLL12mw-247-0336-GF	Water	08/20/2013 1301	08/21/2013 0700
240-28145-8	FWGLL12mw-DUP3-0338-GW	Water	08/20/2013 1341	08/21/2013 0700
240-28145-9	FWGLL12mw-DUP3-0338-GF	Water	08/20/2013 1341	08/21/2013 0700
240-28145-10	FWGDEtmw-002C-0315-GW	Water	08/20/2013 1511	08/21/2013 0700
240-28145-11	FWGDEtmw-002C-0315-GF	Water	08/20/2013 1511	08/21/2013 0700
240-28145-12	FWGDA2mw-114-0312-GW	Water	08/20/2013 1705	08/21/2013 0700
240-28145-13	FWGDA2mw-114-0312-GF	Water	08/20/2013 1705	08/21/2013 0700
240-28145-14	FWGLL1mw-087C-0356-GW	Water	08/20/2013 0928	08/21/2013 0700
240-28145-15	FWGLL1mw-087C-0356-GF	Water	08/20/2013 0928	08/21/2013 0700
240-28145-16	FWGSCFmw-002-0327-GW	Water	08/20/2013 1208	08/21/2013 0700
240-28145-17	FWGSCFmw-002-0327-GF	Water	08/20/2013 1208	08/21/2013 0700
240-28145-18	FWGSCFmw-004-0372-GW	Water	08/20/2013 1048	08/21/2013 0700
240-28145-19	FWGSCFmw-004-0372-GF	Water	08/20/2013 1048	08/21/2013 0700
240-28145-20	FWGSCFmw-DUP6-0378-GW	Water	08/20/2013 1302	08/21/2013 0700
240-28145-21	FWGSCFmw-DUP6-0378-GF	Water	08/20/2013 1302	08/21/2013 0700
240-28145-22	FWGDA2mw-115-0313-GW	Water	08/20/2013 1458	08/21/2013 0700
240-28145-23	FWGDA2mw-115-0313-GF	Water	08/20/2013 1458	08/21/2013 0700
240-28145-24	FWGTEAM2-TRIP	Water	08/20/2013 0800	08/21/2013 0700
240-28145-25	FWGEQUIPRINSE2-0341-GW	Water	08/20/2013 1342	08/21/2013 0700
240-28145-26	FWGDA2mw-DUP1-0336-GW	Water	08/20/2013 1608	08/21/2013 0700
240-28145-27	FWGDA2mw-DUP1-0336-GF	Water	08/20/2013 1608	08/21/2013 0700
240-28145-28	FWGTEAM3-TRIP	Water	08/20/2013 0800	08/21/2013 0700
240-28145-29	FWGLL12mw-245C-0365-GW	Water	08/20/2013 0956	08/21/2013 0700
240-28145-29MS	FWGLL12mw-245C-0365-GW	Water	08/20/2013 0956	08/21/2013 0700
240-28145-29MSD	FWGLL12mw-245C-0365-GW	Water	08/20/2013 0956	08/21/2013 0700
240-28145-30	FWGLL12mw-245C-0365-GF	Water	08/20/2013 0956	08/21/2013 0700
240-28145-30MS	FWGLL12mw-245C-0365-GF	Water	08/20/2013 0956	08/21/2013 0700
240-28145-30DU	FWGLL12mw-245C-0365-GF	Water	08/20/2013 0956	08/21/2013 0700
240-28145-31	FWGLL12mw-185C-0362-GW	Water	08/20/2013 1139	08/21/2013 0700
240-28145-32	FWGLL12mw-185C-0362-GF	Water	08/20/2013 1139	08/21/2013 0700
240-28145-33	FWGLL3mw-244-0323-GW	Water	08/20/2013 1229	08/21/2013 0700
240-28145-34	FWGLL3mw-244-0323-GF	Water	08/20/2013 1229	08/21/2013 0700
240-28145-35	FWGDEtmw-001C-0314-GW	Water	08/20/2013 1456	08/21/2013 0700
240-28145-36	FWGDEtmw-001C-0314-GF	Water	08/20/2013 1456	08/21/2013 0700
240-28145-37	FWGDEtmw-003C-0343-GW	Water	08/20/2013 1619	08/21/2013 0700
240-28145-38	FWGDEtmw-003C-0343-GF	Water	08/20/2013 1619	08/21/2013 0700
240-28145-39	FWGTEAM4-TRIP	Water	08/20/2013 0800	08/21/2013 0700
240-28145-40	FWGBKGmw-010C-0311-GF	Water	08/20/2013 0934	08/21/2013 0700
240-28145-41	FWGB12mw-013-0313-GW	Water	08/20/2013 1030	08/21/2013 0700
240-28145-42	FWGFWGmw-011-0348-GW	Water	08/20/2013 1150	08/21/2013 0700
240-28145-43	FWGFWGmw-011-0348-GF	Water	08/20/2013 1150	08/21/2013 0700
240-28145-44	FWGFWGmw-012-0349-GW	Water	08/20/2013 1254	08/21/2013 0700
240-28145-45	FWGFWGmw-012-0349-GF	Water	08/20/2013 1254	08/21/2013 0700
240-28145-46	FWGLL10mw-003C-0361-GW	Water	08/20/2013 1430	08/21/2013 0700
240-28145-47	FWGLL10mw-003C-0361-GF	Water	08/20/2013 1430	08/21/2013 0700
240-28145-48	FWGLL1mw-064C-0352-GW	Water	08/20/2013 1604	08/21/2013 0700
240-28145-49	FWGLL1mw-064C-0352-GF	Water	08/20/2013 1604	08/21/2013 0700



## SAMPLE SUMMARY

Client: Environmental Quality Mgt., Inc.

Job Number: 240-28145-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
240-28145-50	FWGTEAM4-TRIP	Water	08/19/2013 1100	08/21/2013 0700
240-28145-51	FWGRQLmw-007C-0369-GW	Water	08/19/2013 1324	08/21/2013 0700
240-28145-52	FWGRQLmw-007C-0369-GF	Water	08/19/2013 1324	08/21/2013 0700
240-28145-53	FWGRQLmw-010C-0325-GW	Water	08/19/2013 1534	08/21/2013 0700
240-28145-54	FWGRQLmw-010C-0325-GF	Water	08/19/2013 1534	08/21/2013 0700
240-28145-55	FWGEBGmw-131-0316-GW	Water	08/19/2013 1744	08/21/2013 0700
240-28145-56	FWGEBGmw-131-0316-GF	Water	08/19/2013 1744	08/21/2013 0700



## METHOD SUMMARY

Client: Environmental Quality Mgt., Inc.

Job Number: 240-28145-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Volatile Organic Compounds (GC/MS)	TAL CAN	SW846 8260B/DoD	
Purge and Trap	TAL CAN		SW846 5030B
Semivolatile Organic Compounds (GC/MS)	TAL CAN	SW846 8270C/DoD	
Liquid-Liquid Extraction (Continuous)	TAL CAN		SW846 3520C
Organochlorine Pesticides (GC)	TAL CAN	SW846 8081/DOD	
Liquid-Liquid Extraction (Continuous)	TAL CAN		SW846 3520C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL CAN	SW846 8082/DOD	
Liquid-Liquid Extraction (Continuous)	TAL CAN		SW846 3520C
Metals (ICP)	TAL CAN	SW846 6010B/DOD	
Preparation, Total Recoverable or Dissolved Metals	TAL CAN		SW846 3005A
Metals (ICP/MS)	TAL CAN	SW846 6020/DOD	
Preparation, Total Recoverable or Dissolved Metals	TAL CAN		SW846 3005A
Mercury (CVAA)	TAL CAN	SW846 7470A/DOD	
Preparation, Mercury	TAL CAN		SW846 7470A
Cyanide, Total and/or Amenable	TAL CAN	SW846 9012A	
Cyanide, Total and/or Amenable, Distillation	TAL CAN		SW846 9012A
Perchlorate by IC/MS or IC/MS/MS	TAL DEN	EPA 6860	
Nitroguanidine (HPLC)	TAL SAC	SW846 8330 Modified	
Sample Filtration	TAL SAC		Filtration
Nitroaromatics and Nitramines	TAL SAC	SW846 8330A	
Solid-Phase Extraction (Explosives)	TAL SAC		SW846 8330-Prep
Nitrogen, Nitrate-Nitrite	TAL SAC	MCAWW 353.2	
Nitrocellulose	TAL SAC	TAL-SAC WS-WC-0050	
Nitrocellulose Sample Preparation (Hydrolysis)	TAL SAC		MCAWW 353 (NCell-Hyd)
Nitrocellulose Sample Preparation	TAL SAC		MCAWW 353.2 (NCell)

### Lab References:

TAL CAN = TestAmerica Canton

TAL DEN = TestAmerica Denver

TAL SAC = TestAmerica Sacramento

### Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Job ID: 240-28145-1**

**Laboratory: TestAmerica Canton**

Narrative

### CASE NARRATIVE Revised

**Client: Environmental Quality Mgt., Inc.**

**Project: RVAAP66 (OH)**

**Report Number: 240-28145-1**

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 some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

The 353.2 Nitrate Nitrite as N, 353.2 Nitrocellulose, 8330 Nitroguanidine and 8330A Explosives analysis were performed at the TestAmerica Sacramento Laboratory. The 6860 Perchlorate analysis was performed at the TestAmerica Denver Laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

TestAmerica utilizes USEPA approved methods and DOD QSM, where applicable, in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters for which TestAmerica North Canton has certification were evaluated to the limit of detection (LOD) and include qualified results where applicable. Parameters not certified under QSM, if any, were evaluated to the detection limit (DL) and include qualified results where applicable.

REVISION 1: Initial results for method 8330A for sample FWGSCFmw-002-0327-GW (240-28145-16) were incorrectly reported for Nitrobenzene and 1,3-Dinitrobenzene. Results reported were from the primary column, however, these results were not confirmed on the second column and should have been reported as ND.

The sample(s) that contain constituents flagged with U are undetected. The result associated with this flag is the limit of detection (LOD).

#### RECEIPT

The samples were received on 08/21/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.8° C, 1.0° C, 1.4° C, 1.4° C, 1.4° C, 1.6° C, 1.6° C, 1.6° C, 2.6° C, 2.9° C, 2.9° C, 3.3° C, 3.6° C, 3.8° C, 4.2° C, 4.2° C, 4.2° C, 4.4° C, 4.6° C, 4.6° C, 4.8° C, 5.1° C, 5.4° C, 5.5° C and 5.8° C.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

### Job ID: 240-28145-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

##### VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples FWGTEAM1-TRIP (240-28145-1), FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGTEAM2-TRIP (240-28145-24), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGTEAM3-TRIP (240-28145-28), FWGLL12mw-245C-0365-GW (240-28145-29), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGTEAM4-TRIP (240-28145-39), FWGLL10mw-003C-0361-GW (240-28145-46), FWGTEAM4-TRIP (240-28145-50), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B DoD. The samples were analyzed on 08/28/2013 and 08/29/2013.

Toluene was detected in method blank MB 240-99628/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Chloroethane and Methylene Chloride failed the recovery criteria high for MRL 240-99353/29. cis-1,3-Dichloropropene failed the recovery criteria high for MRL 240-99353/5. Toluene and Trichloroethene failed the recovery criteria high for MRL 240-99628/7. Refer to the QC report for details.

The continuing calibration verification (CCV) for Acetone, 4-Methyl-2-pentanone associated with batch 99353 recovered above the upper control limit. Two samples associated with this CCV had acetone present above the RL but are still being reported since it is a normal laboratory contaminant.

No other difficulties were encountered during the VOCs analysis. All other quality control parameters were within the acceptance limits.

##### SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGLL1mw-087C-0356-GW (240-28145-14), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GW (240-28145-26), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL3mw-244-0323-GW (240-28145-33), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGFWGmw-011-0348-GW (240-28145-42), FWGFWGmw-012-0349-GW (240-28145-44), FWGLL1mw-064C-0352-GW (240-28145-48), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 08/22/2013 and analyzed on 08/31/2013, 09/03/2013 and 09/04/2013.

Surrogates are added during the extraction process prior to dilution. When the sample is diluted, surrogate recoveries are diluted out and no corrective action is required.

Bis(2-ethylhexyl) phthalate was detected in method blanks MB 240-98493/23-A and MB 240-98497/11-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The continuing calibration verification (CCV) for 4-nitrophenol, associated with analytical batch 99858, recovered above the upper control limit. The samples associated with this CCV, FWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGDA2mw-DUP1-0336-GW (240-28145-26), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-002C-0315-GW (240-28145-10), FWGEQUIPRINSE2-0341-GW (240-28145-25), were non-detects for the affected analyte; therefore, the data have been reported.

The continuing calibration verifications (CCV) for 4-nitrophenol and 4-nitroaniline, associated with analytical batch 100019, recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

### Job ID: 240-28145-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 98497, 3520\_Acid.

No other difficulties were encountered during the SVOCs analysis. All other quality control parameters were within the acceptance limits.

#### NITROGUANIDINE (HPLC)

Samples FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGLL1mw-087C-0356-GW (240-28145-14), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GW (240-28145-26), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL3mw-244-0323-GW (240-28145-33), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGFWGmw-011-0348-GW (240-28145-42), FWGFWGmw-012-0349-GW (240-28145-44), FWGLL1mw-064C-0352-GW (240-28145-48), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for nitroguanidine (HPLC) in accordance with EPA SW-846 Method 8330\_Ngu. The samples were prepared on 08/23/2013 and 08/26/2013 and analyzed on 08/26/2013, 08/29/2013 and 09/03/2013.

No difficulties were encountered during the explosives analysis. All quality control parameters were within the acceptance limits.

#### CHLORINATED PESTICIDES

Samples FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGLL1mw-087C-0356-GW (240-28145-14), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL3mw-244-0323-GW (240-28145-33), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGB12mw-013-0313-GW (240-28145-41), FWGLL1mw-064C-0352-GW (240-28145-48), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for chlorinated pesticides in accordance with EPA SW-846 Method 8081A DoD. The samples were prepared on 08/22/2013 and 08/23/2013 and analyzed on 08/29/2013, 09/11/2013 and 09/12/2013.

DCB Decachlorobiphenyl failed the surrogate recovery criteria low for FWGLL12mw-247-0336-GW (240-28145-6).

Sample FWGLL12mw-DUP3-0338-GW (240-28145-8)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The closing continuing calibration verification (CCV) associated with batch 99596 recovered Endrin above the upper control limit on the primary column. Endrin met criteria on the confirmation column and the samples associated with this CCVFWGLL1mw-064C-0352-GW (240-28145-48) were non-detects for the affected analyte; therefore the data have been reported.

The initial calibration verification (ICV) for Toxaphene for analytical batch 99596 was outside control criteria on the confirmation column. Since the ICV met criteria on the primary column, all Toxaphene data have been reported for the associated samplesFWGLL1mw-064C-0352-GW (240-28145-48).

The closing Toxaphene continuing calibration verification (CCV) for analytical batch 100879 recovered outside control limits on the confirmation column. Since this CCV met DoD criteria for Toxaphene on the primary column and the associated samplesFWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-002C-0315-GW (240-28145-10), FWGEBGmw-131-0316-GW (240-28145-55), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGLL1mw-087C-0356-GW (240-28145-14), FWGLL3mw-244-0323-GW (240-28145-33), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20) were non-detect for the



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

### Job ID: 240-28145-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

affected analyte, the data have been reported.

The closing method reporting limit (MRL) associated with batch 100879 recovered Aldrin and DDE above the upper control limits. The samples associated with this MRL FWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-002C-0315-GW (240-28145-10), FWGEBGmw-131-0316-GW (240-28145-55), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGLL1mw-087C-0356-GW (240-28145-14), FWGLL3mw-244-0323-GW (240-28145-33), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20) were non-detects for the affected analytes; therefore, the data have been reported.

The closing continuing calibration verification (CCV) associated with batch 100879 recovered above the upper control limits. The samples associated with this CCVFWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGDETMw-001C-0314-GW (240-28145-35), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL1mw-087C-0356-GW (240-28145-14), FWGLL3mw-244-0323-GW (240-28145-33), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20) were non-detects for the affected analytes; therefore the data have been reported.

Beta-BHC was reported from the confirmation column for the associated samples FWGDA2mw-115-0313-GW (240-28145-22), FWGDETMw-002C-0315-GW (240-28145-10), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL3mw-244-0323-GW (240-28145-33), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20) because of matrix interference on the primary column.

Endrin Ketone was reported from the confirmation column for the associated sample FWGDETMw-001C-0314-GW (240-28145-35) because of matrix interference on the primary column.

Surrogate DCB failed criteria on both the primary and confirmation columns. Re-extraction and re-analysis was not performed because the sample was outside of double hold time. TCMX passed criteria demonstrating that the extraction for the associated sample FWGLL12mw-247-0336-GW (240-28145-6) was in control.

The closing continuing calibration verification (CCV) associated with batch 101146 recovered above the upper control limits. The samples associated with this CCVFWGB12mw-013-0313-GW (240-28145-41), FWGDETMw-003C-0343-GW (240-28145-37), FWGLL12mw-DUP3-0338-GW (240-28145-8) were non-detects for the affected analytes; therefore, the data have been reported.

The following sample was diluted for Endrin Aldehyde due to the nature of the sample matrix : FWGLL12mw-DUP3-0338-GW (240-28145-8). Elevated reporting limits (RLs) are provided for the affected analyte.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 98488, 3520C.

No other difficulties were encountered during the pesticides analysis. All other quality control parameters were within the acceptance limits.

#### POLYCHLORINATED BIPHENYLS (PCBS)

Samples FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGB12mw-013-0313-GW (240-28145-41), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082 DoD. The samples were prepared on 08/30/2013 and analyzed on 09/04/2013.

DCB Decachlorobiphenyl failed the surrogate recovery criteria low for FWGDETMw-002C-0315-GW (240-28145-10), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDETMw-001C-0314-GW (240-28145-35), and FWGB12mw-013-0313-GW (240-28145-41). Refer to the QC report for details.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

### Job ID: 240-28145-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

Surrogate recovery for the LCS associated with these samples was outside control limits: FWGB12mw-013-0313-GW (240-28145-41), FWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-002C-0315-GW (240-28145-10), FWGDETMw-003C-0343-GW (240-28145-37), FWGEBGmw-131-0316-GW (240-28145-55), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Only the re-extract data is reported.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 98490, 3520C.

No other difficulties were encountered during the PCBs analysis. All other quality control parameters were within the acceptance limits.

#### PERCHLORATE

Samples FWGDETMw-002C-0315-GF (240-28145-11), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDETMw-001C-0314-GF (240-28145-36), FWGBKGmw-010C-0311-GF (240-28145-40) and FWGRQLmw-010C-0325-GF (240-28145-54) were analyzed for perchlorate in accordance with EPA SW-846 Method 6860. The samples were analyzed on 09/07/2013.

No difficulties were encountered during the perchlorate analysis. All quality control parameters were within the acceptance limits.

#### EXPLOSIVES

Samples FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGLL1mw-087C-0356-GW (240-28145-14), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GW (240-28145-26), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL3mw-244-0323-GW (240-28145-33), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGFWGmw-011-0348-GW (240-28145-42), FWGFWGmw-012-0349-GW (240-28145-44), FWGLL1mw-064C-0352-GW (240-28145-48), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for explosives in accordance with EPA SW-846 Method 8330A. The samples were prepared on 08/23/2013 and 08/26/2013 and analyzed on 08/28/2013, 08/29/2013, 08/30/2013, 08/31/2013 and 09/03/2013.

3,4-Dinitrotoluene failed the surrogate recovery criteria high for FWGSCFmw-004-0372-GW (240-28145-18), FWGDETMw-003C-0343-GW (240-28145-37), FWGFWGmw-012-0349-GW (240-28145-44) and FWGLL1mw-064C-0352-GW (240-28145-48). Refer to the QC report for details.

Due to malfunction of solid phase extractor port #4 (Autotrace #2) FWGFWGmw-011-0348-GW (240-28145-42) sample was eluted using the Supelco Vacuum manifold.

Surrogate recoveries are high and outside control limits for the following sample(s): 240-28145-18, 240-28145-37, 240-28145-44, and 240-28145-48. The samples were ND. therefore, re-extraction and/or re-analysis was not performed.

No other difficulties were encountered during the explosives analysis. All other quality control parameters were within the acceptance limits.

#### TOTAL RECOVERABLE METALS (ICP)

Samples FWGLL12mw-187C-0363-GF (240-28145-3), FWGLL12mw-242C-0364-GF (240-28145-5), FWGLL12mw-247-0336-GF (240-28145-7), FWGLL12mw-DUP3-0338-GF (240-28145-9), FWGDETMw-002C-0315-GF (240-28145-11), FWGDA2mw-114-0312-GF (240-28145-13), FWGLL1mw-087C-0356-GF (240-28145-15), FWGSCFmw-002-0327-GF (240-28145-17), FWGSCFmw-004-0372-GF (240-28145-19), FWGSCFmw-DUP6-0378-GF (240-28145-21), FWGDA2mw-115-0313-GF (240-28145-23), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GF (240-28145-27), FWGLL12mw-245C-0365-GF (240-28145-30), FWGLL12mw-185C-0362-GF (240-28145-32), FWGLL3mw-244-0323-GF (240-28145-34), FWGDETMw-001C-0314-GF (240-28145-36), FWGDETMw-003C-0343-GF (240-28145-38), FWGFWGmw-011-0348-GF (240-28145-43), FWGFWGmw-012-0349-GF (240-28145-45), FWGLL10mw-003C-0361-GF (240-28145-47), FWGLL1mw-064C-0352-GF (240-28145-49), FWGRQLmw-007C-0369-GF (240-28145-52), FWGRQLmw-010C-0325-GF (240-28145-54) and FWGEBGmw-131-0316-GF (240-28145-56) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B DoD. The samples were



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

### Job ID: 240-28145-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

prepared on 08/21/2013 and 08/22/2013 and analyzed on 09/09/2013 and 09/10/2013.

ICB, CCB, and ICSA samples are evaluated using the lowest LOD and DL criteria in LIMS. Using this criteria, an individual element may occasionally be flagged as out of control. If the element has a higher LOD or DL, the data is evaluated to the higher limit and determined to be acceptable.

Manganese was detected in method blank MB 240-98385/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Manganese was detected in method blank MB 240-98503/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Barium, Cobalt, Nickel and Potassium exceeded the RPD limit for the duplicate of sample FWGLL12mw-245C-0365-GF DU (240-28145-30). Refer to the QC report for details.

Samples FWGLL12mw-187C-0363-GF (240-28145-3)[5X] and FWGLL12mw-185C-0362-GF (240-28145-32)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

#### TOTAL RECOVERABLE METALS (ICPMS)

Samples FWGLL12mw-187C-0363-GF (240-28145-3), FWGLL12mw-242C-0364-GF (240-28145-5), FWGLL12mw-247-0336-GF (240-28145-7), FWGLL12mw-DUP3-0338-GF (240-28145-9), FWGDETMw-002C-0315-GF (240-28145-11), FWGDA2mw-114-0312-GF (240-28145-13), FWGLL1mw-087C-0356-GF (240-28145-15), FWGSCFmw-002-0327-GF (240-28145-17), FWGSCFmw-004-0372-GF (240-28145-19), FWGSCFmw-DUP6-0378-GF (240-28145-21), FWGDA2mw-115-0313-GF (240-28145-23), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GF (240-28145-27), FWGLL12mw-245C-0365-GF (240-28145-30), FWGLL12mw-185C-0362-GF (240-28145-32), FWGLL3mw-244-0323-GF (240-28145-34), FWGDETMw-001C-0314-GF (240-28145-36), FWGDETMw-003C-0343-GF (240-28145-38), FWGFWGmw-011-0348-GF (240-28145-43), FWGFWGmw-012-0349-GF (240-28145-45), FWGLL10mw-003C-0361-GF (240-28145-47), FWGLL1mw-064C-0352-GF (240-28145-49), FWGRQLmw-007C-0369-GF (240-28145-52), FWGRQLmw-010C-0325-GF (240-28145-54) and FWGEBGmw-131-0316-GF (240-28145-56) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020 DoD. The samples were prepared on 08/21/2013 and 08/22/2013 and analyzed on 09/09/2013.

ICB, CCB, and ICSA samples are evaluated using the lowest LOD and DL criteria in LIMS. Using this criteria, an individual element may occasionally be flagged as out of control. If the element has a higher LOD or DL, the data is evaluated to the higher limit and determined to be acceptable.

The continuing calibration verification (CCV) for Beryllium associated with batch 98385 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FWGDA2mw-114-0312-GF (240-28145-13), FWGDETMw-002C-0315-GF (240-28145-11), FWGLL12mw-DUP3-0338-GF (240-28145-9), FWGLL1mw-087C-0356-GF (240-28145-15), FWGSCFmw-002-0327-GF (240-28145-17), FWGSCFmw-004-0372-GF (240-28145-19).

The continuing calibration verification (CCV) for Beryllium associated with batch 98503 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FWGDA2mw-115-0313-GF (240-28145-23), FWGDA2mw-DUP1-0336-GF (240-28145-27), FWGDETMw-001C-0314-GF (240-28145-36), FWGDETMw-003C-0343-GF (240-28145-38), FWGEBGmw-131-0316-GF (240-28145-56), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGFWGmw-011-0348-GF (240-28145-43), FWGFWGmw-012-0349-GF (240-28145-45), FWGLL10mw-003C-0361-GF (240-28145-47), FWGLL12mw-185C-0362-GF (240-28145-32), FWGLL12mw-245C-0365-GF (240-28145-30), FWGLL1mw-064C-0352-GF (240-28145-49), FWGLL3mw-244-0323-GF (240-28145-34), FWGRQLmw-007C-0369-GF (240-28145-52), FWGRQLmw-010C-0325-GF (240-28145-54), FWGSCFmw-DUP6-0378-GF (240-28145-21).

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

### Job ID: 240-28145-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

##### TOTAL MERCURY

Samples FWGLL12mw-187C-0363-GF (240-28145-3), FWGLL12mw-242C-0364-GF (240-28145-5), FWGLL12mw-247-0336-GF (240-28145-7), FWGLL12mw-DUP3-0338-GF (240-28145-9), FWGDETMw-002C-0315-GF (240-28145-11), FWGDA2mw-114-0312-GF (240-28145-13), FWGLL1mw-087C-0356-GF (240-28145-15), FWGSCFmw-002-0327-GF (240-28145-17), FWGSCFmw-004-0372-GF (240-28145-19), FWGSCFmw-DUP6-0378-GF (240-28145-21), FWGDA2mw-115-0313-GF (240-28145-23), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GF (240-28145-27), FWGLL12mw-245C-0365-GF (240-28145-30), FWGLL12mw-185C-0362-GF (240-28145-32), FWGLL3mw-244-0323-GF (240-28145-34), FWGDETMw-001C-0314-GF (240-28145-36), FWGDETMw-003C-0343-GF (240-28145-38), FWGFWGmw-011-0348-GF (240-28145-43), FWGFWGmw-012-0349-GF (240-28145-45), FWGLL10mw-003C-0361-GF (240-28145-47), FWGLL1mw-064C-0352-GF (240-28145-49), FWGRQLmw-007C-0369-GF (240-28145-52), FWGRQLmw-010C-0325-GF (240-28145-54) and FWGEBGmw-131-0316-GF (240-28145-56) were analyzed for total mercury in accordance with EPA SW-846 Method 7470A. The samples were prepared on 08/22/2013 and 08/29/2013 and analyzed on 08/23/2013 and 09/04/2013.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

##### NITRATE-NITRITE AS NITROGEN

Samples FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGLL12mw-245C-0365-GW (240-28145-29) and FWGLL12mw-185C-0362-GW (240-28145-31) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 09/06/2013.

Samples FWGLL12mw-187C-0363-GW (240-28145-2)[1000X] and FWGLL12mw-185C-0362-GW (240-28145-31)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the nitrate-nitrite analysis. All quality control parameters were within the acceptance limits.

##### NITROCELLULOSE

Samples FWGLL12mw-187C-0363-GW (240-28145-2), FWGLL12mw-242C-0364-GW (240-28145-4), FWGLL12mw-247-0336-GW (240-28145-6), FWGLL12mw-DUP3-0338-GW (240-28145-8), FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGLL1mw-087C-0356-GW (240-28145-14), FWGSCFmw-002-0327-GW (240-28145-16), FWGSCFmw-004-0372-GW (240-28145-18), FWGSCFmw-DUP6-0378-GW (240-28145-20), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDA2mw-DUP1-0336-GW (240-28145-26), FWGLL12mw-245C-0365-GW (240-28145-29), FWGLL3mw-244-0323-GW (240-28145-33), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGFWGmw-011-0348-GW (240-28145-42), FWGFWGmw-012-0349-GW (240-28145-44), FWGLL1mw-064C-0352-GW (240-28145-48), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for Nitrocellulose in accordance with EPA Method 353.2. The samples were prepared on 09/04/2013, 09/05/2013 and 09/11/2013 and analyzed on 09/05/2013 and 09/11/2013.

The bracketing MRL's in positions 25 and 47 in batch #25017 had recoveries that were slightly above the established control limits. However, because all samples within batch #25017 were non-detect at the reporting limit. There is no adverse impact on the data. All other QC requirements in batch #25017 -- including the laboratory control samples (LCS's), all continuing calibration verifications (CCV's), and continuing calibration blanks (CCB's) -- are within acceptable control limits.

No other difficulties were encountered during the Nitrocellulose analysis. All quality control parameters were within the acceptance limits.

##### TOTAL CYANIDE

Samples FWGDETMw-002C-0315-GW (240-28145-10), FWGDA2mw-114-0312-GW (240-28145-12), FWGDA2mw-115-0313-GW (240-28145-22), FWGEQUIPRINSE2-0341-GW (240-28145-25), FWGDETMw-001C-0314-GW (240-28145-35), FWGDETMw-003C-0343-GW (240-28145-37), FWGRQLmw-007C-0369-GW (240-28145-51), FWGRQLmw-010C-0325-GW (240-28145-53) and FWGEBGmw-131-0316-GW (240-28145-55) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/23/2013 and 08/26/2013.

No difficulties were encountered during the cyanide analysis. All quality control parameters were within the acceptance limits.



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGTEAM1-TRIP

Lab Sample ID: 240-28145-1

Date Collected: 08/20/13 08:00

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:15	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:15	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 17:15	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:15	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:15	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:15	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 17:15	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:15	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 17:15	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:15	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 17:15	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:15	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 17:15	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 17:15	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:15	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:15	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:15	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:15	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 17:15	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 17:15	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:15	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 17:15	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:15	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:15	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 17:15	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 17:15	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 17:15	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 17:15	1
<b>Methylene Chloride</b>	<b>0.33</b>	<b>J</b>	1.0	0.50	0.33	ug/L		08/28/13 17:15	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 17:15	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 17:15	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:15	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:15	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:15	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:15	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:15	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:15	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 17:15	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 120		08/28/13 17:15	1
4-Bromofluorobenzene (Surr)	84		75 - 120		08/28/13 17:15	1
Toluene-d8 (Surr)	85		85 - 120		08/28/13 17:15	1
Dibromofluoromethane (Surr)	98		85 - 115		08/28/13 17:15	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-187C-0363-GW

Lab Sample ID: 240-28145-2

Date Collected: 08/20/13 09:35

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:37	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:37	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 17:37	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:37	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:37	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:37	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 17:37	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:37	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 17:37	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:37	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 17:37	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:37	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 17:37	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 17:37	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:37	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:37	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:37	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:37	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 17:37	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 17:37	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:37	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 17:37	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:37	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:37	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 17:37	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 17:37	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 17:37	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 17:37	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 17:37	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 17:37	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 17:37	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:37	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:37	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:37	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:37	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:37	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:37	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 17:37	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 120		08/28/13 17:37	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/28/13 17:37	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 17:37	1
Dibromofluoromethane (Surr)	101		85 - 115		08/28/13 17:37	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.65	J	1.9	0.48	0.21	ug/L		09/04/13 12:52	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 12:52	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-187C-0363-GW

Lab Sample ID: 240-28145-2

Date Collected: 08/20/13 09:35

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 12:52	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 12:52	1
<b>Di-n-butyl phthalate</b>	<b>0.84</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/04/13 12:52	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 12:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	79		50 - 110	08/22/13 08:06	09/04/13 12:52	1
2-Fluorophenol (Surr)	75		20 - 110	08/22/13 08:06	09/04/13 12:52	1
Nitrobenzene-d5 (Surr)	86		40 - 110	08/22/13 08:06	09/04/13 12:52	1
Phenol-d5 (Surr)	83		10 - 115	08/22/13 08:06	09/04/13 12:52	1
Terphenyl-d14 (Surr)	105		50 - 135	08/22/13 08:06	09/04/13 12:52	1
2,4,6-Tribromophenol (Surr)	112		40 - 125	08/22/13 08:06	09/04/13 12:52	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 17:57	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 17:57	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 17:57	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 17:57	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 17:57	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 17:57	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 17:57	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 17:57	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 17:57	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 17:57	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 17:57	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:57	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:57	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:57	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 17:57	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 17:57	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 17:57	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 17:57	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 17:57	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 17:57	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 17:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		30 - 135	08/22/13 07:53	09/11/13 17:57	1
DCB Decachlorobiphenyl	89		30 - 135	08/22/13 07:53	09/11/13 17:57	1
Tetrachloro-m-xylene	71		25 - 140	08/22/13 07:53	09/11/13 17:57	1
Tetrachloro-m-xylene	88		25 - 140	08/22/13 07:53	09/11/13 17:57	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		09/03/13 15:28	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/28/13 19:42	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 19:42	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-187C-0363-GW

Lab Sample ID: 240-28145-2

Date Collected: 08/20/13 09:35

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 19:42	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 19:42	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 19:42	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/28/13 19:42	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/28/13 19:42	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.060	ug/L		08/28/13 19:42	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/28/13 19:42	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 19:42	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 19:42	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 19:42	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 19:42	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 19:42	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/28/13 19:42	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/28/13 19:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	97		79 - 111				08/26/13 09:34	08/28/13 19:42	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	1200	D	50	12	5.3	mg/L		09/06/13 16:42	1000
Nitrocellulose	1.1	J	2.0	1.0	0.48	mg/L		09/05/13 13:36	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-187C-0363-GF**

**Lab Sample ID: 240-28145-3**

**Date Collected: 08/20/13 09:35**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 10:39	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:39	1
<b>Cobalt</b>	<b>9.9</b>		7.0	4.0	1.5	ug/L		09/09/13 10:39	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:39	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:39	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:39	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:39	1
<b>Barium</b>	<b>280</b>		200	5.0	2.8	ug/L		09/09/13 10:39	1
<b>Calcium</b>	<b>990000</b>	<b>D</b>	25000	5000	3200	ug/L		09/10/13 01:24	5
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:39	1
<b>Magnesium</b>	<b>300000</b>		5000	300	120	ug/L		09/09/13 10:39	1
<b>Manganese</b>	<b>2200</b>		15	5.0	1.8	ug/L		09/09/13 10:39	1
<b>Nickel</b>	<b>15</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 10:39	1
<b>Potassium</b>	<b>54000</b>		5000	900	300	ug/L		09/09/13 10:39	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 14:11	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 14:11	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 14:11	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 14:11	1
Iron	100	U	150	100	44	ug/L		09/09/13 14:11	1
<b>Sodium</b>	<b>33000</b>		1000	400	160	ug/L		09/09/13 14:11	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 14:11	1
Zinc	50	U	50	50	27	ug/L		09/09/13 14:11	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:28	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-242C-0364-GW

Lab Sample ID: 240-28145-4

Date Collected: 08/20/13 11:11

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:59	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:59	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 17:59	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:59	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:59	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:59	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 17:59	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:59	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 17:59	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:59	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 17:59	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:59	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 17:59	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 17:59	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:59	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:59	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:59	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:59	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 17:59	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 17:59	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:59	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 17:59	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 17:59	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:59	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 17:59	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 17:59	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 17:59	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 17:59	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 17:59	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 17:59	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 17:59	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 17:59	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 17:59	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:59	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 17:59	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 17:59	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 17:59	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 17:59	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 120		08/28/13 17:59	1
4-Bromofluorobenzene (Surr)	87		75 - 120		08/28/13 17:59	1
Toluene-d8 (Surr)	86		85 - 120		08/28/13 17:59	1
Dibromofluoromethane (Surr)	101		85 - 115		08/28/13 17:59	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	1.2	J	1.9	0.48	0.21	ug/L		09/04/13 13:17	1
Butyl benzyl phthalate	0.35	J	1.9	0.48	0.25	ug/L		09/04/13 13:17	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-242C-0364-GW

Lab Sample ID: 240-28145-4

Date Collected: 08/20/13 11:11

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 13:17	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 13:17	1
<b>Di-n-butyl phthalate</b>	<b>1.4</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/04/13 13:17	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	74		50 - 110	08/22/13 08:06	09/04/13 13:17	1
2-Fluorophenol (Surr)	77		20 - 110	08/22/13 08:06	09/04/13 13:17	1
Nitrobenzene-d5 (Surr)	82		40 - 110	08/22/13 08:06	09/04/13 13:17	1
Phenol-d5 (Surr)	84		10 - 115	08/22/13 08:06	09/04/13 13:17	1
Terphenyl-d14 (Surr)	87		50 - 135	08/22/13 08:06	09/04/13 13:17	1
2,4,6-Tribromophenol (Surr)	96		40 - 125	08/22/13 08:06	09/04/13 13:17	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 18:18	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 18:18	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 18:18	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 18:18	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 18:18	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 18:18	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 18:18	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 18:18	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 18:18	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 18:18	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 18:18	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 18:18	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 18:18	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 18:18	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 18:18	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 18:18	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 18:18	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 18:18	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 18:18	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 18:18	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	31		30 - 135	08/22/13 07:53	09/11/13 18:18	1
DCB Decachlorobiphenyl	38		30 - 135	08/22/13 07:53	09/11/13 18:18	1
Tetrachloro-m-xylene	81		25 - 140	08/22/13 07:53	09/11/13 18:18	1
Tetrachloro-m-xylene	96		25 - 140	08/22/13 07:53	09/11/13 18:18	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 13:46	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/28/13 20:25	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 20:25	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-242C-0364-GW

Lab Sample ID: 240-28145-4

Date Collected: 08/20/13 11:11

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 20:25	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 20:25	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 20:25	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/28/13 20:25	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/28/13 20:25	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.060	ug/L		08/28/13 20:25	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/28/13 20:25	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 20:25	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 20:25	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 20:25	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 20:25	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 20:25	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/28/13 20:25	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/28/13 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	94		79 - 111	08/26/13 09:34	08/28/13 20:25	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.024	J	0.050	0.012	0.0053	mg/L		09/06/13 16:44	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:38	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-242C-0364-GF**

**Lab Sample ID: 240-28145-5**

**Date Collected: 08/20/13 11:11**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Arsenic</b>	<b>19</b>		10	10	3.3	ug/L		09/09/13 10:45	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:45	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 10:45	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:45	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:45	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:45	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:45	1
<b>Barium</b>	<b>26</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 10:45	1
<b>Calcium</b>	<b>71000</b>		5000	1000	630	ug/L		09/09/13 10:45	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:45	1
<b>Magnesium</b>	<b>48000</b>		5000	300	120	ug/L		09/09/13 10:45	1
<b>Manganese</b>	<b>61</b>		15	5.0	1.8	ug/L		09/09/13 10:45	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 10:45	1
<b>Potassium</b>	<b>1900</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 10:45	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Aluminum</b>	<b>50</b>	<b>J</b>	60	60	20	ug/L		09/09/13 14:18	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 14:18	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 14:18	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 14:18	1
<b>Iron</b>	<b>660</b>		150	100	44	ug/L		09/09/13 14:18	1
<b>Sodium</b>	<b>39000</b>		1000	400	160	ug/L		09/09/13 14:18	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 14:18	1
Zinc	50	U	50	50	27	ug/L		09/09/13 14:18	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:30	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-247-0336-GW

Lab Sample ID: 240-28145-6

Date Collected: 08/20/13 13:01

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 18:21	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 18:21	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 18:21	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 18:21	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 18:21	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 18:21	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 18:21	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 18:21	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 18:21	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 18:21	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 18:21	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:21	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 18:21	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 18:21	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:21	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:21	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 18:21	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 18:21	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 18:21	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 18:21	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 18:21	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 18:21	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 18:21	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 18:21	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 18:21	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 18:21	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 18:21	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 18:21	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 18:21	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 18:21	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 18:21	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 18:21	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:21	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 18:21	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 18:21	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 18:21	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 18:21	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 18:21	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 120		08/28/13 18:21	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/28/13 18:21	1
Toluene-d8 (Surr)	88		85 - 120		08/28/13 18:21	1
Dibromofluoromethane (Surr)	101		85 - 115		08/28/13 18:21	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.55	J	1.9	0.48	0.21	ug/L		09/04/13 15:20	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 15:20	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-247-0336-GW

Lab Sample ID: 240-28145-6

Date Collected: 08/20/13 13:01

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 15:20	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 15:20	1
<b>Di-n-butyl phthalate</b>	<b>0.67</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/04/13 15:20	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	75		50 - 110	08/22/13 08:06	09/04/13 15:20	1
2-Fluorophenol (Surr)	80		20 - 110	08/22/13 08:06	09/04/13 15:20	1
Nitrobenzene-d5 (Surr)	84		40 - 110	08/22/13 08:06	09/04/13 15:20	1
Phenol-d5 (Surr)	86		10 - 115	08/22/13 08:06	09/04/13 15:20	1
Terphenyl-d14 (Surr)	85		50 - 135	08/22/13 08:06	09/04/13 15:20	1
2,4,6-Tribromophenol (Surr)	102		40 - 125	08/22/13 08:06	09/04/13 15:20	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 18:38	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 18:38	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 18:38	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 18:38	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 18:38	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 18:38	1
<b>beta-BHC</b>	<b>0.18</b>		0.048	0.019	0.0080	ug/L		09/11/13 18:38	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 18:38	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 18:38	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 18:38	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 18:38	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 18:38	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 18:38	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 18:38	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 18:38	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 18:38	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 18:38	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 18:38	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 18:38	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 18:38	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	25	Q	30 - 135	08/22/13 07:53	09/11/13 18:38	1
DCB Decachlorobiphenyl	25	Q	30 - 135	08/22/13 07:53	09/11/13 18:38	1
Tetrachloro-m-xylene	64		25 - 140	08/22/13 07:53	09/11/13 18:38	1
Tetrachloro-m-xylene	73		25 - 140	08/22/13 07:53	09/11/13 18:38	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 14:04	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.054	U	0.16	0.054	0.033	ug/L		08/28/13 21:09	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.054	ug/L		08/28/13 21:09	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-247-0336-GW

Lab Sample ID: 240-28145-6

Date Collected: 08/20/13 13:01

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.054	ug/L		08/28/13 21:09	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.054	ug/L		08/28/13 21:09	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.054	ug/L		08/28/13 21:09	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/28/13 21:09	1
2-Nitrotoluene	0.11	U	0.54	0.11	0.095	ug/L		08/28/13 21:09	1
3-Nitrotoluene	0.11	U	0.54	0.11	0.061	ug/L		08/28/13 21:09	1
4-Nitrotoluene	0.11	U	0.54	0.11	0.095	ug/L		08/28/13 21:09	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.054	ug/L		08/28/13 21:09	1
HMX	0.054	U	0.16	0.054	0.039	ug/L		08/28/13 21:09	1
RDX	0.054	U	0.16	0.054	0.039	ug/L		08/28/13 21:09	1
Nitrobenzene	0.11	U	0.16	0.11	0.054	ug/L		08/28/13 21:09	1
Tetryl	0.11	U	0.16	0.11	0.054	ug/L		08/28/13 21:09	1
Nitroglycerin	0.54	U	0.70	0.54	0.35	ug/L		08/28/13 21:09	1
PETN	0.54	U	0.70	0.54	0.32	ug/L		08/28/13 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92	M	79 - 111	08/26/13 09:34	08/28/13 21:09	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.024	J	0.050	0.012	0.0053	mg/L		09/06/13 16:46	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:40	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-247-0336-GF**

**Lab Sample ID: 240-28145-7**

Date Collected: 08/20/13 13:01

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	6.3	J	10	10	3.3	ug/L		09/09/13 10:51	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 10:51	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 10:51	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 10:51	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 10:51	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 10:51	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 10:51	1
Barium	27	J	200	5.0	2.8	ug/L		09/09/13 10:51	1
Calcium	100000		5000	1000	630	ug/L		09/09/13 10:51	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 10:51	1
Magnesium	54000		5000	300	120	ug/L		09/09/13 10:51	1
Manganese	280		15	5.0	1.8	ug/L		09/09/13 10:51	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 10:51	1
Potassium	2700	J	5000	900	300	ug/L		09/09/13 10:51	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	160		60	60	20	ug/L		09/09/13 14:26	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 14:26	1
Beryllium	1.0	U	1.0	1.0	0.50	ug/L		09/09/13 14:26	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 14:26	1
Iron	170		150	100	44	ug/L		09/09/13 14:26	1
Sodium	24000		1000	400	160	ug/L		09/09/13 14:26	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 14:26	1
Zinc	50	U	50	50	27	ug/L		09/09/13 14:26	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:35	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-DUP3-0338-GW

Lab Sample ID: 240-28145-8

Date Collected: 08/20/13 13:41

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 18:44	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 18:44	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 18:44	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 18:44	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 18:44	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 18:44	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 18:44	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 18:44	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 18:44	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 18:44	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 18:44	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:44	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 18:44	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 18:44	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:44	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:44	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 18:44	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 18:44	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 18:44	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 18:44	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 18:44	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 18:44	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 18:44	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 18:44	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 18:44	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 18:44	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 18:44	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 18:44	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 18:44	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 18:44	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 18:44	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 18:44	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 18:44	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 18:44	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 18:44	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 18:44	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 18:44	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 18:44	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 120		08/28/13 18:44	1
4-Bromofluorobenzene (Surr)	87		75 - 120		08/28/13 18:44	1
Toluene-d8 (Surr)	85		85 - 120		08/28/13 18:44	1
Dibromofluoromethane (Surr)	102		85 - 115		08/28/13 18:44	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.62	J	1.9	0.48	0.21	ug/L		09/04/13 15:44	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 15:44	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-DUP3-0338-GW

Lab Sample ID: 240-28145-8

Date Collected: 08/20/13 13:41

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 15:44	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 15:44	1
<b>Di-n-butyl phthalate</b>	<b>0.70</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/04/13 15:44	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	74		50 - 110	08/22/13 08:06	09/04/13 15:44	1
2-Fluorophenol (Surr)	74		20 - 110	08/22/13 08:06	09/04/13 15:44	1
Nitrobenzene-d5 (Surr)	78		40 - 110	08/22/13 08:06	09/04/13 15:44	1
Phenol-d5 (Surr)	78		10 - 115	08/22/13 08:06	09/04/13 15:44	1
Terphenyl-d14 (Surr)	92		50 - 135	08/22/13 08:06	09/04/13 15:44	1
2,4,6-Tribromophenol (Surr)	93		40 - 125	08/22/13 08:06	09/04/13 15:44	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 18:59	1
4,4'-DDE	0.019	U	0.048	0.019	0.0093	ug/L		09/11/13 18:59	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 18:59	1
Aldrin	0.019	U	0.029	0.019	0.0079	ug/L		09/11/13 18:59	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 18:59	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 18:59	1
beta-BHC	0.019	U	0.048	0.019	0.0081	ug/L		09/11/13 18:59	1
delta-BHC	0.019	U	0.048	0.019	0.0084	ug/L		09/11/13 18:59	1
Dieldrin	0.019	U	0.029	0.019	0.0072	ug/L		09/11/13 18:59	1
Endosulfan I	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 18:59	1
Endosulfan II	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 18:59	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 18:59	1
Endrin	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 18:59	1
Endrin aldehyde	0.096	U	0.24	0.096	0.053	ug/L		09/12/13 13:48	5
Endrin ketone	0.019	U	0.048	0.019	0.0075	ug/L		09/11/13 18:59	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0062	ug/L		09/11/13 18:59	1
gamma-Chlordane	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 18:59	1
Heptachlor	0.019	U	0.029	0.019	0.0077	ug/L		09/11/13 18:59	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 18:59	1
Methoxychlor	0.048	U	0.096	0.048	0.031	ug/L		09/11/13 18:59	1
Toxaphene	0.77	U	1.9	0.77	0.31	ug/L		09/11/13 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	43		30 - 135	08/22/13 07:53	09/11/13 18:59	1
DCB Decachlorobiphenyl	53		30 - 135	08/22/13 07:53	09/11/13 18:59	1
DCB Decachlorobiphenyl	55		30 - 135	08/22/13 07:53	09/12/13 13:48	5
DCB Decachlorobiphenyl	54		30 - 135	08/22/13 07:53	09/12/13 13:48	5
Tetrachloro-m-xylene	76		25 - 140	08/22/13 07:53	09/11/13 18:59	1
Tetrachloro-m-xylene	87		25 - 140	08/22/13 07:53	09/11/13 18:59	1
Tetrachloro-m-xylene	89		25 - 140	08/22/13 07:53	09/12/13 13:48	5
Tetrachloro-m-xylene	89		25 - 140	08/22/13 07:53	09/12/13 13:48	5

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 14:21	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-DUP3-0338-GW

Lab Sample ID: 240-28145-8

Date Collected: 08/20/13 13:41

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/28/13 21:52	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 21:52	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 21:52	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 21:52	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 21:52	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/28/13 21:52	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/28/13 21:52	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.061	ug/L		08/28/13 21:52	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/28/13 21:52	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 21:52	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 21:52	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 21:52	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 21:52	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 21:52	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/28/13 21:52	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/28/13 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	88		79 - 111	08/26/13 09:34	08/28/13 21:52	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.011	J	0.050	0.012	0.0053	mg/L		09/06/13 16:48	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:42	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-DUP3-0338-GF**

**Lab Sample ID: 240-28145-9**

**Date Collected: 08/20/13 13:41**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	7.7	J	10	10	3.3	ug/L		09/09/13 11:09	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 11:09	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 11:09	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 11:09	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 11:09	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 11:09	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 11:09	1
Barium	28	J	200	5.0	2.8	ug/L		09/09/13 11:09	1
Calcium	100000		5000	1000	630	ug/L		09/09/13 11:09	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 11:09	1
Magnesium	55000		5000	300	120	ug/L		09/09/13 11:09	1
Manganese	280		15	5.0	1.8	ug/L		09/09/13 11:09	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 11:09	1
Potassium	2700	J	5000	900	300	ug/L		09/09/13 11:09	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	92		60	60	20	ug/L		09/09/13 14:48	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 14:48	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 14:48	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 14:48	1
Iron	190		150	100	44	ug/L		09/09/13 14:48	1
Sodium	24000		1000	400	160	ug/L		09/09/13 14:48	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 14:48	1
Zinc	50	U	50	50	27	ug/L		09/09/13 14:48	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:36	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDEtmw-002C-0315-GW

Lab Sample ID: 240-28145-10

Date Collected: 08/20/13 15:11

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:06	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:06	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 19:06	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:06	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:06	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:06	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 19:06	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:06	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 19:06	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:06	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 19:06	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:06	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 19:06	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 19:06	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:06	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:06	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:06	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:06	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 19:06	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 19:06	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:06	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 19:06	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:06	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:06	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 19:06	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 19:06	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 19:06	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 19:06	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 19:06	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 19:06	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 19:06	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:06	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:06	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:06	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:06	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:06	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:06	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 19:06	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 120		08/28/13 19:06	1
4-Bromofluorobenzene (Surr)	89		75 - 120		08/28/13 19:06	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 19:06	1
Dibromofluoromethane (Surr)	103		85 - 115		08/28/13 19:06	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 14:44	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/03/13 14:44	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDEtmw-002C-0315-GW

Lab Sample ID: 240-28145-10

Date Collected: 08/20/13 15:11

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/03/13 14:44	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/03/13 14:44	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/03/13 14:44	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/03/13 14:44	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/03/13 14:44	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/03/13 14:44	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/03/13 14:44	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/03/13 14:44	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/03/13 14:44	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/03/13 14:44	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.35</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/03/13 14:44	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/03/13 14:44	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/03/13 14:44	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/03/13 14:44	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 14:44	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 14:44	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/03/13 14:44	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/03/13 14:44	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/03/13 14:44	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/03/13 14:44	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 14:44	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/03/13 14:44	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/03/13 14:44	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/03/13 14:44	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/03/13 14:44	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/03/13 14:44	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/03/13 14:44	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/03/13 14:44	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/03/13 14:44	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/03/13 14:44	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		09/03/13 14:44	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/03/13 14:44	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/03/13 14:44	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/03/13 14:44	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 14:44	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/03/13 14:44	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/03/13 14:44	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/03/13 14:44	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/03/13 14:44	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/03/13 14:44	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/03/13 14:44	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/03/13 14:44	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/03/13 14:44	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/03/13 14:44	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/03/13 14:44	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/03/13 14:44	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 14:44	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/03/13 14:44	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/03/13 14:44	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDETMw-002C-0315-GW

Lab Sample ID: 240-28145-10

Date Collected: 08/20/13 15:11

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/03/13 14:44	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/03/13 14:44	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/03/13 14:44	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/03/13 14:44	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/03/13 14:44	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/03/13 14:44	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/03/13 14:44	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/03/13 14:44	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/03/13 14:44	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/03/13 14:44	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/03/13 14:44	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/03/13 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	62		50 - 110	08/22/13 08:06	09/03/13 14:44	1
2-Fluorophenol (Surr)	62		20 - 110	08/22/13 08:06	09/03/13 14:44	1
Nitrobenzene-d5 (Surr)	68		40 - 110	08/22/13 08:06	09/03/13 14:44	1
Phenol-d5 (Surr)	68		10 - 115	08/22/13 08:06	09/03/13 14:44	1
Terphenyl-d14 (Surr)	76		50 - 135	08/22/13 08:06	09/03/13 14:44	1
2,4,6-Tribromophenol (Surr)	83		40 - 125	08/22/13 08:06	09/03/13 14:44	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 19:19	1
4,4'-DDE	0.019	U	0.048	0.019	0.0093	ug/L		09/11/13 19:19	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 19:19	1
Aldrin	0.019	U	0.029	0.019	0.0079	ug/L		09/11/13 19:19	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 19:19	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 19:19	1
beta-BHC	0.011	J Q	0.048	0.019	0.0081	ug/L		09/11/13 19:19	1
delta-BHC	0.019	U	0.048	0.019	0.0084	ug/L		09/11/13 19:19	1
Dieldrin	0.019	U	0.029	0.019	0.0072	ug/L		09/11/13 19:19	1
Endosulfan I	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 19:19	1
Endosulfan II	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 19:19	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 19:19	1
Endrin	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 19:19	1
Endrin aldehyde	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 19:19	1
Endrin ketone	0.019	U	0.048	0.019	0.0075	ug/L		09/11/13 19:19	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0062	ug/L		09/11/13 19:19	1
gamma-Chlordane	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 19:19	1
Heptachlor	0.019	U	0.029	0.019	0.0077	ug/L		09/11/13 19:19	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 19:19	1
Methoxychlor	0.048	U	0.096	0.048	0.031	ug/L		09/11/13 19:19	1
Toxaphene	0.77	U	1.9	0.77	0.31	ug/L		09/11/13 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	61		30 - 135	08/22/13 07:53	09/11/13 19:19	1
DCB Decachlorobiphenyl	74		30 - 135	08/22/13 07:53	09/11/13 19:19	1
Tetrachloro-m-xylene	79		25 - 140	08/22/13 07:53	09/11/13 19:19	1
Tetrachloro-m-xylene	92		25 - 140	08/22/13 07:53	09/11/13 19:19	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDETMw-002C-0315-GW

Lab Sample ID: 240-28145-10

Date Collected: 08/20/13 15:11

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:28	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 14:28	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:28	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 14:28	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 14:28	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:28	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		40 - 140	08/30/13 08:32	09/04/13 14:28	1
Tetrachloro-m-xylene	70		40 - 140	08/30/13 08:32	09/04/13 14:28	1
DCB Decachlorobiphenyl	37	Q	40 - 135	08/30/13 08:32	09/04/13 14:28	1
DCB Decachlorobiphenyl	36	Q	40 - 135	08/30/13 08:32	09/04/13 14:28	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 14:39	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/30/13 18:39	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 22:36	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 22:36	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 22:36	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/28/13 22:36	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/28/13 22:36	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/28/13 22:36	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.061	ug/L		08/28/13 22:36	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/28/13 22:36	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 22:36	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 22:36	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/28/13 22:36	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 22:36	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/28/13 22:36	1
Nitroglycerin	0.53	U M	0.69	0.53	0.35	ug/L		08/28/13 22:36	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/28/13 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	94		79 - 111	08/26/13 09:34	08/28/13 22:36	1
3,4-Dinitrotoluene	111		79 - 111	08/26/13 09:34	08/30/13 18:39	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:25	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:44	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDETMw-002C-0315-GF**

**Lab Sample ID: 240-28145-11**

**Date Collected: 08/20/13 15:11**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.012	J	0.050	0.020	0.0088	ug/L		09/07/13 00:56	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 11:14	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 11:14	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 11:14	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 11:14	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 11:14	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 11:14	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 11:14	1
Barium	37	J	200	5.0	2.8	ug/L		09/09/13 11:14	1
Calcium	89000		5000	1000	630	ug/L		09/09/13 11:14	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 11:14	1
Magnesium	32000		5000	300	120	ug/L		09/09/13 11:14	1
Manganese	56		15	5.0	1.8	ug/L		09/09/13 11:14	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 11:14	1
Potassium	3100	J	5000	900	300	ug/L		09/09/13 11:14	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 14:56	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 14:56	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 14:56	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 14:56	1
Iron	93	J	150	100	44	ug/L		09/09/13 14:56	1
Sodium	17000		1000	400	160	ug/L		09/09/13 14:56	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 14:56	1
Zinc	50	U	50	50	27	ug/L		09/09/13 14:56	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		09/04/13 15:22	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-114-0312-GW

Lab Sample ID: 240-28145-12

Date Collected: 08/20/13 17:05

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:28	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:28	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 19:28	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:28	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:28	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:28	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 19:28	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:28	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 19:28	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:28	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 19:28	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:28	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 19:28	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 19:28	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:28	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:28	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:28	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:28	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 19:28	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 19:28	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:28	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 19:28	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:28	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:28	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 19:28	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 19:28	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 19:28	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 19:28	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 19:28	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 19:28	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 19:28	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:28	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:28	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:28	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:28	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:28	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:28	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 19:28	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 120		08/28/13 19:28	1
4-Bromofluorobenzene (Surr)	89		75 - 120		08/28/13 19:28	1
Toluene-d8 (Surr)	86		85 - 120		08/28/13 19:28	1
Dibromofluoromethane (Surr)	99		85 - 115		08/28/13 19:28	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 15:09	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/03/13 15:09	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-114-0312-GW

Lab Sample ID: 240-28145-12

Date Collected: 08/20/13 17:05

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/03/13 15:09	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/03/13 15:09	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/03/13 15:09	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/03/13 15:09	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/03/13 15:09	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/03/13 15:09	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/03/13 15:09	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/03/13 15:09	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/03/13 15:09	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/03/13 15:09	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.35</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/03/13 15:09	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/03/13 15:09	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/03/13 15:09	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/03/13 15:09	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 15:09	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 15:09	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/03/13 15:09	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/03/13 15:09	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/03/13 15:09	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/03/13 15:09	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 15:09	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/03/13 15:09	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/03/13 15:09	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/03/13 15:09	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/03/13 15:09	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/03/13 15:09	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/03/13 15:09	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/03/13 15:09	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/03/13 15:09	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/03/13 15:09	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		09/03/13 15:09	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/03/13 15:09	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/03/13 15:09	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/03/13 15:09	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 15:09	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/03/13 15:09	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/03/13 15:09	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/03/13 15:09	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/03/13 15:09	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/03/13 15:09	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/03/13 15:09	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/03/13 15:09	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/03/13 15:09	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/03/13 15:09	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/03/13 15:09	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/03/13 15:09	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 15:09	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/03/13 15:09	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/03/13 15:09	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-114-0312-GW

Lab Sample ID: 240-28145-12

Date Collected: 08/20/13 17:05

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/03/13 15:09	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/03/13 15:09	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/03/13 15:09	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/03/13 15:09	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/03/13 15:09	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/03/13 15:09	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/03/13 15:09	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/03/13 15:09	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/03/13 15:09	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/03/13 15:09	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/03/13 15:09	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/03/13 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		50 - 110	08/22/13 08:06	09/03/13 15:09	1
2-Fluorophenol (Surr)	68		20 - 110	08/22/13 08:06	09/03/13 15:09	1
Nitrobenzene-d5 (Surr)	70		40 - 110	08/22/13 08:06	09/03/13 15:09	1
Phenol-d5 (Surr)	72		10 - 115	08/22/13 08:06	09/03/13 15:09	1
Terphenyl-d14 (Surr)	79		50 - 135	08/22/13 08:06	09/03/13 15:09	1
2,4,6-Tribromophenol (Surr)	82		40 - 125	08/22/13 08:06	09/03/13 15:09	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 20:41	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 20:41	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 20:41	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 20:41	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 20:41	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 20:41	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 20:41	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 20:41	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 20:41	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 20:41	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 20:41	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 20:41	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 20:41	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 20:41	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 20:41	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 20:41	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 20:41	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 20:41	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 20:41	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 20:41	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		30 - 135	08/22/13 07:53	09/11/13 20:41	1
DCB Decachlorobiphenyl	49		30 - 135	08/22/13 07:53	09/11/13 20:41	1
Tetrachloro-m-xylene	88		25 - 140	08/22/13 07:53	09/11/13 20:41	1
Tetrachloro-m-xylene	97		25 - 140	08/22/13 07:53	09/11/13 20:41	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-114-0312-GW

Lab Sample ID: 240-28145-12

Date Collected: 08/20/13 17:05

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:43	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 14:43	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:43	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 14:43	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 14:43	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:43	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	69		40 - 140	08/30/13 08:32	09/04/13 14:43	1
Tetrachloro-m-xylene	77		40 - 140	08/30/13 08:32	09/04/13 14:43	1
DCB Decachlorobiphenyl	41		40 - 135	08/30/13 08:32	09/04/13 14:43	1
DCB Decachlorobiphenyl	41		40 - 135	08/30/13 08:32	09/04/13 14:43	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 14:57	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/29/13 00:03	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 00:03	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 00:03	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 00:03	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 00:03	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/29/13 00:03	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 00:03	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.060	ug/L		08/29/13 00:03	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 00:03	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 00:03	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 00:03	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 00:03	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 00:03	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 00:03	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/29/13 00:03	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/29/13 00:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	91		79 - 111	08/26/13 09:34	08/29/13 00:03	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:25	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:46	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDA2mw-114-0312-GF**

**Lab Sample ID: 240-28145-13**

**Date Collected: 08/20/13 17:05**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 11:20	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 11:20	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 11:20	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 11:20	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 11:20	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 11:20	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 11:20	1
Barium	30	J	200	5.0	2.8	ug/L		09/09/13 11:20	1
Calcium	110000		5000	1000	630	ug/L		09/09/13 11:20	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 11:20	1
Magnesium	37000		5000	300	120	ug/L		09/09/13 11:20	1
Manganese	82		15	5.0	1.8	ug/L		09/09/13 11:20	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 11:20	1
Potassium	4100	J	5000	900	300	ug/L		09/09/13 11:20	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 15:03	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 15:03	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 15:03	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 15:03	1
Iron	920		150	100	44	ug/L		09/09/13 15:03	1
Sodium	13000		1000	400	160	ug/L		09/09/13 15:03	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 15:03	1
Zinc	50	U	50	50	27	ug/L		09/09/13 15:03	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		09/04/13 15:23	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL1mw-087C-0356-GW**

**Lab Sample ID: 240-28145-14**

**Date Collected: 08/20/13 09:28**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.86</b>	<b>J</b>	2.2	0.54	0.24	ug/L		09/04/13 16:34	1
Butyl benzyl phthalate	0.54	U	2.2	0.54	0.28	ug/L		09/04/13 16:34	1
Diethyl phthalate	1.1	U	2.2	1.1	0.65	ug/L		09/04/13 16:34	1
Dimethyl phthalate	0.54	U	2.2	0.54	0.32	ug/L		09/04/13 16:34	1
<b>Di-n-butyl phthalate</b>	<b>0.84</b>	<b>J</b>	2.2	1.1	0.73	ug/L		09/04/13 16:34	1
Di-n-octyl phthalate	0.54	U	2.2	0.54	0.25	ug/L		09/04/13 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	77		50 - 110	08/22/13 08:06	09/04/13 16:34	1
2-Fluorophenol (Surr)	80		20 - 110	08/22/13 08:06	09/04/13 16:34	1
Nitrobenzene-d5 (Surr)	83		40 - 110	08/22/13 08:06	09/04/13 16:34	1
Phenol-d5 (Surr)	90		10 - 115	08/22/13 08:06	09/04/13 16:34	1
Terphenyl-d14 (Surr)	86		50 - 135	08/22/13 08:06	09/04/13 16:34	1
2,4,6-Tribromophenol (Surr)	101		40 - 125	08/22/13 08:06	09/04/13 16:34	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.052	0.021	0.0099	ug/L		09/11/13 21:02	1
4,4'-DDE	0.021	U	0.052	0.021	0.010	ug/L		09/11/13 21:02	1
4,4'-DDT	0.021	U	0.052	0.021	0.016	ug/L		09/11/13 21:02	1
Aldrin	0.021	U	0.031	0.021	0.0085	ug/L		09/11/13 21:02	1
alpha-BHC	0.021	U	0.031	0.021	0.0072	ug/L		09/11/13 21:02	1
alpha-Chlordane	0.021	U	0.052	0.021	0.014	ug/L		09/11/13 21:02	1
beta-BHC	0.021	U	0.052	0.021	0.0087	ug/L		09/11/13 21:02	1
delta-BHC	0.021	U	0.052	0.021	0.0090	ug/L		09/11/13 21:02	1
Dieldrin	0.021	U	0.031	0.021	0.0077	ug/L		09/11/13 21:02	1
Endosulfan I	0.021	U	0.052	0.021	0.013	ug/L		09/11/13 21:02	1
Endosulfan II	0.021	U	0.052	0.021	0.012	ug/L		09/11/13 21:02	1
Endosulfan sulfate	0.021	U	0.052	0.021	0.011	ug/L		09/11/13 21:02	1
Endrin	0.021	U	0.052	0.021	0.011	ug/L		09/11/13 21:02	1
Endrin aldehyde	0.021	U	0.052	0.021	0.011	ug/L		09/11/13 21:02	1
Endrin ketone	0.021	U	0.052	0.021	0.0080	ug/L		09/11/13 21:02	1
gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0066	ug/L		09/11/13 21:02	1
gamma-Chlordane	0.021	U	0.052	0.021	0.012	ug/L		09/11/13 21:02	1
Heptachlor	0.021	U	0.031	0.021	0.0082	ug/L		09/11/13 21:02	1
Heptachlor epoxide	0.021	U	0.031	0.021	0.0073	ug/L		09/11/13 21:02	1
Methoxychlor	0.052	U	0.10	0.052	0.033	ug/L		09/11/13 21:02	1
Toxaphene	0.82	U	2.1	0.82	0.33	ug/L		09/11/13 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		30 - 135	08/22/13 07:53	09/11/13 21:02	1
DCB Decachlorobiphenyl	56		30 - 135	08/22/13 07:53	09/11/13 21:02	1
Tetrachloro-m-xylene	95		25 - 140	08/22/13 07:53	09/11/13 21:02	1
Tetrachloro-m-xylene	112		25 - 140	08/22/13 07:53	09/11/13 21:02	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 15:15	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL1mw-087C-0356-GW

Lab Sample ID: 240-28145-14

Date Collected: 08/20/13 09:28

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.059	U	0.18	0.059	0.037	ug/L		08/29/13 00:47	1
1,3-Dinitrobenzene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 00:47	1
2,4,6-Trinitrotoluene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 00:47	1
2,4-Dinitrotoluene	0.12	U	0.15	0.12	0.059	ug/L		08/29/13 00:47	1
2,6-Dinitrotoluene	0.12	U	0.15	0.12	0.059	ug/L		08/29/13 00:47	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.18	0.12	0.018	ug/L		08/29/13 00:47	1
2-Nitrotoluene	0.12	U	0.59	0.12	0.10	ug/L		08/29/13 00:47	1
3-Nitrotoluene	0.12	U	0.59	0.12	0.067	ug/L		08/29/13 00:47	1
4-Nitrotoluene	0.12	U	0.59	0.12	0.10	ug/L		08/29/13 00:47	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 00:47	1
HMX	0.059	U	0.18	0.059	0.043	ug/L		08/29/13 00:47	1
RDX	0.059	U	0.18	0.059	0.043	ug/L		08/29/13 00:47	1
Nitrobenzene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 00:47	1
Tetryl	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 00:47	1
Nitroglycerin	0.59	U	0.77	0.59	0.39	ug/L		08/29/13 00:47	1
PETN	0.59	U	0.77	0.59	0.35	ug/L		08/29/13 00:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	104		79 - 111	08/26/13 09:34	08/29/13 00:47	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:56	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL1mw-087C-0356-GF**

**Lab Sample ID: 240-28145-15**

**Date Collected: 08/20/13 09:28**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 11:26	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 11:26	1
<b>Cobalt</b>	<b>1.5</b>	<b>J</b>	7.0	4.0	1.5	ug/L		09/09/13 11:26	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 11:26	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 11:26	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 11:26	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 11:26	1
<b>Barium</b>	<b>28</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 11:26	1
<b>Calcium</b>	<b>99000</b>		5000	1000	630	ug/L		09/09/13 11:26	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 11:26	1
<b>Magnesium</b>	<b>29000</b>		5000	300	120	ug/L		09/09/13 11:26	1
<b>Manganese</b>	<b>200</b>		15	5.0	1.8	ug/L		09/09/13 11:26	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 11:26	1
<b>Potassium</b>	<b>610</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 11:26	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 15:11	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 15:11	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 15:11	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 15:11	1
Iron	100	U	150	100	44	ug/L		09/09/13 15:11	1
<b>Sodium</b>	<b>8900</b>		1000	400	160	ug/L		09/09/13 15:11	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 15:11	1
Zinc	50	U	50	50	27	ug/L		09/09/13 15:11	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		09/04/13 15:25	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGSCFmw-002-0327-GW

Lab Sample ID: 240-28145-16

Date Collected: 08/20/13 12:08

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.53</b>	<b>J</b>	2.0	0.50	0.22	ug/L		09/04/13 16:09	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		09/04/13 16:09	1
Diethyl phthalate	0.99	U	2.0	0.99	0.59	ug/L		09/04/13 16:09	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		09/04/13 16:09	1
Di-n-butyl phthalate	0.99	U	2.0	0.99	0.66	ug/L		09/04/13 16:09	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		09/04/13 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	62		50 - 110	08/22/13 08:06	09/04/13 16:09	1
2-Fluorophenol (Surr)	57		20 - 110	08/22/13 08:06	09/04/13 16:09	1
Nitrobenzene-d5 (Surr)	65		40 - 110	08/22/13 08:06	09/04/13 16:09	1
Phenol-d5 (Surr)	62		10 - 115	08/22/13 08:06	09/04/13 16:09	1
Terphenyl-d14 (Surr)	90		50 - 135	08/22/13 08:06	09/04/13 16:09	1
2,4,6-Tribromophenol (Surr)	75		40 - 125	08/22/13 08:06	09/04/13 16:09	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 21:22	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 21:22	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 21:22	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 21:22	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 21:22	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 21:22	1
<b>beta-BHC</b>	<b>0.014</b>	<b>J Q</b>	0.048	0.019	0.0080	ug/L		09/11/13 21:22	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 21:22	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 21:22	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 21:22	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 21:22	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 21:22	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 21:22	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 21:22	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 21:22	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 21:22	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 21:22	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 21:22	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 21:22	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 21:22	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	107		30 - 135	08/22/13 07:53	09/11/13 21:22	1
DCB Decachlorobiphenyl	118		30 - 135	08/22/13 07:53	09/11/13 21:22	1
Tetrachloro-m-xylene	194	M Q	25 - 140	08/22/13 07:53	09/11/13 21:22	1
Tetrachloro-m-xylene	120		25 - 140	08/22/13 07:53	09/11/13 21:22	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 15:50	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGSCFmw-002-0327-GW

Lab Sample ID: 240-28145-16

Date Collected: 08/20/13 12:08

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.057	U	0.17	0.057	0.035	ug/L		08/29/13 01:30	1
1,3-Dinitrobenzene	0.11	U	0.17	0.11	0.057	ug/L		08/30/13 19:44	1
2,4,6-Trinitrotoluene	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 01:30	1
2,4-Dinitrotoluene	0.11	U	0.15	0.11	0.057	ug/L		08/29/13 01:30	1
2,6-Dinitrotoluene	0.11	U	0.15	0.11	0.057	ug/L		08/29/13 01:30	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.17	0.11	0.017	ug/L		08/29/13 01:30	1
2-Nitrotoluene	0.11	U	0.57	0.11	0.099	ug/L		08/29/13 01:30	1
3-Nitrotoluene	0.11	U	0.57	0.11	0.064	ug/L		08/30/13 19:44	1
4-Nitrotoluene	0.11	U	0.57	0.11	0.099	ug/L		08/29/13 01:30	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 01:30	1
HMX	0.057	U	0.17	0.057	0.041	ug/L		08/29/13 01:30	1
RDX	0.057	U	0.17	0.057	0.041	ug/L		08/29/13 01:30	1
Nitrobenzene	0.11	U	0.17	0.11	0.057	ug/L		08/30/13 19:44	1
Tetryl	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 01:30	1
Nitroglycerin	0.57	U	0.73	0.57	0.37	ug/L		08/29/13 01:30	1
PETN	0.57	U	0.73	0.57	0.34	ug/L		08/29/13 01:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90		79 - 111	08/26/13 09:34	08/29/13 01:30	1
3,4-Dinitrotoluene	97		79 - 111	08/26/13 09:34	08/30/13 19:44	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 13:58	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGSCFmw-002-0327-GF**

**Lab Sample ID: 240-28145-17**

**Date Collected: 08/20/13 12:08**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Arsenic</b>	<b>15</b>		10	10	3.3	ug/L		09/09/13 11:32	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 11:32	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 11:32	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 11:32	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 11:32	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 11:32	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 11:32	1
<b>Barium</b>	<b>42</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 11:32	1
<b>Calcium</b>	<b>84000</b>		5000	1000	630	ug/L		09/09/13 11:32	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 11:32	1
<b>Magnesium</b>	<b>27000</b>		5000	300	120	ug/L		09/09/13 11:32	1
<b>Manganese</b>	<b>70</b>		15	5.0	1.8	ug/L		09/09/13 11:32	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 11:32	1
<b>Potassium</b>	<b>2300</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 11:32	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 15:18	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 15:18	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 15:18	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 15:18	1
<b>Iron</b>	<b>340</b>		150	100	44	ug/L		09/09/13 15:18	1
<b>Sodium</b>	<b>22000</b>		1000	400	160	ug/L		09/09/13 15:18	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 15:18	1
Zinc	50	U	50	50	27	ug/L		09/09/13 15:18	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		09/04/13 15:27	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGSCFmw-004-0372-GW

Lab Sample ID: 240-28145-18

Date Collected: 08/20/13 10:48

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.95</b>	<b>J</b>	2.1	0.53	0.23	ug/L		09/04/13 16:58	1
Butyl benzyl phthalate	0.53	U	2.1	0.53	0.28	ug/L		09/04/13 16:58	1
Diethyl phthalate	1.1	U	2.1	1.1	0.64	ug/L		09/04/13 16:58	1
Dimethyl phthalate	0.53	U	2.1	0.53	0.31	ug/L		09/04/13 16:58	1
<b>Di-n-butyl phthalate</b>	<b>0.84</b>	<b>J</b>	2.1	1.1	0.71	ug/L		09/04/13 16:58	1
Di-n-octyl phthalate	0.53	U	2.1	0.53	0.24	ug/L		09/04/13 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	66		50 - 110	08/22/13 08:06	09/04/13 16:58	1
2-Fluorophenol (Surr)	65		20 - 110	08/22/13 08:06	09/04/13 16:58	1
Nitrobenzene-d5 (Surr)	69		40 - 110	08/22/13 08:06	09/04/13 16:58	1
Phenol-d5 (Surr)	70		10 - 115	08/22/13 08:06	09/04/13 16:58	1
Terphenyl-d14 (Surr)	98		50 - 135	08/22/13 08:06	09/04/13 16:58	1
2,4,6-Tribromophenol (Surr)	96		40 - 125	08/22/13 08:06	09/04/13 16:58	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.049	0.020	0.0094	ug/L		09/11/13 21:43	1
4,4'-DDE	0.020	U	0.049	0.020	0.0095	ug/L		09/11/13 21:43	1
4,4'-DDT	0.020	U	0.049	0.020	0.016	ug/L		09/11/13 21:43	1
Aldrin	0.020	U	0.029	0.020	0.0080	ug/L		09/11/13 21:43	1
alpha-BHC	0.020	U	0.029	0.020	0.0069	ug/L		09/11/13 21:43	1
alpha-Chlordane	0.020	U	0.049	0.020	0.014	ug/L		09/11/13 21:43	1
<b>beta-BHC</b>	<b>0.0087</b>	<b>J Q</b>	0.049	0.020	0.0082	ug/L		09/11/13 21:43	1
delta-BHC	0.020	U	0.049	0.020	0.0085	ug/L		09/11/13 21:43	1
Dieldrin	0.020	U	0.029	0.020	0.0074	ug/L		09/11/13 21:43	1
Endosulfan I	0.020	U	0.049	0.020	0.013	ug/L		09/11/13 21:43	1
Endosulfan II	0.020	U	0.049	0.020	0.012	ug/L		09/11/13 21:43	1
Endosulfan sulfate	0.020	U	0.049	0.020	0.011	ug/L		09/11/13 21:43	1
Endrin	0.020	U	0.049	0.020	0.011	ug/L		09/11/13 21:43	1
Endrin aldehyde	0.020	U	0.049	0.020	0.011	ug/L		09/11/13 21:43	1
Endrin ketone	0.020	U	0.049	0.020	0.0076	ug/L		09/11/13 21:43	1
gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0063	ug/L		09/11/13 21:43	1
gamma-Chlordane	0.020	U	0.049	0.020	0.012	ug/L		09/11/13 21:43	1
Heptachlor	0.020	U	0.029	0.020	0.0078	ug/L		09/11/13 21:43	1
Heptachlor epoxide	0.020	U	0.029	0.020	0.0070	ug/L		09/11/13 21:43	1
Methoxychlor	0.049	U	0.098	0.049	0.031	ug/L		09/11/13 21:43	1
Toxaphene	0.78	U	2.0	0.78	0.31	ug/L		09/11/13 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	117		30 - 135	08/22/13 07:53	09/11/13 21:43	1
DCB Decachlorobiphenyl	119		30 - 135	08/22/13 07:53	09/11/13 21:43	1
Tetrachloro-m-xylene	101		25 - 140	08/22/13 07:53	09/11/13 21:43	1
Tetrachloro-m-xylene	112		25 - 140	08/22/13 07:53	09/11/13 21:43	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 16:08	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGSCFmw-004-0372-GW

Lab Sample ID: 240-28145-18

Date Collected: 08/20/13 10:48

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/29/13 02:14	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 02:14	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 02:14	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 02:14	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 02:14	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/29/13 02:14	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 02:14	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.061	ug/L		08/29/13 02:14	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/30/13 20:50	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 02:14	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 02:14	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 02:14	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 02:14	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 02:14	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/29/13 02:14	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/29/13 02:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	116	Q	79 - 111	08/26/13 09:34	08/29/13 02:14	1
3,4-Dinitrotoluene	59	Q	79 - 111	08/26/13 09:34	08/30/13 20:50	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:00	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGSCFmw-004-0372-GF**

**Lab Sample ID: 240-28145-19**

**Date Collected: 08/20/13 10:48**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 11:38	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 11:38	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 11:38	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 11:38	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 11:38	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 11:38	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 11:38	1
Barium	83	J	200	5.0	2.8	ug/L		09/09/13 11:38	1
Calcium	150000		5000	1000	630	ug/L		09/09/13 11:38	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 11:38	1
Magnesium	60000		5000	300	120	ug/L		09/09/13 11:38	1
Manganese	740		15	5.0	1.8	ug/L		09/09/13 11:38	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 11:38	1
Potassium	2700	J	5000	900	300	ug/L		09/09/13 11:38	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 15:25	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 15:25	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 15:25	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 15:25	1
Iron	100	U	150	100	44	ug/L		09/09/13 15:25	1
Sodium	11000		1000	400	160	ug/L		09/09/13 15:25	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 15:25	1
Zinc	50	U	50	50	27	ug/L		09/09/13 15:25	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		09/04/13 15:28	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGSCFmw-DUP6-0378-GW

Lab Sample ID: 240-28145-20

Date Collected: 08/20/13 13:02

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.57</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/04/13 17:23	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 17:23	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 17:23	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 17:23	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		09/04/13 17:23	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	68		50 - 110	08/22/13 08:06	09/04/13 17:23	1
2-Fluorophenol (Surr)	67		20 - 110	08/22/13 08:06	09/04/13 17:23	1
Nitrobenzene-d5 (Surr)	69		40 - 110	08/22/13 08:06	09/04/13 17:23	1
Phenol-d5 (Surr)	71		10 - 115	08/22/13 08:06	09/04/13 17:23	1
Terphenyl-d14 (Surr)	97		50 - 135	08/22/13 08:06	09/04/13 17:23	1
2,4,6-Tribromophenol (Surr)	83		40 - 125	08/22/13 08:06	09/04/13 17:23	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.051	0.020	0.0098	ug/L		09/11/13 22:03	1
4,4'-DDE	0.020	U	0.051	0.020	0.0099	ug/L		09/11/13 22:03	1
4,4'-DDT	0.020	U	0.051	0.020	0.016	ug/L		09/11/13 22:03	1
Aldrin	0.020	U	0.031	0.020	0.0084	ug/L		09/11/13 22:03	1
alpha-BHC	0.020	U	0.031	0.020	0.0071	ug/L		09/11/13 22:03	1
alpha-Chlordane	0.020	U	0.051	0.020	0.014	ug/L		09/11/13 22:03	1
<b>beta-BHC</b>	<b>0.013</b>	<b>J Q</b>	0.051	0.020	0.0086	ug/L		09/11/13 22:03	1
delta-BHC	0.020	U	0.051	0.020	0.0089	ug/L		09/11/13 22:03	1
Dieldrin	0.020	U	0.031	0.020	0.0077	ug/L		09/11/13 22:03	1
Endosulfan I	0.020	U	0.051	0.020	0.013	ug/L		09/11/13 22:03	1
Endosulfan II	0.020	U	0.051	0.020	0.012	ug/L		09/11/13 22:03	1
Endosulfan sulfate	0.020	U	0.051	0.020	0.011	ug/L		09/11/13 22:03	1
Endrin	0.020	U	0.051	0.020	0.011	ug/L		09/11/13 22:03	1
Endrin aldehyde	0.020	U	0.051	0.020	0.011	ug/L		09/11/13 22:03	1
Endrin ketone	0.020	U	0.051	0.020	0.0080	ug/L		09/11/13 22:03	1
gamma-BHC (Lindane)	0.020	U	0.051	0.020	0.0065	ug/L		09/11/13 22:03	1
gamma-Chlordane	0.020	U	0.051	0.020	0.012	ug/L		09/11/13 22:03	1
Heptachlor	0.020	U	0.031	0.020	0.0082	ug/L		09/11/13 22:03	1
Heptachlor epoxide	0.020	U	0.031	0.020	0.0072	ug/L		09/11/13 22:03	1
Methoxychlor	0.051	U	0.10	0.051	0.033	ug/L		09/11/13 22:03	1
Toxaphene	0.82	U	2.0	0.82	0.33	ug/L		09/11/13 22:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	107		30 - 135	08/22/13 07:53	09/11/13 22:03	1
DCB Decachlorobiphenyl	109		30 - 135	08/22/13 07:53	09/11/13 22:03	1
Tetrachloro-m-xylene	101		25 - 140	08/22/13 07:53	09/11/13 22:03	1
Tetrachloro-m-xylene	100		25 - 140	08/22/13 07:53	09/11/13 22:03	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 16:26	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGSCFmw-DUP6-0378-GW

Lab Sample ID: 240-28145-20

Date Collected: 08/20/13 13:02

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.059	U	0.18	0.059	0.036	ug/L		08/29/13 02:58	1
1,3-Dinitrobenzene	0.12	U M	0.18	0.12	0.059	ug/L		08/29/13 02:58	1
2,4,6-Trinitrotoluene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 02:58	1
2,4-Dinitrotoluene	0.12	U	0.15	0.12	0.059	ug/L		08/29/13 02:58	1
2,6-Dinitrotoluene	0.12	U	0.15	0.12	0.059	ug/L		08/29/13 02:58	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.18	0.12	0.018	ug/L		08/29/13 02:58	1
2-Nitrotoluene	0.12	U	0.59	0.12	0.10	ug/L		08/29/13 02:58	1
3-Nitrotoluene	0.12	U	0.59	0.12	0.067	ug/L		08/29/13 02:58	1
4-Nitrotoluene	0.12	U	0.59	0.12	0.10	ug/L		08/29/13 02:58	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 02:58	1
HMX	0.059	U	0.18	0.059	0.042	ug/L		08/30/13 21:55	1
RDX	0.059	U	0.18	0.059	0.042	ug/L		08/29/13 02:58	1
Nitrobenzene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 02:58	1
Tetryl	0.12	U	0.18	0.12	0.059	ug/L		08/30/13 21:55	1
Nitroglycerin	0.59	U	0.76	0.59	0.39	ug/L		08/29/13 02:58	1
PETN	0.59	U	0.76	0.59	0.35	ug/L		08/29/13 02:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	111		79 - 111	08/26/13 09:34	08/29/13 02:58	1
3,4-Dinitrotoluene	66	Q	79 - 111	08/26/13 09:34	08/30/13 21:55	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:02	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGSCFmw-DUP6-0378-GF**

**Lab Sample ID: 240-28145-21**

Date Collected: 08/20/13 13:02

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	15		10	10	3.3	ug/L		09/09/13 12:45	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 12:45	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 12:45	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 12:45	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 12:45	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 12:45	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 12:45	1
Barium	43	J	200	5.0	2.8	ug/L		09/09/13 12:45	1
Calcium	87000		5000	1000	630	ug/L		09/09/13 12:45	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 12:45	1
Magnesium	28000		5000	300	120	ug/L		09/09/13 12:45	1
Manganese	73		15	5.0	1.8	ug/L		09/09/13 12:45	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 12:45	1
Potassium	2400	J	5000	900	300	ug/L		09/09/13 12:45	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 16:40	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 16:40	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 16:40	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 16:40	1
Iron	350		150	100	44	ug/L		09/09/13 16:40	1
Sodium	22000		1000	400	160	ug/L		09/09/13 16:40	1
Thallium	0.97	J	2.0	1.5	0.79	ug/L		09/09/13 16:40	1
Zinc	50	U	50	50	27	ug/L		09/09/13 16:40	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:03	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-115-0313-GW

Lab Sample ID: 240-28145-22

Date Collected: 08/20/13 14:58

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:50	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:50	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 19:50	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:50	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:50	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:50	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 19:50	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:50	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 19:50	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:50	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 19:50	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:50	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 19:50	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 19:50	1
Carbon disulfide	0.14	J	1.0	0.25	0.13	ug/L		08/28/13 19:50	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:50	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:50	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:50	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 19:50	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 19:50	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:50	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 19:50	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 19:50	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:50	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 19:50	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 19:50	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 19:50	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 19:50	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 19:50	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 19:50	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 19:50	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 19:50	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 19:50	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:50	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 19:50	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 19:50	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 19:50	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 19:50	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 120		08/28/13 19:50	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/28/13 19:50	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 19:50	1
Dibromofluoromethane (Surr)	101		85 - 115		08/28/13 19:50	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 15:34	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/03/13 15:34	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-115-0313-GW

Lab Sample ID: 240-28145-22

Date Collected: 08/20/13 14:58

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/03/13 15:34	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/03/13 15:34	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/03/13 15:34	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/03/13 15:34	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/03/13 15:34	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/03/13 15:34	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/03/13 15:34	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/03/13 15:34	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/03/13 15:34	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/03/13 15:34	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.56</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/03/13 15:34	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/03/13 15:34	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/03/13 15:34	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/03/13 15:34	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 15:34	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 15:34	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/03/13 15:34	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/03/13 15:34	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/03/13 15:34	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/03/13 15:34	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 15:34	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/03/13 15:34	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/03/13 15:34	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/03/13 15:34	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/03/13 15:34	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/03/13 15:34	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/03/13 15:34	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/03/13 15:34	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/03/13 15:34	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/03/13 15:34	1
<b>Di-n-butyl phthalate</b>	<b>0.64</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/03/13 15:34	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/03/13 15:34	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/03/13 15:34	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/03/13 15:34	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/03/13 15:34	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/03/13 15:34	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/03/13 15:34	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/03/13 15:34	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/03/13 15:34	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/03/13 15:34	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/03/13 15:34	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/03/13 15:34	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/03/13 15:34	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/03/13 15:34	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/03/13 15:34	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/03/13 15:34	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/03/13 15:34	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/03/13 15:34	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/03/13 15:34	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-115-0313-GW

Lab Sample ID: 240-28145-22

Date Collected: 08/20/13 14:58

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/03/13 15:34	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/03/13 15:34	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/03/13 15:34	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/03/13 15:34	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/03/13 15:34	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/03/13 15:34	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/03/13 15:34	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/03/13 15:34	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/03/13 15:34	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/03/13 15:34	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/03/13 15:34	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/03/13 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	60		50 - 110	08/22/13 08:06	09/03/13 15:34	1
2-Fluorophenol (Surr)	64		20 - 110	08/22/13 08:06	09/03/13 15:34	1
Nitrobenzene-d5 (Surr)	66		40 - 110	08/22/13 08:06	09/03/13 15:34	1
Phenol-d5 (Surr)	71		10 - 115	08/22/13 08:06	09/03/13 15:34	1
Terphenyl-d14 (Surr)	80		50 - 135	08/22/13 08:06	09/03/13 15:34	1
2,4,6-Tribromophenol (Surr)	80		40 - 125	08/22/13 08:06	09/03/13 15:34	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.049	0.020	0.0094	ug/L		09/11/13 22:24	1
4,4'-DDE	0.020	U	0.049	0.020	0.0095	ug/L		09/11/13 22:24	1
4,4'-DDT	0.020	U	0.049	0.020	0.016	ug/L		09/11/13 22:24	1
Aldrin	0.020	U	0.029	0.020	0.0080	ug/L		09/11/13 22:24	1
alpha-BHC	0.020	U	0.029	0.020	0.0069	ug/L		09/11/13 22:24	1
alpha-Chlordane	0.020	U	0.049	0.020	0.014	ug/L		09/11/13 22:24	1
beta-BHC	0.015	J Q	0.049	0.020	0.0082	ug/L		09/11/13 22:24	1
delta-BHC	0.020	U	0.049	0.020	0.0085	ug/L		09/11/13 22:24	1
Dieldrin	0.020	U	0.029	0.020	0.0074	ug/L		09/11/13 22:24	1
Endosulfan I	0.020	U	0.049	0.020	0.013	ug/L		09/11/13 22:24	1
Endosulfan II	0.020	U	0.049	0.020	0.012	ug/L		09/11/13 22:24	1
Endosulfan sulfate	0.020	U	0.049	0.020	0.011	ug/L		09/11/13 22:24	1
Endrin	0.020	U	0.049	0.020	0.011	ug/L		09/11/13 22:24	1
Endrin aldehyde	0.020	U	0.049	0.020	0.011	ug/L		09/11/13 22:24	1
Endrin ketone	0.020	U	0.049	0.020	0.0076	ug/L		09/11/13 22:24	1
gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0063	ug/L		09/11/13 22:24	1
gamma-Chlordane	0.020	U	0.049	0.020	0.012	ug/L		09/11/13 22:24	1
Heptachlor	0.020	U	0.029	0.020	0.0078	ug/L		09/11/13 22:24	1
Heptachlor epoxide	0.020	U	0.029	0.020	0.0070	ug/L		09/11/13 22:24	1
Methoxychlor	0.049	U	0.098	0.049	0.031	ug/L		09/11/13 22:24	1
Toxaphene	0.78	U	2.0	0.78	0.31	ug/L		09/11/13 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	111		30 - 135	08/22/13 07:53	09/11/13 22:24	1
DCB Decachlorobiphenyl	110	M	30 - 135	08/22/13 07:53	09/11/13 22:24	1
Tetrachloro-m-xylene	181	Q	25 - 140	08/22/13 07:53	09/11/13 22:24	1
Tetrachloro-m-xylene	137		25 - 140	08/22/13 07:53	09/11/13 22:24	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-115-0313-GW

Lab Sample ID: 240-28145-22

Date Collected: 08/20/13 14:58

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:57	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 14:57	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:57	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 14:57	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 14:57	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:57	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	61		40 - 140	08/30/13 08:32	09/04/13 14:57	1
Tetrachloro-m-xylene	74		40 - 140	08/30/13 08:32	09/04/13 14:57	1
DCB Decachlorobiphenyl	66		40 - 135	08/30/13 08:32	09/04/13 14:57	1
DCB Decachlorobiphenyl	62		40 - 135	08/30/13 08:32	09/04/13 14:57	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 16:43	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.055	U	0.17	0.055	0.034	ug/L		08/29/13 03:41	1
1,3-Dinitrobenzene	0.11	U	0.17	0.11	0.055	ug/L		08/29/13 03:41	1
2,4,6-Trinitrotoluene	0.11	U	0.17	0.11	0.055	ug/L		08/29/13 03:41	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.055	ug/L		08/29/13 03:41	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.055	ug/L		08/29/13 03:41	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.17	0.11	0.017	ug/L		08/29/13 03:41	1
2-Nitrotoluene	0.11	U	0.55	0.11	0.097	ug/L		08/29/13 03:41	1
3-Nitrotoluene	0.11	U	0.55	0.11	0.063	ug/L		08/29/13 03:41	1
4-Nitrotoluene	0.11	U	0.55	0.11	0.097	ug/L		08/29/13 03:41	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.17	0.11	0.055	ug/L		08/29/13 03:41	1
HMX	0.055	U	0.17	0.055	0.040	ug/L		08/29/13 03:41	1
RDX	0.055	U	0.17	0.055	0.040	ug/L		08/29/13 03:41	1
Nitrobenzene	0.11	U	0.17	0.11	0.055	ug/L		08/30/13 23:01	1
Tetryl	0.11	U	0.17	0.11	0.055	ug/L		08/29/13 03:41	1
Nitroglycerin	0.55	U	0.72	0.55	0.36	ug/L		08/29/13 03:41	1
PETN	0.55	U	0.72	0.55	0.33	ug/L		08/29/13 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92		79 - 111	08/26/13 09:34	08/29/13 03:41	1
3,4-Dinitrotoluene	100		79 - 111	08/26/13 09:34	08/30/13 23:01	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:25	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:04	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDA2mw-115-0313-GF**

**Lab Sample ID: 240-28145-23**

**Date Collected: 08/20/13 14:58**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 12:51	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 12:51	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 12:51	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 12:51	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 12:51	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 12:51	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 12:51	1
<b>Barium</b>	<b>21</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 12:51	1
<b>Calcium</b>	<b>100000</b>		5000	1000	630	ug/L		09/09/13 12:51	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 12:51	1
<b>Magnesium</b>	<b>29000</b>		5000	300	120	ug/L		09/09/13 12:51	1
<b>Manganese</b>	<b>110</b>		15	5.0	1.8	ug/L		09/09/13 12:51	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 12:51	1
<b>Potassium</b>	<b>3400</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 12:51	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 16:47	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 16:47	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 16:47	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 16:47	1
<b>Iron</b>	<b>720</b>		150	100	44	ug/L		09/09/13 16:47	1
<b>Sodium</b>	<b>12000</b>		1000	400	160	ug/L		09/09/13 16:47	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 16:47	1
Zinc	50	U	50	50	27	ug/L		09/09/13 16:47	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:04	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGTEAM2-TRIP**

**Lab Sample ID: 240-28145-24**

**Date Collected: 08/20/13 08:00**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 20:12	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 20:12	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 20:12	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 20:12	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 20:12	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 20:12	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 20:12	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 20:12	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 20:12	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 20:12	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/28/13 20:12	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:12	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 20:12	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 20:12	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:12	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:12	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 20:12	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 20:12	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 20:12	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 20:12	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 20:12	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 20:12	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 20:12	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 20:12	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 20:12	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 20:12	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/28/13 20:12	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 20:12	1
<b>Methylene Chloride</b>	<b>0.59</b>	<b>J</b>	1.0	0.50	0.33	ug/L		08/28/13 20:12	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 20:12	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 20:12	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 20:12	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:12	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 20:12	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 20:12	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 20:12	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 20:12	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 20:12	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 120		08/28/13 20:12	1
4-Bromofluorobenzene (Surr)	89		75 - 120		08/28/13 20:12	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 20:12	1
Dibromofluoromethane (Surr)	103		85 - 115		08/28/13 20:12	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEQUIPRINSE2-0341-GW

Lab Sample ID: 240-28145-25

Date Collected: 08/20/13 13:42

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 20:35	1
1,1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 20:35	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/28/13 20:35	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 20:35	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 20:35	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 20:35	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/28/13 20:35	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 20:35	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/28/13 20:35	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 20:35	1
Acetone	21		10	1.1	1.1	ug/L		08/28/13 20:35	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:35	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/28/13 20:35	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/28/13 20:35	1
Carbon disulfide	1.3		1.0	0.25	0.13	ug/L		08/28/13 20:35	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:35	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 20:35	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 20:35	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/28/13 20:35	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/28/13 20:35	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 20:35	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 20:35	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/28/13 20:35	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 20:35	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/28/13 20:35	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/28/13 20:35	1
2-Butanone (MEK)	1.1	J	10	0.57	0.57	ug/L		08/28/13 20:35	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/28/13 20:35	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/28/13 20:35	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/28/13 20:35	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/28/13 20:35	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/28/13 20:35	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/28/13 20:35	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 20:35	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/28/13 20:35	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/28/13 20:35	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/28/13 20:35	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/28/13 20:35	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/28/13 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 120		08/28/13 20:35	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/28/13 20:35	1
Toluene-d8 (Surr)	87		85 - 120		08/28/13 20:35	1
Dibromofluoromethane (Surr)	103		85 - 115		08/28/13 20:35	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.10	U	0.20	0.10	0.044	ug/L		09/03/13 15:59	1
Acenaphthylene	0.10	U	0.20	0.10	0.048	ug/L		09/03/13 15:59	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEQUIPRINSE2-0341-GW

Lab Sample ID: 240-28145-25

Date Collected: 08/20/13 13:42

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.10	U	0.20	0.10	0.088	ug/L		09/03/13 15:59	1
Benzo[a]anthracene	0.10	U	0.20	0.10	0.030	ug/L		09/03/13 15:59	1
Benzo[a]pyrene	0.10	U	0.20	0.10	0.051	ug/L		09/03/13 15:59	1
Benzo[b]fluoranthene	0.10	U	0.20	0.10	0.039	ug/L		09/03/13 15:59	1
Benzo[g,h,i]perylene	0.10	U	0.20	0.10	0.046	ug/L		09/03/13 15:59	1
Benzoic acid	20	U M	25	20	10	ug/L		09/03/13 15:59	1
Benzo[k]fluoranthene	0.10	U	0.20	0.10	0.045	ug/L		09/03/13 15:59	1
<b>Benzyl alcohol</b>	<b>0.66</b>	<b>J</b>	5.0	0.50	0.38	ug/L		09/03/13 15:59	1
Bis(2-chloroethoxy)methane	0.50	U	1.0	0.50	0.32	ug/L		09/03/13 15:59	1
Bis(2-chloroethyl)ether	0.10	U	1.0	0.10	0.10	ug/L		09/03/13 15:59	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.53</b>	<b>J</b>	2.0	0.50	0.22	ug/L		09/03/13 15:59	1
4-Bromophenyl phenyl ether	0.50	U	2.0	0.50	0.22	ug/L		09/03/13 15:59	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		09/03/13 15:59	1
Carbazole	0.50	U	1.0	0.50	0.28	ug/L		09/03/13 15:59	1
4-Chloroaniline	0.50	U	2.0	0.50	0.21	ug/L		09/03/13 15:59	1
4-Chloro-3-methylphenol	0.50	U	2.0	0.50	0.21	ug/L		09/03/13 15:59	1
2-Chloronaphthalene	0.50	U	1.0	0.50	0.10	ug/L		09/03/13 15:59	1
2-Chlorophenol	0.50	U	1.0	0.50	0.29	ug/L		09/03/13 15:59	1
4-Chlorophenyl phenyl ether	0.50	U	2.0	0.50	0.30	ug/L		09/03/13 15:59	1
Chrysene	0.10	U	0.20	0.10	0.050	ug/L		09/03/13 15:59	1
Dibenz(a,h)anthracene	0.10	U	0.20	0.10	0.045	ug/L		09/03/13 15:59	1
Dibenzofuran	0.10	U	1.0	0.10	0.020	ug/L		09/03/13 15:59	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.29	ug/L		09/03/13 15:59	1
1,3-Dichlorobenzene	0.50	U	1.0	0.50	0.23	ug/L		09/03/13 15:59	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.34	ug/L		09/03/13 15:59	1
3,3'-Dichlorobenzidine	1.0	U	5.0	1.0	0.37	ug/L		09/03/13 15:59	1
2,4-Dichlorophenol	0.50	U	2.0	0.50	0.19	ug/L		09/03/13 15:59	1
<b>Diethyl phthalate</b>	<b>1.4</b>	<b>J</b>	2.0	1.0	0.60	ug/L		09/03/13 15:59	1
2,4-Dimethylphenol	0.50	U	2.0	0.50	0.25	ug/L		09/03/13 15:59	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		09/03/13 15:59	1
Di-n-butyl phthalate	1.0	U	2.0	1.0	0.67	ug/L		09/03/13 15:59	1
4,6-Dinitro-2-methylphenol	4.0	U	5.0	4.0	2.4	ug/L		09/03/13 15:59	1
2,4-Dinitrophenol	1.0	U	5.0	1.0	0.32	ug/L		09/03/13 15:59	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		09/03/13 15:59	1
Fluoranthene	0.10	U	0.20	0.10	0.045	ug/L		09/03/13 15:59	1
Fluorene	0.10	U	0.20	0.10	0.041	ug/L		09/03/13 15:59	1
Hexachlorobenzene	0.10	U	0.20	0.10	0.085	ug/L		09/03/13 15:59	1
Hexachlorobutadiene	0.50	U	1.0	0.50	0.27	ug/L		09/03/13 15:59	1
Hexachlorocyclopentadiene	0.50	U	1.0	0.50	0.24	ug/L		09/03/13 15:59	1
Hexachloroethane	0.50	U	1.0	0.50	0.19	ug/L		09/03/13 15:59	1
Indeno[1,2,3-cd]pyrene	0.10	U	0.20	0.10	0.043	ug/L		09/03/13 15:59	1
Isophorone	0.50	U	1.0	0.50	0.27	ug/L		09/03/13 15:59	1
2-Methylnaphthalene	0.10	U	0.20	0.10	0.090	ug/L		09/03/13 15:59	1
2-Methylphenol	0.50	U	1.0	0.50	0.17	ug/L		09/03/13 15:59	1
3 & 4 Methylphenol	1.0	U	2.0	1.0	0.80	ug/L		09/03/13 15:59	1
Naphthalene	0.10	U	0.20	0.10	0.063	ug/L		09/03/13 15:59	1
2-Nitroaniline	0.50	U	2.0	0.50	0.21	ug/L		09/03/13 15:59	1
3-Nitroaniline	0.50	U	2.0	0.50	0.28	ug/L		09/03/13 15:59	1
4-Nitroaniline	0.50	U	2.0	0.50	0.22	ug/L		09/03/13 15:59	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEQUIPRINSE2-0341-GW

Lab Sample ID: 240-28145-25

Date Collected: 08/20/13 13:42

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.50	U	2.0	0.50	0.28	ug/L		09/03/13 15:59	1
4-Nitrophenol	4.0	U	5.0	4.0	0.29	ug/L		09/03/13 15:59	1
N-Nitrosodi-n-propylamine	0.50	U	1.0	0.50	0.24	ug/L		09/03/13 15:59	1
N-Nitrosodiphenylamine	0.50	U	1.0	0.50	0.31	ug/L		09/03/13 15:59	1
2,2'-oxybis[1-chloropropane]	0.50	U	1.0	0.50	0.40	ug/L		09/03/13 15:59	1
Pentachlorophenol	1.0	U	5.0	1.0	0.27	ug/L		09/03/13 15:59	1
Phenanthrene	0.10	U	0.20	0.10	0.062	ug/L		09/03/13 15:59	1
<b>Phenol</b>	<b>0.61</b>	<b>J</b>	1.0	1.0	0.60	ug/L		09/03/13 15:59	1
Pyrene	0.10	U	0.20	0.10	0.042	ug/L		09/03/13 15:59	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	0.28	ug/L		09/03/13 15:59	1
2,4,5-Trichlorophenol	0.50	U	5.0	0.50	0.30	ug/L		09/03/13 15:59	1
2,4,6-Trichlorophenol	0.50	U	5.0	0.50	0.24	ug/L		09/03/13 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	58		50 - 110	08/22/13 08:06	09/03/13 15:59	1
2-Fluorophenol (Surr)	59		20 - 110	08/22/13 08:06	09/03/13 15:59	1
Nitrobenzene-d5 (Surr)	63		40 - 110	08/22/13 08:06	09/03/13 15:59	1
Phenol-d5 (Surr)	64		10 - 115	08/22/13 08:06	09/03/13 15:59	1
Terphenyl-d14 (Surr)	81		50 - 135	08/22/13 08:06	09/03/13 15:59	1
2,4,6-Tribromophenol (Surr)	73		40 - 125	08/22/13 08:06	09/03/13 15:59	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.052	0.021	0.0099	ug/L		09/11/13 22:44	1
4,4'-DDE	0.021	U	0.052	0.021	0.010	ug/L		09/11/13 22:44	1
4,4'-DDT	0.021	U	0.052	0.021	0.016	ug/L		09/11/13 22:44	1
Aldrin	0.021	U	0.031	0.021	0.0085	ug/L		09/11/13 22:44	1
alpha-BHC	0.021	U	0.031	0.021	0.0072	ug/L		09/11/13 22:44	1
alpha-Chlordane	0.021	U	0.052	0.021	0.014	ug/L		09/11/13 22:44	1
beta-BHC	0.021	U	0.052	0.021	0.0087	ug/L		09/11/13 22:44	1
delta-BHC	0.021	U	0.052	0.021	0.0090	ug/L		09/11/13 22:44	1
Dieldrin	0.021	U M	0.031	0.021	0.0077	ug/L		09/11/13 22:44	1
Endosulfan I	0.021	U	0.052	0.021	0.013	ug/L		09/11/13 22:44	1
Endosulfan II	0.021	U	0.052	0.021	0.012	ug/L		09/11/13 22:44	1
Endosulfan sulfate	0.021	U	0.052	0.021	0.011	ug/L		09/11/13 22:44	1
Endrin	0.021	U	0.052	0.021	0.011	ug/L		09/11/13 22:44	1
Endrin aldehyde	0.021	U	0.052	0.021	0.011	ug/L		09/11/13 22:44	1
Endrin ketone	0.021	U	0.052	0.021	0.0080	ug/L		09/11/13 22:44	1
gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0066	ug/L		09/11/13 22:44	1
gamma-Chlordane	0.021	U	0.052	0.021	0.012	ug/L		09/11/13 22:44	1
Heptachlor	0.021	U	0.031	0.021	0.0082	ug/L		09/11/13 22:44	1
Heptachlor epoxide	0.021	U	0.031	0.021	0.0073	ug/L		09/11/13 22:44	1
Methoxychlor	0.052	U	0.10	0.052	0.033	ug/L		09/11/13 22:44	1
Toxaphene	0.82	U	2.1	0.82	0.33	ug/L		09/11/13 22:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	111		30 - 135	08/22/13 07:53	09/11/13 22:44	1
DCB Decachlorobiphenyl	115		30 - 135	08/22/13 07:53	09/11/13 22:44	1
Tetrachloro-m-xylene	103		25 - 140	08/22/13 07:53	09/11/13 22:44	1
Tetrachloro-m-xylene	109		25 - 140	08/22/13 07:53	09/11/13 22:44	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEQUIPRINSE2-0341-GW

Lab Sample ID: 240-28145-25

Date Collected: 08/20/13 13:42

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.20	U H Q	0.51	0.20	0.17	ug/L		09/04/13 15:12	1
Aroclor-1221	0.20	U H	0.51	0.20	0.13	ug/L		09/04/13 15:12	1
Aroclor-1232	0.20	U H	0.51	0.20	0.16	ug/L		09/04/13 15:12	1
Aroclor-1242	0.40	U H	0.51	0.40	0.22	ug/L		09/04/13 15:12	1
Aroclor-1248	0.20	U H	0.51	0.20	0.10	ug/L		09/04/13 15:12	1
Aroclor-1254	0.20	U H	0.51	0.20	0.16	ug/L		09/04/13 15:12	1
Aroclor-1260	0.20	U H Q	0.51	0.20	0.17	ug/L		09/04/13 15:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		40 - 140	08/30/13 08:32	09/04/13 15:12	1
Tetrachloro-m-xylene	78		40 - 140	08/30/13 08:32	09/04/13 15:12	1
DCB Decachlorobiphenyl	31	Q	40 - 135	08/30/13 08:32	09/04/13 15:12	1
DCB Decachlorobiphenyl	31	Q	40 - 135	08/30/13 08:32	09/04/13 15:12	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 17:01	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.056	U	0.17	0.056	0.035	ug/L		08/29/13 04:25	1
1,3-Dinitrobenzene	0.11	U	0.17	0.11	0.056	ug/L		08/29/13 04:25	1
2,4,6-Trinitrotoluene	0.11	U	0.17	0.11	0.056	ug/L		08/29/13 04:25	1
2,4-Dinitrotoluene	0.11	U	0.15	0.11	0.056	ug/L		08/29/13 04:25	1
2,6-Dinitrotoluene	0.11	U	0.15	0.11	0.056	ug/L		08/29/13 04:25	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.17	0.11	0.017	ug/L		08/29/13 04:25	1
2-Nitrotoluene	0.11	U	0.56	0.11	0.099	ug/L		08/29/13 04:25	1
3-Nitrotoluene	0.11	U	0.56	0.11	0.064	ug/L		08/29/13 04:25	1
4-Nitrotoluene	0.11	U	0.56	0.11	0.099	ug/L		08/29/13 04:25	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.17	0.11	0.056	ug/L		08/29/13 04:25	1
HMX	0.056	U	0.17	0.056	0.041	ug/L		08/29/13 04:25	1
RDX	0.056	U	0.17	0.056	0.041	ug/L		08/29/13 04:25	1
Nitrobenzene	0.11	U	0.17	0.11	0.056	ug/L		08/31/13 00:06	1
Tetryl	0.11	U	0.17	0.11	0.056	ug/L		08/29/13 04:25	1
Nitroglycerin	0.56	U	0.73	0.56	0.37	ug/L		08/29/13 04:25	1
PETN	0.56	U	0.73	0.56	0.34	ug/L		08/29/13 04:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	93		79 - 111	08/26/13 09:34	08/29/13 04:25	1
3,4-Dinitrotoluene	196	Q	79 - 111	08/26/13 09:34	08/31/13 00:06	1

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/07/13 01:25	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 12:57	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 12:57	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 12:57	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 12:57	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEQUIPRINSE2-0341-GW

Lab Sample ID: 240-28145-25

Date Collected: 08/20/13 13:42

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Selenium	10	U	15	10	4.0	ug/L		09/09/13 12:57	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 12:57	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 12:57	1
Barium	5.0	U	200	5.0	2.8	ug/L		09/09/13 12:57	1
Calcium	1000	U	5000	1000	630	ug/L		09/09/13 12:57	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 12:57	1
Magnesium	300	U	5000	300	120	ug/L		09/09/13 12:57	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 12:57	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 12:57	1
Potassium	900	U	5000	900	300	ug/L		09/09/13 12:57	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 16:55	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 16:55	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 16:55	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 16:55	1
Iron	100	U	150	100	44	ug/L		09/09/13 16:55	1
Sodium	400	U	1000	400	160	ug/L		09/09/13 16:55	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 16:55	1
Zinc	50	U	50	50	27	ug/L		09/09/13 16:55	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:06	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.012	U	0.050	0.012	0.0053	mg/L		09/06/13 16:50	1
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:06	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-DUP1-0336-GW

Lab Sample ID: 240-28145-26

Date Collected: 08/20/13 16:08

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.11	U	0.21	0.11	0.047	ug/L		09/03/13 16:24	1
Acenaphthylene	0.11	U	0.21	0.11	0.051	ug/L		09/03/13 16:24	1
Anthracene	0.11	U	0.21	0.11	0.093	ug/L		09/03/13 16:24	1
Benzo[a]anthracene	0.11	U	0.21	0.11	0.031	ug/L		09/03/13 16:24	1
Benzo[a]pyrene	0.11	U	0.21	0.11	0.054	ug/L		09/03/13 16:24	1
Benzo[b]fluoranthene	0.11	U	0.21	0.11	0.041	ug/L		09/03/13 16:24	1
Benzo[g,h,i]perylene	0.11	U	0.21	0.11	0.049	ug/L		09/03/13 16:24	1
Benzoic acid	21	U	26	21	11	ug/L		09/03/13 16:24	1
Benzo[k]fluoranthene	0.11	U	0.21	0.11	0.047	ug/L		09/03/13 16:24	1
Benzyl alcohol	0.53	U	5.3	0.53	0.40	ug/L		09/03/13 16:24	1
Bis(2-chloroethoxy)methane	0.53	U	1.1	0.53	0.34	ug/L		09/03/13 16:24	1
Bis(2-chloroethyl)ether	0.11	U	1.1	0.11	0.11	ug/L		09/03/13 16:24	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.88</b>	<b>J</b>	2.1	0.53	0.23	ug/L		09/03/13 16:24	1
4-Bromophenyl phenyl ether	0.53	U	2.1	0.53	0.23	ug/L		09/03/13 16:24	1
Butyl benzyl phthalate	0.53	U	2.1	0.53	0.27	ug/L		09/03/13 16:24	1
Carbazole	0.53	U	1.1	0.53	0.29	ug/L		09/03/13 16:24	1
4-Chloroaniline	0.53	U	2.1	0.53	0.22	ug/L		09/03/13 16:24	1
4-Chloro-3-methylphenol	0.53	U	2.1	0.53	0.22	ug/L		09/03/13 16:24	1
2-Chloronaphthalene	0.53	U	1.1	0.53	0.11	ug/L		09/03/13 16:24	1
2-Chlorophenol	0.53	U	1.1	0.53	0.31	ug/L		09/03/13 16:24	1
4-Chlorophenyl phenyl ether	0.53	U	2.1	0.53	0.32	ug/L		09/03/13 16:24	1
Chrysene	0.11	U	0.21	0.11	0.053	ug/L		09/03/13 16:24	1
Dibenz(a,h)anthracene	0.11	U	0.21	0.11	0.047	ug/L		09/03/13 16:24	1
Dibenzofuran	0.11	U	1.1	0.11	0.021	ug/L		09/03/13 16:24	1
1,2-Dichlorobenzene	0.53	U	1.1	0.53	0.31	ug/L		09/03/13 16:24	1
1,3-Dichlorobenzene	0.53	U	1.1	0.53	0.24	ug/L		09/03/13 16:24	1
1,4-Dichlorobenzene	0.53	U	1.1	0.53	0.36	ug/L		09/03/13 16:24	1
3,3'-Dichlorobenzidine	1.1	U	5.3	1.1	0.39	ug/L		09/03/13 16:24	1
2,4-Dichlorophenol	0.53	U	2.1	0.53	0.20	ug/L		09/03/13 16:24	1
Diethyl phthalate	1.1	U	2.1	1.1	0.63	ug/L		09/03/13 16:24	1
2,4-Dimethylphenol	0.53	U	2.1	0.53	0.26	ug/L		09/03/13 16:24	1
Dimethyl phthalate	0.53	U	2.1	0.53	0.31	ug/L		09/03/13 16:24	1
Di-n-butyl phthalate	1.1	U	2.1	1.1	0.71	ug/L		09/03/13 16:24	1
4,6-Dinitro-2-methylphenol	4.2	U	5.3	4.2	2.5	ug/L		09/03/13 16:24	1
2,4-Dinitrophenol	1.1	U	5.3	1.1	0.34	ug/L		09/03/13 16:24	1
Di-n-octyl phthalate	0.53	U	2.1	0.53	0.24	ug/L		09/03/13 16:24	1
Fluoranthene	0.11	U	0.21	0.11	0.047	ug/L		09/03/13 16:24	1
Fluorene	0.11	U	0.21	0.11	0.043	ug/L		09/03/13 16:24	1
Hexachlorobenzene	0.11	U	0.21	0.11	0.090	ug/L		09/03/13 16:24	1
Hexachlorobutadiene	0.53	U	1.1	0.53	0.28	ug/L		09/03/13 16:24	1
Hexachlorocyclopentadiene	0.53	U	1.1	0.53	0.25	ug/L		09/03/13 16:24	1
Hexachloroethane	0.53	U	1.1	0.53	0.20	ug/L		09/03/13 16:24	1
Indeno[1,2,3-cd]pyrene	0.11	U	0.21	0.11	0.046	ug/L		09/03/13 16:24	1
Isophorone	0.53	U	1.1	0.53	0.28	ug/L		09/03/13 16:24	1
2-Methylnaphthalene	0.11	U	0.21	0.11	0.095	ug/L		09/03/13 16:24	1
2-Methylphenol	0.53	U	1.1	0.53	0.18	ug/L		09/03/13 16:24	1
3 & 4 Methylphenol	1.1	U	2.1	1.1	0.84	ug/L		09/03/13 16:24	1
Naphthalene	0.11	U	0.21	0.11	0.066	ug/L		09/03/13 16:24	1
2-Nitroaniline	0.53	U	2.1	0.53	0.22	ug/L		09/03/13 16:24	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDA2mw-DUP1-0336-GW

Lab Sample ID: 240-28145-26

Date Collected: 08/20/13 16:08

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
3-Nitroaniline	0.53	U	2.1	0.53	0.29	ug/L		09/03/13 16:24	1
4-Nitroaniline	0.53	U	2.1	0.53	0.23	ug/L		09/03/13 16:24	1
2-Nitrophenol	0.53	U	2.1	0.53	0.29	ug/L		09/03/13 16:24	1
4-Nitrophenol	4.2	U	5.3	4.2	0.31	ug/L		09/03/13 16:24	1
N-Nitrosodi-n-propylamine	0.53	U	1.1	0.53	0.25	ug/L		09/03/13 16:24	1
N-Nitrosodiphenylamine	0.53	U	1.1	0.53	0.33	ug/L		09/03/13 16:24	1
2,2'-oxybis[1-chloropropane]	0.53	U	1.1	0.53	0.42	ug/L		09/03/13 16:24	1
Pentachlorophenol	1.1	U	5.3	1.1	0.28	ug/L		09/03/13 16:24	1
Phenanthrene	0.11	U	0.21	0.11	0.065	ug/L		09/03/13 16:24	1
Phenol	1.1	U	1.1	1.1	0.63	ug/L		09/03/13 16:24	1
Pyrene	0.11	U	0.21	0.11	0.044	ug/L		09/03/13 16:24	1
1,2,4-Trichlorobenzene	0.53	U	1.1	0.53	0.29	ug/L		09/03/13 16:24	1
2,4,5-Trichlorophenol	0.53	U	5.3	0.53	0.32	ug/L		09/03/13 16:24	1
2,4,6-Trichlorophenol	0.53	U	5.3	0.53	0.25	ug/L		09/03/13 16:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	63		50 - 110	08/22/13 08:06	09/03/13 16:24	1
2-Fluorophenol (Surr)	67		20 - 110	08/22/13 08:06	09/03/13 16:24	1
Nitrobenzene-d5 (Surr)	72		40 - 110	08/22/13 08:06	09/03/13 16:24	1
Phenol-d5 (Surr)	73		10 - 115	08/22/13 08:06	09/03/13 16:24	1
Terphenyl-d14 (Surr)	84		50 - 135	08/22/13 08:06	09/03/13 16:24	1
2,4,6-Tribromophenol (Surr)	83		40 - 125	08/22/13 08:06	09/03/13 16:24	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 17:19	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.055	U	0.17	0.055	0.034	ug/L		09/03/13 15:03	1
1,3-Dinitrobenzene	0.11	U	0.17	0.11	0.055	ug/L		09/03/13 15:03	1
2,4,6-Trinitrotoluene	0.11	U	0.17	0.11	0.055	ug/L		09/03/13 15:03	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.055	ug/L		09/03/13 15:03	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.055	ug/L		09/03/13 15:03	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.17	0.11	0.017	ug/L		09/03/13 15:03	1
2-Nitrotoluene	0.11	U	0.55	0.11	0.097	ug/L		09/03/13 15:03	1
3-Nitrotoluene	0.11	U	0.55	0.11	0.063	ug/L		09/03/13 15:03	1
4-Nitrotoluene	0.11	U	0.55	0.11	0.097	ug/L		09/03/13 15:03	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.17	0.11	0.055	ug/L		09/03/13 15:03	1
HMX	0.055	U M	0.17	0.055	0.040	ug/L		09/03/13 15:03	1
RDX	0.055	U	0.17	0.055	0.040	ug/L		09/03/13 15:03	1
Nitrobenzene	0.11	U	0.17	0.11	0.055	ug/L		08/31/13 01:12	1
Tetryl	0.11	U	0.17	0.11	0.055	ug/L		09/03/13 15:03	1
Nitroglycerin	0.55	U	0.72	0.55	0.37	ug/L		09/03/13 15:03	1
PETN	0.55	U	0.72	0.55	0.33	ug/L		09/03/13 15:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92		79 - 111	08/26/13 09:34	08/31/13 01:12	1
3,4-Dinitrotoluene	84		79 - 111	08/26/13 09:34	09/03/13 15:03	1

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## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDA2mw-DUP1-0336-GW**

**Lab Sample ID: 240-28145-26**

**Date Collected: 08/20/13 16:08**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

### General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:08	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDA2mw-DUP1-0336-GF**

**Lab Sample ID: 240-28145-27**

**Date Collected: 08/20/13 16:08**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 13:03	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:03	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 13:03	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:03	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:03	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:03	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:03	1
<b>Barium</b>	<b>22</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 13:03	1
<b>Calcium</b>	<b>110000</b>		5000	1000	630	ug/L		09/09/13 13:03	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:03	1
<b>Magnesium</b>	<b>30000</b>		5000	300	120	ug/L		09/09/13 13:03	1
<b>Manganese</b>	<b>110</b>		15	5.0	1.8	ug/L		09/09/13 13:03	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 13:03	1
<b>Potassium</b>	<b>3500</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 13:03	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 17:02	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 17:02	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 17:02	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 17:02	1
<b>Iron</b>	<b>740</b>		150	100	44	ug/L		09/09/13 17:02	1
<b>Sodium</b>	<b>12000</b>		1000	400	160	ug/L		09/09/13 17:02	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 17:02	1
Zinc	50	U	50	50	27	ug/L		09/09/13 17:02	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:07	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGTEAM3-TRIP

Lab Sample ID: 240-28145-28

Date Collected: 08/20/13 08:00

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 19:22	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 19:22	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 19:22	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 19:22	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 19:22	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 19:22	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 19:22	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 19:22	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 19:22	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 19:22	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 19:22	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:22	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 19:22	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 19:22	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:22	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:22	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 19:22	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 19:22	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 19:22	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 19:22	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 19:22	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 19:22	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 19:22	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 19:22	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 19:22	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 19:22	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 19:22	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 19:22	1
Methylene Chloride	0.45	J	1.0	0.50	0.33	ug/L		08/29/13 19:22	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 19:22	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 19:22	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 19:22	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:22	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 19:22	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 19:22	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 19:22	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 19:22	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 19:22	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 120		08/29/13 19:22	1
4-Bromofluorobenzene (Surr)	91		75 - 120		08/29/13 19:22	1
Toluene-d8 (Surr)	95		85 - 120		08/29/13 19:22	1
Dibromofluoromethane (Surr)	90		85 - 115		08/29/13 19:22	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-245C-0365-GW**

**Lab Sample ID: 240-28145-29**

**Date Collected: 08/20/13 09:56**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 19:45	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 19:45	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 19:45	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 19:45	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 19:45	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 19:45	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 19:45	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 19:45	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 19:45	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 19:45	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 19:45	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:45	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 19:45	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 19:45	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:45	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:45	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 19:45	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 19:45	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 19:45	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 19:45	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 19:45	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 19:45	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 19:45	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 19:45	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 19:45	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 19:45	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 19:45	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 19:45	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 19:45	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 19:45	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 19:45	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 19:45	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 19:45	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 19:45	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 19:45	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 19:45	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 19:45	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 19:45	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 19:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 120		08/29/13 19:45	1
4-Bromofluorobenzene (Surr)	93		75 - 120		08/29/13 19:45	1
Toluene-d8 (Surr)	95		85 - 120		08/29/13 19:45	1
Dibromofluoromethane (Surr)	95		85 - 115		08/29/13 19:45	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.68	J	1.9	0.48	0.21	ug/L		09/04/13 13:41	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 13:41	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-245C-0365-GW

Lab Sample ID: 240-28145-29

Date Collected: 08/20/13 09:56

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 13:41	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 13:41	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		09/04/13 13:41	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	83		50 - 110	08/22/13 08:06	09/04/13 13:41	1
2-Fluorophenol (Surr)	84		20 - 110	08/22/13 08:06	09/04/13 13:41	1
Nitrobenzene-d5 (Surr)	85		40 - 110	08/22/13 08:06	09/04/13 13:41	1
Phenol-d5 (Surr)	89		10 - 115	08/22/13 08:06	09/04/13 13:41	1
Terphenyl-d14 (Surr)	96		50 - 135	08/22/13 08:06	09/04/13 13:41	1
2,4,6-Tribromophenol (Surr)	91		40 - 125	08/22/13 08:06	09/04/13 13:41	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 23:04	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 23:04	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 23:04	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 23:04	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 23:04	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 23:04	1
beta-BHC	0.011	J Q	0.048	0.019	0.0080	ug/L		09/11/13 23:04	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 23:04	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 23:04	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 23:04	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 23:04	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:04	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:04	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:04	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 23:04	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 23:04	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 23:04	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 23:04	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 23:04	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 23:04	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	55		30 - 135	08/22/13 07:53	09/11/13 23:04	1
DCB Decachlorobiphenyl	56		30 - 135	08/22/13 07:53	09/11/13 23:04	1
Tetrachloro-m-xylene	100		25 - 140	08/22/13 07:53	09/11/13 23:04	1
Tetrachloro-m-xylene	114		25 - 140	08/22/13 07:53	09/11/13 23:04	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 17:37	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.054	U	0.16	0.054	0.034	ug/L		08/29/13 05:52	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 05:52	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL12mw-245C-0365-GW

Lab Sample ID: 240-28145-29

Date Collected: 08/20/13 09:56

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 05:52	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.054	ug/L		08/29/13 05:52	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.054	ug/L		08/29/13 05:52	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/29/13 05:52	1
2-Nitrotoluene	0.11	U	0.54	0.11	0.095	ug/L		08/29/13 05:52	1
3-Nitrotoluene	0.11	U	0.54	0.11	0.062	ug/L		08/29/13 05:52	1
4-Nitrotoluene	0.11	U	0.54	0.11	0.095	ug/L		08/29/13 05:52	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 05:52	1
HMX	0.054	U	0.16	0.054	0.039	ug/L		08/29/13 05:52	1
RDX	0.054	U	0.16	0.054	0.039	ug/L		08/29/13 05:52	1
Nitrobenzene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 05:52	1
Tetryl	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 05:52	1
Nitroglycerin	0.54	U	0.70	0.54	0.36	ug/L		08/29/13 05:52	1
PETN	0.54	U	0.70	0.54	0.32	ug/L		08/29/13 05:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	98		79 - 111	08/26/13 09:34	08/29/13 05:52	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.11	J	0.050	0.012	0.0053	mg/L		09/06/13 17:19	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:10	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-245C-0365-GF**

**Lab Sample ID: 240-28145-30**

Date Collected: 08/20/13 09:56

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 12:04	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 12:04	1
<b>Cobalt</b>	<b>1.6</b>	<b>J</b>	7.0	4.0	1.5	ug/L		09/09/13 12:04	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 12:04	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 12:04	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 12:04	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 12:04	1
<b>Barium</b>	<b>28</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 12:04	1
<b>Calcium</b>	<b>160000</b>		5000	1000	630	ug/L		09/09/13 12:04	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 12:04	1
<b>Magnesium</b>	<b>73000</b>		5000	300	120	ug/L		09/09/13 12:04	1
<b>Manganese</b>	<b>190</b>		15	5.0	1.8	ug/L		09/09/13 12:04	1
<b>Nickel</b>	<b>7.4</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 12:04	1
<b>Potassium</b>	<b>3500</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 12:04	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 15:48	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 15:48	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 15:48	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 15:48	1
<b>Iron</b>	<b>110</b>	<b>J</b>	150	100	44	ug/L		09/09/13 15:48	1
<b>Sodium</b>	<b>26000</b>		1000	400	160	ug/L		09/09/13 15:48	1
<b>Thallium</b>	<b>1.1</b>	<b>J</b>	2.0	1.5	0.79	ug/L		09/09/13 15:48	1
Zinc	50	U	50	50	27	ug/L		09/09/13 15:48	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 13:57	1



## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-185C-0362-GW**

**Lab Sample ID: 240-28145-31**

**Date Collected: 08/20/13 11:39**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

### General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	130	D	5.0	1.2	0.53	mg/L		09/06/13 17:06	100



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL12mw-185C-0362-GF**

**Lab Sample ID: 240-28145-32**

**Date Collected: 08/20/13 11:39**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 13:09	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:09	1
<b>Cobalt</b>	<b>1.9</b>	<b>J</b>	7.0	4.0	1.5	ug/L		09/09/13 13:09	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:09	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:09	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:09	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:09	1
<b>Barium</b>	<b>50</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 13:09	1
<b>Calcium</b>	<b>710000</b>	<b>D</b>	25000	5000	3200	ug/L		09/10/13 09:20	5
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:09	1
<b>Magnesium</b>	<b>290000</b>		5000	300	120	ug/L		09/09/13 13:09	1
<b>Manganese</b>	<b>1700</b>		15	5.0	1.8	ug/L		09/09/13 13:09	1
<b>Nickel</b>	<b>6.6</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 13:09	1
<b>Potassium</b>	<b>9200</b>		5000	900	300	ug/L		09/09/13 13:09	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 17:10	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 17:10	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 17:10	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 17:10	1
Iron	100	U	150	100	44	ug/L		09/09/13 17:10	1
<b>Sodium</b>	<b>56000</b>		1000	400	160	ug/L		09/09/13 17:10	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 17:10	1
Zinc	50	U	50	50	27	ug/L		09/09/13 17:10	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:09	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL3mw-244-0323-GW

Lab Sample ID: 240-28145-33

Date Collected: 08/20/13 12:29

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.46</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/04/13 17:47	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 17:47	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 17:47	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 17:47	1
<b>Di-n-butyl phthalate</b>	<b>0.69</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/04/13 17:47	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	75		50 - 110	08/22/13 08:06	09/04/13 17:47	1
2-Fluorophenol (Surr)	75		20 - 110	08/22/13 08:06	09/04/13 17:47	1
Nitrobenzene-d5 (Surr)	80		40 - 110	08/22/13 08:06	09/04/13 17:47	1
Phenol-d5 (Surr)	80		10 - 115	08/22/13 08:06	09/04/13 17:47	1
Terphenyl-d14 (Surr)	100		50 - 135	08/22/13 08:06	09/04/13 17:47	1
2,4,6-Tribromophenol (Surr)	86		40 - 125	08/22/13 08:06	09/04/13 17:47	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 23:25	1
4,4'-DDE	0.019	U M	0.048	0.019	0.0092	ug/L		09/11/13 23:25	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 23:25	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 23:25	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 23:25	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 23:25	1
<b>beta-BHC</b>	<b>0.025</b>	<b>J Q</b>	0.048	0.019	0.0080	ug/L		09/11/13 23:25	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 23:25	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 23:25	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 23:25	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 23:25	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:25	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:25	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:25	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 23:25	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 23:25	1
gamma-Chlordane	0.019	U M	0.048	0.019	0.011	ug/L		09/11/13 23:25	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 23:25	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 23:25	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 23:25	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 23:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	123		30 - 135	08/22/13 07:53	09/11/13 23:25	1
DCB Decachlorobiphenyl	125		30 - 135	08/22/13 07:53	09/11/13 23:25	1
Tetrachloro-m-xylene	110		25 - 140	08/22/13 07:53	09/11/13 23:25	1
Tetrachloro-m-xylene	126		25 - 140	08/22/13 07:53	09/11/13 23:25	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 18:30	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL3mw-244-0323-GW

Lab Sample ID: 240-28145-33

Date Collected: 08/20/13 12:29

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.054	U	0.16	0.054	0.034	ug/L		08/29/13 08:47	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 08:47	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 08:47	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.054	ug/L		08/29/13 08:47	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.054	ug/L		08/29/13 08:47	1
<b>2-Amino-4,6-dinitrotoluene</b>	<b>0.65</b>		0.16	0.11	0.016	ug/L		08/29/13 08:47	1
2-Nitrotoluene	0.11	U	0.54	0.11	0.095	ug/L		08/29/13 08:47	1
3-Nitrotoluene	0.11	U	0.54	0.11	0.062	ug/L		08/29/13 08:47	1
4-Nitrotoluene	0.11	U	0.54	0.11	0.095	ug/L		08/29/13 08:47	1
<b>4-Amino-2,6-dinitrotoluene</b>	<b>0.61</b>		0.16	0.11	0.054	ug/L		08/29/13 08:47	1
<b>HMX</b>	<b>0.066</b>	<b>J M</b>	0.16	0.054	0.039	ug/L		08/29/13 08:47	1
<b>RDX</b>	<b>0.34</b>	<b>M</b>	0.16	0.054	0.039	ug/L		08/29/13 08:47	1
Nitrobenzene	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 08:47	1
Tetryl	0.11	U	0.16	0.11	0.054	ug/L		08/29/13 08:47	1
Nitroglycerin	0.54	U	0.70	0.54	0.36	ug/L		08/29/13 08:47	1
PETN	0.54	U	0.70	0.54	0.32	ug/L		08/29/13 08:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	98		79 - 111	08/26/13 09:34	08/29/13 08:47	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:24	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL3mw-244-0323-GF**

**Lab Sample ID: 240-28145-34**

**Date Collected: 08/20/13 12:29**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 13:15	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:15	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 13:15	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:15	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:15	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:15	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:15	1
<b>Barium</b>	<b>17</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 13:15	1
<b>Calcium</b>	<b>24000</b>		5000	1000	630	ug/L		09/09/13 13:15	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:15	1
<b>Magnesium</b>	<b>8200</b>		5000	300	120	ug/L		09/09/13 13:15	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 13:15	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 13:15	1
<b>Potassium</b>	<b>1300</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 13:15	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 17:17	1
<b>Antimony</b>	<b>0.35</b>	<b>J</b>	2.0	1.0	0.33	ug/L		09/09/13 17:17	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 17:17	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 17:17	1
Iron	100	U	150	100	44	ug/L		09/09/13 17:17	1
<b>Sodium</b>	<b>4000</b>		1000	400	160	ug/L		09/09/13 17:17	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 17:17	1
Zinc	50	U	50	50	27	ug/L		09/09/13 17:17	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:11	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDETMw-001C-0314-GW**

**Lab Sample ID: 240-28145-35**

**Date Collected: 08/20/13 14:56**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:09	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:09	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 20:09	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:09	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:09	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:09	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 20:09	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:09	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 20:09	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:09	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 20:09	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:09	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 20:09	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 20:09	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:09	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:09	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:09	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:09	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 20:09	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 20:09	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:09	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 20:09	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:09	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:09	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 20:09	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 20:09	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 20:09	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 20:09	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 20:09	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 20:09	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 20:09	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:09	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:09	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:09	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:09	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:09	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:09	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 20:09	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 120		08/29/13 20:09	1
4-Bromofluorobenzene (Surr)	93		75 - 120		08/29/13 20:09	1
Toluene-d8 (Surr)	92		85 - 120		08/29/13 20:09	1
Dibromofluoromethane (Surr)	95		85 - 115		08/29/13 20:09	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.10	U	0.20	0.10	0.045	ug/L		09/03/13 16:50	1
Acenaphthylene	0.10	U	0.20	0.10	0.049	ug/L		09/03/13 16:50	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDEtmw-001C-0314-GW

Lab Sample ID: 240-28145-35

Date Collected: 08/20/13 14:56

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.10	U	0.20	0.10	0.090	ug/L		09/03/13 16:50	1
Benzo[a]anthracene	0.10	U	0.20	0.10	0.030	ug/L		09/03/13 16:50	1
Benzo[a]pyrene	0.10	U	0.20	0.10	0.052	ug/L		09/03/13 16:50	1
Benzo[b]fluoranthene	0.10	U	0.20	0.10	0.040	ug/L		09/03/13 16:50	1
Benzo[g,h,i]perylene	0.10	U	0.20	0.10	0.047	ug/L		09/03/13 16:50	1
Benzoic acid	20	U	26	20	10	ug/L		09/03/13 16:50	1
Benzo[k]fluoranthene	0.10	U	0.20	0.10	0.046	ug/L		09/03/13 16:50	1
Benzyl alcohol	0.51	U	5.1	0.51	0.39	ug/L		09/03/13 16:50	1
Bis(2-chloroethoxy)methane	0.51	U	1.0	0.51	0.33	ug/L		09/03/13 16:50	1
Bis(2-chloroethyl)ether	0.10	U	1.0	0.10	0.10	ug/L		09/03/13 16:50	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>3.4</b>		2.0	0.51	0.22	ug/L		09/03/13 16:50	1
4-Bromophenyl phenyl ether	0.51	U	2.0	0.51	0.22	ug/L		09/03/13 16:50	1
Butyl benzyl phthalate	0.51	U	2.0	0.51	0.27	ug/L		09/03/13 16:50	1
Carbazole	0.51	U	1.0	0.51	0.29	ug/L		09/03/13 16:50	1
4-Chloroaniline	0.51	U	2.0	0.51	0.21	ug/L		09/03/13 16:50	1
4-Chloro-3-methylphenol	0.51	U	2.0	0.51	0.21	ug/L		09/03/13 16:50	1
2-Chloronaphthalene	0.51	U	1.0	0.51	0.10	ug/L		09/03/13 16:50	1
2-Chlorophenol	0.51	U	1.0	0.51	0.30	ug/L		09/03/13 16:50	1
4-Chlorophenyl phenyl ether	0.51	U	2.0	0.51	0.31	ug/L		09/03/13 16:50	1
Chrysene	0.10	U	0.20	0.10	0.051	ug/L		09/03/13 16:50	1
Dibenz(a,h)anthracene	0.10	U	0.20	0.10	0.046	ug/L		09/03/13 16:50	1
Dibenzofuran	0.10	U	1.0	0.10	0.020	ug/L		09/03/13 16:50	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	0.30	ug/L		09/03/13 16:50	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	0.23	ug/L		09/03/13 16:50	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	0.35	ug/L		09/03/13 16:50	1
3,3'-Dichlorobenzidine	1.0	U	5.1	1.0	0.38	ug/L		09/03/13 16:50	1
2,4-Dichlorophenol	0.51	U	2.0	0.51	0.19	ug/L		09/03/13 16:50	1
Diethyl phthalate	1.0	U	2.0	1.0	0.61	ug/L		09/03/13 16:50	1
2,4-Dimethylphenol	0.51	U	2.0	0.51	0.26	ug/L		09/03/13 16:50	1
Dimethyl phthalate	0.51	U	2.0	0.51	0.30	ug/L		09/03/13 16:50	1
<b>Di-n-butyl phthalate</b>	<b>0.70</b>	<b>J</b>	2.0	1.0	0.68	ug/L		09/03/13 16:50	1
4,6-Dinitro-2-methylphenol	4.1	U	5.1	4.1	2.4	ug/L		09/03/13 16:50	1
2,4-Dinitrophenol	1.0	U	5.1	1.0	0.33	ug/L		09/03/13 16:50	1
Di-n-octyl phthalate	0.51	U	2.0	0.51	0.23	ug/L		09/03/13 16:50	1
Fluoranthene	0.10	U	0.20	0.10	0.046	ug/L		09/03/13 16:50	1
Fluorene	0.10	U	0.20	0.10	0.041	ug/L		09/03/13 16:50	1
Hexachlorobenzene	0.10	U	0.20	0.10	0.087	ug/L		09/03/13 16:50	1
Hexachlorobutadiene	0.51	U	1.0	0.51	0.28	ug/L		09/03/13 16:50	1
Hexachlorocyclopentadiene	0.51	U	10	0.51	0.24	ug/L		09/03/13 16:50	1
Hexachloroethane	0.51	U	1.0	0.51	0.19	ug/L		09/03/13 16:50	1
Indeno[1,2,3-cd]pyrene	0.10	U	0.20	0.10	0.044	ug/L		09/03/13 16:50	1
Isophorone	0.51	U	1.0	0.51	0.28	ug/L		09/03/13 16:50	1
2-Methylnaphthalene	0.10	U	0.20	0.10	0.092	ug/L		09/03/13 16:50	1
2-Methylphenol	0.51	U	1.0	0.51	0.17	ug/L		09/03/13 16:50	1
3 & 4 Methylphenol	1.0	U	2.0	1.0	0.82	ug/L		09/03/13 16:50	1
Naphthalene	0.10	U	0.20	0.10	0.064	ug/L		09/03/13 16:50	1
2-Nitroaniline	0.51	U	2.0	0.51	0.21	ug/L		09/03/13 16:50	1
3-Nitroaniline	0.51	U	2.0	0.51	0.29	ug/L		09/03/13 16:50	1
4-Nitroaniline	0.51	U	2.0	0.51	0.22	ug/L		09/03/13 16:50	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDETMw-001C-0314-GW

Lab Sample ID: 240-28145-35

Date Collected: 08/20/13 14:56

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.51	U	2.0	0.51	0.29	ug/L		09/03/13 16:50	1
4-Nitrophenol	4.1	U	5.1	4.1	0.30	ug/L		09/03/13 16:50	1
N-Nitrosodi-n-propylamine	0.51	U	1.0	0.51	0.24	ug/L		09/03/13 16:50	1
N-Nitrosodiphenylamine	0.51	U	1.0	0.51	0.32	ug/L		09/03/13 16:50	1
2,2'-oxybis[1-chloropropane]	0.51	U	1.0	0.51	0.41	ug/L		09/03/13 16:50	1
Pentachlorophenol	1.0	U	5.1	1.0	0.28	ug/L		09/03/13 16:50	1
Phenanthrene	0.10	U	0.20	0.10	0.063	ug/L		09/03/13 16:50	1
Phenol	1.0	U	1.0	1.0	0.61	ug/L		09/03/13 16:50	1
Pyrene	0.10	U	0.20	0.10	0.043	ug/L		09/03/13 16:50	1
1,2,4-Trichlorobenzene	0.51	U	1.0	0.51	0.29	ug/L		09/03/13 16:50	1
2,4,5-Trichlorophenol	0.51	U	5.1	0.51	0.31	ug/L		09/03/13 16:50	1
2,4,6-Trichlorophenol	0.51	U	5.1	0.51	0.24	ug/L		09/03/13 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	61		50 - 110	08/22/13 08:06	09/03/13 16:50	1
2-Fluorophenol (Surr)	62		20 - 110	08/22/13 08:06	09/03/13 16:50	1
Nitrobenzene-d5 (Surr)	66		40 - 110	08/22/13 08:06	09/03/13 16:50	1
Phenol-d5 (Surr)	67		10 - 115	08/22/13 08:06	09/03/13 16:50	1
Terphenyl-d14 (Surr)	74		50 - 135	08/22/13 08:06	09/03/13 16:50	1
2,4,6-Tribromophenol (Surr)	76		40 - 125	08/22/13 08:06	09/03/13 16:50	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 23:45	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 23:45	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 23:45	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 23:45	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 23:45	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 23:45	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 23:45	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 23:45	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 23:45	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 23:45	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 23:45	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:45	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:45	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 23:45	1
Endrin ketone	0.012	J	0.048	0.019	0.0074	ug/L		09/11/13 23:45	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 23:45	1
gamma-Chlordane	0.019	U M	0.048	0.019	0.011	ug/L		09/11/13 23:45	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 23:45	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 23:45	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 23:45	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	76		30 - 135	08/22/13 07:53	09/11/13 23:45	1
DCB Decachlorobiphenyl	77		30 - 135	08/22/13 07:53	09/11/13 23:45	1
Tetrachloro-m-xylene	94		25 - 140	08/22/13 07:53	09/11/13 23:45	1
Tetrachloro-m-xylene	125		25 - 140	08/22/13 07:53	09/11/13 23:45	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDEtmw-001C-0314-GW

Lab Sample ID: 240-28145-35

Date Collected: 08/20/13 14:56

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 15:26	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 15:26	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 15:26	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 15:26	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 15:26	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 15:26	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		40 - 140	08/30/13 08:32	09/04/13 15:26	1
Tetrachloro-m-xylene	72		40 - 140	08/30/13 08:32	09/04/13 15:26	1
DCB Decachlorobiphenyl	28 Q		40 - 135	08/30/13 08:32	09/04/13 15:26	1
DCB Decachlorobiphenyl	25 Q		40 - 135	08/30/13 08:32	09/04/13 15:26	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 19:05	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.059	U	0.18	0.059	0.037	ug/L		08/29/13 09:30	1
1,3-Dinitrobenzene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 09:30	1
2,4,6-Trinitrotoluene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 09:30	1
2,4-Dinitrotoluene	0.12	U	0.15	0.12	0.059	ug/L		08/29/13 09:30	1
2,6-Dinitrotoluene	0.12	U	0.15	0.12	0.059	ug/L		08/29/13 09:30	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.18	0.12	0.018	ug/L		08/29/13 09:30	1
2-Nitrotoluene	0.12	U	0.59	0.12	0.10	ug/L		08/29/13 09:30	1
3-Nitrotoluene	0.12	U	0.59	0.12	0.067	ug/L		08/29/13 09:30	1
4-Nitrotoluene	0.12	U	0.59	0.12	0.10	ug/L		08/29/13 09:30	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 09:30	1
HMX	0.059	U	0.18	0.059	0.043	ug/L		08/29/13 09:30	1
RDX	0.059	U	0.18	0.059	0.043	ug/L		08/29/13 09:30	1
Nitrobenzene	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 09:30	1
Tetryl	0.12	U	0.18	0.12	0.059	ug/L		08/29/13 09:30	1
Nitroglycerin	0.59	U	0.77	0.59	0.39	ug/L		08/29/13 09:30	1
PETN	0.59	U	0.77	0.59	0.35	ug/L		08/29/13 09:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	91		79 - 111	08/26/13 09:34	08/29/13 09:30	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:26	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDEtmw-001C-0314-GF**

**Lab Sample ID: 240-28145-36**

**Date Collected: 08/20/13 14:56**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/07/13 01:53	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	26		10	10	3.3	ug/L		09/09/13 13:33	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:33	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 13:33	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:33	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:33	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:33	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:33	1
Barium	22	J	200	5.0	2.8	ug/L		09/09/13 13:33	1
Calcium	78000		5000	1000	630	ug/L		09/09/13 13:33	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:33	1
Magnesium	32000		5000	300	120	ug/L		09/09/13 13:33	1
Manganese	390		15	5.0	1.8	ug/L		09/09/13 13:33	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 13:33	1
Potassium	1900	J	5000	900	300	ug/L		09/09/13 13:33	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 17:25	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 17:25	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 17:25	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 17:25	1
Iron	900		150	100	44	ug/L		09/09/13 17:25	1
Sodium	10000		1000	400	160	ug/L		09/09/13 17:25	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 17:25	1
Zinc	50	U	50	50	27	ug/L		09/09/13 17:25	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:12	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDETMw-003C-0343-GW

Lab Sample ID: 240-28145-37

Date Collected: 08/20/13 16:19

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:33	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:33	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 20:33	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:33	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:33	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:33	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 20:33	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:33	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 20:33	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:33	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 20:33	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:33	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 20:33	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 20:33	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:33	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:33	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:33	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:33	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 20:33	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 20:33	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:33	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 20:33	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:33	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:33	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 20:33	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 20:33	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 20:33	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 20:33	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 20:33	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 20:33	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 20:33	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:33	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:33	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:33	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:33	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:33	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:33	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 20:33	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 120		08/29/13 20:33	1
4-Bromofluorobenzene (Surr)	93		75 - 120		08/29/13 20:33	1
Toluene-d8 (Surr)	94		85 - 120		08/29/13 20:33	1
Dibromofluoromethane (Surr)	97		85 - 115		08/29/13 20:33	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/04/13 11:14	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/04/13 11:14	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDEtmw-003C-0343-GW

Lab Sample ID: 240-28145-37

Date Collected: 08/20/13 16:19

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Anthracene</b>	<b>0.097</b>	<b>J</b>	0.19	0.095	0.084	ug/L		09/04/13 11:14	1
<b>Benzo[a]anthracene</b>	<b>0.15</b>	<b>J</b>	0.19	0.095	0.028	ug/L		09/04/13 11:14	1
<b>Benzo[a]pyrene</b>	<b>0.12</b>	<b>J</b>	0.19	0.095	0.049	ug/L		09/04/13 11:14	1
<b>Benzo[b]fluoranthene</b>	<b>0.12</b>	<b>J</b>	0.19	0.095	0.038	ug/L		09/04/13 11:14	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/04/13 11:14	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/04/13 11:14	1
<b>Benzo[k]fluoranthene</b>	<b>0.13</b>	<b>J</b>	0.19	0.095	0.043	ug/L		09/04/13 11:14	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/04/13 11:14	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/04/13 11:14	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/04/13 11:14	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.78</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/04/13 11:14	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 11:14	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 11:14	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/04/13 11:14	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 11:14	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 11:14	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/04/13 11:14	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/04/13 11:14	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/04/13 11:14	1
<b>Chrysene</b>	<b>0.11</b>	<b>J</b>	0.19	0.095	0.048	ug/L		09/04/13 11:14	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/04/13 11:14	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/04/13 11:14	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/04/13 11:14	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/04/13 11:14	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/04/13 11:14	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/04/13 11:14	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/04/13 11:14	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 11:14	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/04/13 11:14	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 11:14	1
<b>Di-n-butyl phthalate</b>	<b>0.99</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/04/13 11:14	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/04/13 11:14	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/04/13 11:14	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 11:14	1
<b>Fluoranthene</b>	<b>0.13</b>	<b>J</b>	0.19	0.095	0.042	ug/L		09/04/13 11:14	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/04/13 11:14	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/04/13 11:14	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/04/13 11:14	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/04/13 11:14	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/04/13 11:14	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/04/13 11:14	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/04/13 11:14	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/04/13 11:14	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/04/13 11:14	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/04/13 11:14	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/04/13 11:14	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 11:14	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 11:14	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 11:14	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDETMw-003C-0343-GW

Lab Sample ID: 240-28145-37

Date Collected: 08/20/13 16:19

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 11:14	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/04/13 11:14	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/04/13 11:14	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/04/13 11:14	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/04/13 11:14	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/04/13 11:14	1
<b>Phenanthrene</b>	<b>0.12</b>	<b>J</b>	0.19	0.095	0.059	ug/L		09/04/13 11:14	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/04/13 11:14	1
<b>Pyrene</b>	<b>0.13</b>	<b>J</b>	0.19	0.095	0.040	ug/L		09/04/13 11:14	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/04/13 11:14	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/04/13 11:14	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/04/13 11:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	76		50 - 110	08/22/13 08:06	09/04/13 11:14	1
2-Fluorophenol (Surr)	76		20 - 110	08/22/13 08:06	09/04/13 11:14	1
Nitrobenzene-d5 (Surr)	82		40 - 110	08/22/13 08:06	09/04/13 11:14	1
Phenol-d5 (Surr)	81		10 - 115	08/22/13 08:06	09/04/13 11:14	1
Terphenyl-d14 (Surr)	104		50 - 135	08/22/13 08:06	09/04/13 11:14	1
2,4,6-Tribromophenol (Surr)	96		40 - 125	08/22/13 08:06	09/04/13 11:14	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/12/13 14:09	1
4,4'-DDE	0.019	U M	0.048	0.019	0.0092	ug/L		09/12/13 14:09	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/12/13 14:09	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/12/13 14:09	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/12/13 14:09	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/12/13 14:09	1
<b>beta-BHC</b>	<b>0.015</b>	<b>J</b>	0.048	0.019	0.0080	ug/L		09/12/13 14:09	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/12/13 14:09	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/12/13 14:09	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/12/13 14:09	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/12/13 14:09	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:09	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:09	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:09	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/12/13 14:09	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/12/13 14:09	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/12/13 14:09	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/12/13 14:09	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/12/13 14:09	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/12/13 14:09	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/12/13 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	91		30 - 135	08/22/13 07:53	09/12/13 14:09	1
DCB Decachlorobiphenyl	96		30 - 135	08/22/13 07:53	09/12/13 14:09	1
Tetrachloro-m-xylene	136	M	25 - 140	08/22/13 07:53	09/12/13 14:09	1
Tetrachloro-m-xylene	151	M Q	25 - 140	08/22/13 07:53	09/12/13 14:09	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGDEtmw-003C-0343-GW

Lab Sample ID: 240-28145-37

Date Collected: 08/20/13 16:19

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 15:41	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 15:41	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 15:41	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 15:41	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 15:41	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 15:41	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 15:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		40 - 140	08/30/13 08:32	09/04/13 15:41	1
Tetrachloro-m-xylene	71		40 - 140	08/30/13 08:32	09/04/13 15:41	1
DCB Decachlorobiphenyl	51		40 - 135	08/30/13 08:32	09/04/13 15:41	1
DCB Decachlorobiphenyl	50		40 - 135	08/30/13 08:32	09/04/13 15:41	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 19:23	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/29/13 10:14	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:14	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:14	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 10:14	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 10:14	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/29/13 10:14	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 10:14	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.061	ug/L		08/29/13 10:14	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 10:14	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:14	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 10:14	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 10:14	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:14	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:14	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/29/13 10:14	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/29/13 10:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	116	Q	79 - 111	08/26/13 09:34	08/29/13 10:14	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:09	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:28	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGDEtmw-003C-0343-GF**

**Lab Sample ID: 240-28145-38**

**Date Collected: 08/20/13 16:19**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Arsenic</b>	<b>12</b>		10	10	3.3	ug/L		09/09/13 13:39	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:39	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 13:39	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:39	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:39	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:39	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:39	1
<b>Barium</b>	<b>48</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 13:39	1
<b>Calcium</b>	<b>84000</b>		5000	1000	630	ug/L		09/09/13 13:39	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:39	1
<b>Magnesium</b>	<b>30000</b>		5000	300	120	ug/L		09/09/13 13:39	1
<b>Manganese</b>	<b>250</b>		15	5.0	1.8	ug/L		09/09/13 13:39	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 13:39	1
<b>Potassium</b>	<b>1800</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 13:39	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 17:47	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 17:47	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 17:47	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 17:47	1
<b>Iron</b>	<b>1400</b>		150	100	44	ug/L		09/09/13 17:47	1
<b>Sodium</b>	<b>11000</b>		1000	400	160	ug/L		09/09/13 17:47	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 17:47	1
Zinc	50	U	50	50	27	ug/L		09/09/13 17:47	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:17	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGTEAM4-TRIP**

**Lab Sample ID: 240-28145-39**

Date Collected: 08/20/13 08:00

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:58	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:58	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 20:58	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:58	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:58	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:58	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 20:58	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:58	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 20:58	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:58	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 20:58	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:58	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 20:58	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 20:58	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:58	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:58	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:58	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:58	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 20:58	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 20:58	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:58	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 20:58	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 20:58	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:58	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 20:58	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 20:58	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 20:58	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 20:58	1
<b>Methylene Chloride</b>	<b>0.61</b>	<b>J</b>	1.0	0.50	0.33	ug/L		08/29/13 20:58	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 20:58	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 20:58	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 20:58	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 20:58	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:58	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 20:58	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 20:58	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 20:58	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 20:58	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 120		08/29/13 20:58	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/29/13 20:58	1
Toluene-d8 (Surr)	95		85 - 120		08/29/13 20:58	1
Dibromofluoromethane (Surr)	99		85 - 115		08/29/13 20:58	1

TestAmerica Canton



## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGBKGmw-010C-0311-GF**

**Lab Sample ID: 240-28145-40**

**Date Collected: 08/20/13 09:34**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

**Method: 6860 - Perchlorate by IC/MS or IC/MS/MS**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.018	J	0.050	0.020	0.0088	ug/L		09/07/13 02:21	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGB12mw-013-0313-GW

Lab Sample ID: 240-28145-41

Date Collected: 08/20/13 10:30

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/12/13 14:29	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/12/13 14:29	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/12/13 14:29	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/12/13 14:29	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/12/13 14:29	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/12/13 14:29	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/12/13 14:29	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/12/13 14:29	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/12/13 14:29	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/12/13 14:29	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/12/13 14:29	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:29	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:29	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:29	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/12/13 14:29	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/12/13 14:29	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/12/13 14:29	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/12/13 14:29	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/12/13 14:29	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/12/13 14:29	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/12/13 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	65		30 - 135	08/22/13 07:53	09/12/13 14:29	1
DCB Decachlorobiphenyl	70		30 - 135	08/22/13 07:53	09/12/13 14:29	1
Tetrachloro-m-xylene	83		25 - 140	08/22/13 07:53	09/12/13 14:29	1
Tetrachloro-m-xylene	88		25 - 140	08/22/13 07:53	09/12/13 14:29	1

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 15:56	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 15:56	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 15:56	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 15:56	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 15:56	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 15:56	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		40 - 140	08/30/13 08:32	09/04/13 15:56	1
Tetrachloro-m-xylene	76		40 - 140	08/30/13 08:32	09/04/13 15:56	1
DCB Decachlorobiphenyl	33	Q	40 - 135	08/30/13 08:32	09/04/13 15:56	1
DCB Decachlorobiphenyl	30	Q	40 - 135	08/30/13 08:32	09/04/13 15:56	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGFWGmw-011-0348-GW

Lab Sample ID: 240-28145-42

Date Collected: 08/20/13 11:50

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>13</b>		2.0	0.49	0.22	ug/L		08/31/13 17:23	1
Butyl benzyl phthalate	0.49	U	2.0	0.49	0.25	ug/L		08/31/13 17:23	1
Diethyl phthalate	0.98	U	2.0	0.98	0.59	ug/L		08/31/13 17:23	1
Dimethyl phthalate	0.49	U	2.0	0.49	0.28	ug/L		08/31/13 17:23	1
<b>Di-n-butyl phthalate</b>	<b>1.7</b>	<b>J</b>	2.0	0.98	0.66	ug/L		08/31/13 17:23	1
Di-n-octyl phthalate	0.49	U	2.0	0.49	0.23	ug/L		08/31/13 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	66		50 - 110	08/22/13 08:16	08/31/13 17:23	1
2-Fluorophenol (Surr)	70		20 - 110	08/22/13 08:16	08/31/13 17:23	1
Nitrobenzene-d5 (Surr)	72		40 - 110	08/22/13 08:16	08/31/13 17:23	1
Phenol-d5 (Surr)	74		10 - 115	08/22/13 08:16	08/31/13 17:23	1
Terphenyl-d14 (Surr)	84		50 - 135	08/22/13 08:16	08/31/13 17:23	1
2,4,6-Tribromophenol (Surr)	91		40 - 125	08/22/13 08:16	08/31/13 17:23	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 19:41	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/29/13 10:57	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:57	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:57	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 10:57	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 10:57	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/29/13 10:57	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/29/13 10:57	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.061	ug/L		08/29/13 10:57	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.094	ug/L		08/29/13 10:57	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:57	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 10:57	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 10:57	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:57	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 10:57	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/29/13 10:57	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/29/13 10:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	91		79 - 111	08/26/13 09:34	08/29/13 10:57	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:30	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGFWGmw-011-0348-GF**

**Lab Sample ID: 240-28145-43**

**Date Collected: 08/20/13 11:50**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 13:45	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:45	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 13:45	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:45	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:45	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:45	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:45	1
<b>Barium</b>	<b>42</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 13:45	1
<b>Calcium</b>	<b>67000</b>		5000	1000	630	ug/L		09/09/13 13:45	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:45	1
<b>Magnesium</b>	<b>14000</b>		5000	300	120	ug/L		09/09/13 13:45	1
<b>Manganese</b>	<b>270</b>		15	5.0	1.8	ug/L		09/09/13 13:45	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 13:45	1
<b>Potassium</b>	<b>840</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 13:45	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 17:55	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 17:55	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 17:55	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 17:55	1
<b>Iron</b>	<b>1900</b>		150	100	44	ug/L		09/09/13 17:55	1
<b>Sodium</b>	<b>6300</b>		1000	400	160	ug/L		09/09/13 17:55	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 17:55	1
Zinc	50	U	50	50	27	ug/L		09/09/13 17:55	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:18	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGFWGmw-012-0349-GW

Lab Sample ID: 240-28145-44

Date Collected: 08/20/13 12:54

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.74</b>	<b>J</b>	1.9	0.48	0.21	ug/L		08/31/13 17:48	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/31/13 17:48	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/31/13 17:48	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/31/13 17:48	1
<b>Di-n-butyl phthalate</b>	<b>0.74</b>	<b>J</b>	1.9	0.95	0.64	ug/L		08/31/13 17:48	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/31/13 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	66		50 - 110	08/22/13 08:16	08/31/13 17:48	1
2-Fluorophenol (Surr)	69		20 - 110	08/22/13 08:16	08/31/13 17:48	1
Nitrobenzene-d5 (Surr)	71		40 - 110	08/22/13 08:16	08/31/13 17:48	1
Phenol-d5 (Surr)	75		10 - 115	08/22/13 08:16	08/31/13 17:48	1
Terphenyl-d14 (Surr)	81		50 - 135	08/22/13 08:16	08/31/13 17:48	1
2,4,6-Tribromophenol (Surr)	93		40 - 125	08/22/13 08:16	08/31/13 17:48	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 19:58	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.053	U	0.16	0.053	0.033	ug/L		08/29/13 11:41	1
1,3-Dinitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 11:41	1
2,4,6-Trinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 11:41	1
2,4-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 11:41	1
2,6-Dinitrotoluene	0.11	U	0.14	0.11	0.053	ug/L		08/29/13 11:41	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.16	0.11	0.016	ug/L		08/29/13 11:41	1
2-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 11:41	1
3-Nitrotoluene	0.11	U	0.53	0.11	0.060	ug/L		08/29/13 11:41	1
4-Nitrotoluene	0.11	U	0.53	0.11	0.093	ug/L		08/29/13 11:41	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 11:41	1
HMX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 11:41	1
RDX	0.053	U	0.16	0.053	0.038	ug/L		08/29/13 11:41	1
Nitrobenzene	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 11:41	1
Tetryl	0.11	U	0.16	0.11	0.053	ug/L		08/29/13 11:41	1
Nitroglycerin	0.53	U	0.69	0.53	0.35	ug/L		08/29/13 11:41	1
PETN	0.53	U	0.69	0.53	0.32	ug/L		08/29/13 11:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	117	Q	79 - 111	08/26/13 09:34	08/29/13 11:41	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:32	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGFWGmw-012-0349-GF**

**Lab Sample ID: 240-28145-45**

Date Collected: 08/20/13 12:54

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 13:51	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:51	1
<b>Cobalt</b>	<b>1.8</b>	<b>J</b>	7.0	4.0	1.5	ug/L		09/09/13 13:51	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:51	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:51	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:51	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:51	1
<b>Barium</b>	<b>25</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 13:51	1
<b>Calcium</b>	<b>23000</b>		5000	1000	630	ug/L		09/09/13 13:51	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:51	1
<b>Magnesium</b>	<b>5600</b>		5000	300	120	ug/L		09/09/13 13:51	1
<b>Manganese</b>	<b>110</b>		15	5.0	1.8	ug/L		09/09/13 13:51	1
<b>Nickel</b>	<b>2.4</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 13:51	1
<b>Potassium</b>	<b>830</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 13:51	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 18:02	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 18:02	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 18:02	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 18:02	1
<b>Iron</b>	<b>2100</b>		150	100	44	ug/L		09/09/13 18:02	1
<b>Sodium</b>	<b>6700</b>		1000	400	160	ug/L		09/09/13 18:02	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 18:02	1
Zinc	50	U	50	50	27	ug/L		09/09/13 18:02	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:20	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL10mw-003C-0361-GW

Lab Sample ID: 240-28145-46

Date Collected: 08/20/13 14:30

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 21:20	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 21:20	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 21:20	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 21:20	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 21:20	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 21:20	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 21:20	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 21:20	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 21:20	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 21:20	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 21:20	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:20	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 21:20	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 21:20	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:20	1
<b>Carbon tetrachloride</b>	<b>4.2</b>		1.0	0.25	0.13	ug/L		08/29/13 21:20	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 21:20	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 21:20	1
<b>Chloroform</b>	<b>0.56</b>	<b>J</b>	1.0	0.25	0.16	ug/L		08/29/13 21:20	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 21:20	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 21:20	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 21:20	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 21:20	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 21:20	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 21:20	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 21:20	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 21:20	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 21:20	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 21:20	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 21:20	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 21:20	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 21:20	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:20	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 21:20	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 21:20	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 21:20	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 21:20	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 21:20	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 120		08/29/13 21:20	1
4-Bromofluorobenzene (Surr)	92		75 - 120		08/29/13 21:20	1
Toluene-d8 (Surr)	94		85 - 120		08/29/13 21:20	1
Dibromofluoromethane (Surr)	94		85 - 115		08/29/13 21:20	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL10mw-003C-0361-GF**

**Lab Sample ID: 240-28145-47**

**Date Collected: 08/20/13 14:30**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 13:57	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 13:57	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 13:57	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 13:57	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 13:57	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 13:57	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 13:57	1
Barium	5.0	U	200	5.0	2.8	ug/L		09/09/13 13:57	1
<b>Calcium</b>	<b>56000</b>		5000	1000	630	ug/L		09/09/13 13:57	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 13:57	1
<b>Magnesium</b>	<b>17000</b>		5000	300	120	ug/L		09/09/13 13:57	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 13:57	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 13:57	1
<b>Potassium</b>	<b>690</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 13:57	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 18:10	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 18:10	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 18:10	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 18:10	1
Iron	100	U	150	100	44	ug/L		09/09/13 18:10	1
<b>Sodium</b>	<b>8600</b>		1000	400	160	ug/L		09/09/13 18:10	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 18:10	1
Zinc	50	U	50	50	27	ug/L		09/09/13 18:10	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:21	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL1mw-064C-0352-GW

Lab Sample ID: 240-28145-48

Date Collected: 08/20/13 16:04

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.61</b>	<b>J</b>	2.0	0.50	0.22	ug/L		08/31/13 18:13	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		08/31/13 18:13	1
Diethyl phthalate	0.99	U	2.0	0.99	0.59	ug/L		08/31/13 18:13	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		08/31/13 18:13	1
<b>Di-n-butyl phthalate</b>	<b>0.91</b>	<b>J</b>	2.0	0.99	0.66	ug/L		08/31/13 18:13	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		08/31/13 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	66		50 - 110	08/22/13 08:16	08/31/13 18:13	1
2-Fluorophenol (Surr)	69		20 - 110	08/22/13 08:16	08/31/13 18:13	1
Nitrobenzene-d5 (Surr)	71		40 - 110	08/22/13 08:16	08/31/13 18:13	1
Phenol-d5 (Surr)	75		10 - 115	08/22/13 08:16	08/31/13 18:13	1
Terphenyl-d14 (Surr)	85		50 - 135	08/22/13 08:16	08/31/13 18:13	1
2,4,6-Tribromophenol (Surr)	85		40 - 125	08/22/13 08:16	08/31/13 18:13	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.050	0.020	0.0095	ug/L		08/29/13 23:31	1
4,4'-DDE	0.020	U	0.050	0.020	0.0096	ug/L		08/29/13 23:31	1
4,4'-DDT	0.020	U	0.050	0.020	0.016	ug/L		08/29/13 23:31	1
Aldrin	0.020	U	0.030	0.020	0.0081	ug/L		08/29/13 23:31	1
alpha-BHC	0.020	U	0.030	0.020	0.0069	ug/L		08/29/13 23:31	1
alpha-Chlordane	0.020	U	0.050	0.020	0.014	ug/L		08/29/13 23:31	1
beta-BHC	0.020	U	0.050	0.020	0.0083	ug/L		08/29/13 23:31	1
delta-BHC	0.020	U	0.050	0.020	0.0086	ug/L		08/29/13 23:31	1
Dieldrin	0.020	U	0.030	0.020	0.0074	ug/L		08/29/13 23:31	1
Endosulfan I	0.020	U	0.050	0.020	0.013	ug/L		08/29/13 23:31	1
Endosulfan II	0.020	U	0.050	0.020	0.012	ug/L		08/29/13 23:31	1
Endosulfan sulfate	0.020	U	0.050	0.020	0.011	ug/L		08/29/13 23:31	1
Endrin	0.020	U	0.050	0.020	0.011	ug/L		08/29/13 23:31	1
Endrin aldehyde	0.020	U	0.050	0.020	0.011	ug/L		08/29/13 23:31	1
Endrin ketone	0.020	U	0.050	0.020	0.0077	ug/L		08/29/13 23:31	1
gamma-BHC (Lindane)	0.020	U	0.050	0.020	0.0063	ug/L		08/29/13 23:31	1
gamma-Chlordane	0.020	U	0.050	0.020	0.012	ug/L		08/29/13 23:31	1
Heptachlor	0.020	U	0.030	0.020	0.0079	ug/L		08/29/13 23:31	1
Heptachlor epoxide	0.020	U	0.030	0.020	0.0070	ug/L		08/29/13 23:31	1
Methoxychlor	0.050	U	0.099	0.050	0.032	ug/L		08/29/13 23:31	1
Toxaphene	0.79	U	2.0	0.79	0.32	ug/L		08/29/13 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	56		30 - 135	08/23/13 09:00	08/29/13 23:31	1
DCB Decachlorobiphenyl	54		30 - 135	08/23/13 09:00	08/29/13 23:31	1
Tetrachloro-m-xylene	68		25 - 140	08/23/13 09:00	08/29/13 23:31	1
Tetrachloro-m-xylene	68		25 - 140	08/23/13 09:00	08/29/13 23:31	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/29/13 20:16	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGLL1mw-064C-0352-GW

Lab Sample ID: 240-28145-48

Date Collected: 08/20/13 16:04

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.057	U	0.17	0.057	0.036	ug/L		08/29/13 12:25	1
1,3-Dinitrobenzene	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 12:25	1
2,4,6-Trinitrotoluene	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 12:25	1
2,4-Dinitrotoluene	0.11	U	0.15	0.11	0.057	ug/L		08/29/13 12:25	1
2,6-Dinitrotoluene	0.11	U	0.15	0.11	0.057	ug/L		08/29/13 12:25	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.17	0.11	0.017	ug/L		08/29/13 12:25	1
2-Nitrotoluene	0.11	U	0.57	0.11	0.10	ug/L		08/29/13 12:25	1
3-Nitrotoluene	0.11	U	0.57	0.11	0.065	ug/L		08/29/13 12:25	1
4-Nitrotoluene	0.11	U	0.57	0.11	0.10	ug/L		08/29/13 12:25	1
4-Amino-2,6-dinitrotoluene	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 12:25	1
HMX	0.057	U	0.17	0.057	0.041	ug/L		08/29/13 12:25	1
RDX	0.057	U	0.17	0.057	0.041	ug/L		08/29/13 12:25	1
Nitrobenzene	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 12:25	1
Tetryl	0.11	U	0.17	0.11	0.057	ug/L		08/29/13 12:25	1
Nitroglycerin	0.57	U M	0.74	0.57	0.38	ug/L		08/29/13 12:25	1
PETN	0.57	U	0.74	0.57	0.34	ug/L		08/29/13 12:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	120	M Q	79 - 111	08/26/13 09:34	08/29/13 12:25	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 14:34	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGLL1mw-064C-0352-GF**

**Lab Sample ID: 240-28145-49**

**Date Collected: 08/20/13 16:04**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 14:02	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 14:02	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 14:02	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 14:02	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 14:02	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 14:02	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 14:02	1
Barium	53	J	200	5.0	2.8	ug/L		09/09/13 14:02	1
Calcium	58000		5000	1000	630	ug/L		09/09/13 14:02	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 14:02	1
Magnesium	10000		5000	300	120	ug/L		09/09/13 14:02	1
Manganese	130		15	5.0	1.8	ug/L		09/09/13 14:02	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 14:02	1
Potassium	740	J	5000	900	300	ug/L		09/09/13 14:02	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 18:17	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 18:17	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 18:17	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 18:17	1
Iron	580		150	100	44	ug/L		09/09/13 18:17	1
Sodium	5500		1000	400	160	ug/L		09/09/13 18:17	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 18:17	1
Zinc	50	U	50	50	27	ug/L		09/09/13 18:17	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:22	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGTEAM4-TRIP**

**Lab Sample ID: 240-28145-50**

**Date Collected: 08/19/13 11:00**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 21:45	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 21:45	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 21:45	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 21:45	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 21:45	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 21:45	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 21:45	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 21:45	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 21:45	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 21:45	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 21:45	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:45	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 21:45	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 21:45	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:45	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:45	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 21:45	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 21:45	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 21:45	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 21:45	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 21:45	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 21:45	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 21:45	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 21:45	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 21:45	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 21:45	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 21:45	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 21:45	1
<b>Methylene Chloride</b>	<b>0.52</b>	<b>J</b>	1.0	0.50	0.33	ug/L		08/29/13 21:45	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 21:45	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 21:45	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 21:45	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 21:45	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 21:45	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 21:45	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 21:45	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 21:45	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 21:45	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 120		08/29/13 21:45	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/29/13 21:45	1
Toluene-d8 (Surr)	92		85 - 120		08/29/13 21:45	1
Dibromofluoromethane (Surr)	92		85 - 115		08/29/13 21:45	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-007C-0369-GW

Lab Sample ID: 240-28145-51

Date Collected: 08/19/13 13:24

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:09	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:09	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 22:09	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:09	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:09	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:09	1
<b>1,2-Dichloroethene, Total</b>	<b>0.18</b>	<b>J</b>	2.0	0.25	0.17	ug/L		08/29/13 22:09	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:09	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 22:09	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:09	1
<b>Acetone</b>	<b>1.2</b>	<b>J</b>	10	1.1	1.1	ug/L		08/29/13 22:09	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:09	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 22:09	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 22:09	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:09	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:09	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:09	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:09	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 22:09	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 22:09	1
<b>cis-1,2-Dichloroethene</b>	<b>0.18</b>	<b>J</b>	1.0	0.25	0.17	ug/L		08/29/13 22:09	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 22:09	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:09	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:09	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 22:09	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 22:09	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 22:09	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 22:09	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 22:09	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 22:09	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 22:09	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:09	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:09	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:09	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:09	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:09	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:09	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 22:09	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 120		08/29/13 22:09	1
4-Bromofluorobenzene (Surr)	83		75 - 120		08/29/13 22:09	1
Toluene-d8 (Surr)	96		85 - 120		08/29/13 22:09	1
Dibromofluoromethane (Surr)	91		85 - 115		08/29/13 22:09	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 11:38	1
Acenaphthylene	0.096	U	0.19	0.096	0.046	ug/L		09/04/13 11:38	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-007C-0369-GW

Lab Sample ID: 240-28145-51

Date Collected: 08/19/13 13:24

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.096	U	0.19	0.096	0.085	ug/L		09/04/13 11:38	1
Benzo[a]anthracene	0.096	U	0.19	0.096	0.028	ug/L		09/04/13 11:38	1
Benzo[a]pyrene	0.096	U	0.19	0.096	0.049	ug/L		09/04/13 11:38	1
Benzo[b]fluoranthene	0.096	U	0.19	0.096	0.038	ug/L		09/04/13 11:38	1
Benzo[g,h,i]perylene	0.096	U	0.19	0.096	0.045	ug/L		09/04/13 11:38	1
Benzoic acid	19	U	24	19	9.6	ug/L		09/04/13 11:38	1
Benzo[k]fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 11:38	1
Benzyl alcohol	0.48	U	4.8	0.48	0.37	ug/L		09/04/13 11:38	1
Bis(2-chloroethoxy)methane	0.48	U	0.96	0.48	0.31	ug/L		09/04/13 11:38	1
Bis(2-chloroethyl)ether	0.096	U	0.96	0.096	0.096	ug/L		09/04/13 11:38	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.46</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/04/13 11:38	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 11:38	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 11:38	1
Carbazole	0.48	U	0.96	0.48	0.27	ug/L		09/04/13 11:38	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 11:38	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 11:38	1
2-Chloronaphthalene	0.48	U	0.96	0.48	0.096	ug/L		09/04/13 11:38	1
2-Chlorophenol	0.48	U	0.96	0.48	0.28	ug/L		09/04/13 11:38	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/04/13 11:38	1
Chrysene	0.096	U	0.19	0.096	0.048	ug/L		09/04/13 11:38	1
Dibenz(a,h)anthracene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 11:38	1
Dibenzofuran	0.096	U	0.96	0.096	0.019	ug/L		09/04/13 11:38	1
1,2-Dichlorobenzene	0.48	U	0.96	0.48	0.28	ug/L		09/04/13 11:38	1
1,3-Dichlorobenzene	0.48	U	0.96	0.48	0.22	ug/L		09/04/13 11:38	1
1,4-Dichlorobenzene	0.48	U	0.96	0.48	0.33	ug/L		09/04/13 11:38	1
3,3'-Dichlorobenzidine	0.96	U	4.8	0.96	0.36	ug/L		09/04/13 11:38	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/04/13 11:38	1
Diethyl phthalate	0.96	U	1.9	0.96	0.58	ug/L		09/04/13 11:38	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/04/13 11:38	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 11:38	1
<b>Di-n-butyl phthalate</b>	<b>0.78</b>	<b>J</b>	1.9	0.96	0.64	ug/L		09/04/13 11:38	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/04/13 11:38	1
2,4-Dinitrophenol	0.96	U	4.8	0.96	0.31	ug/L		09/04/13 11:38	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 11:38	1
Fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 11:38	1
Fluorene	0.096	U	0.19	0.096	0.039	ug/L		09/04/13 11:38	1
Hexachlorobenzene	0.096	U	0.19	0.096	0.082	ug/L		09/04/13 11:38	1
Hexachlorobutadiene	0.48	U	0.96	0.48	0.26	ug/L		09/04/13 11:38	1
Hexachlorocyclopentadiene	0.48	U	9.6	0.48	0.23	ug/L		09/04/13 11:38	1
Hexachloroethane	0.48	U	0.96	0.48	0.18	ug/L		09/04/13 11:38	1
Indeno[1,2,3-cd]pyrene	0.096	U	0.19	0.096	0.042	ug/L		09/04/13 11:38	1
Isophorone	0.48	U	0.96	0.48	0.26	ug/L		09/04/13 11:38	1
2-Methylnaphthalene	0.096	U	0.19	0.096	0.087	ug/L		09/04/13 11:38	1
2-Methylphenol	0.48	U	0.96	0.48	0.16	ug/L		09/04/13 11:38	1
3 & 4 Methylphenol	0.96	U	1.9	0.96	0.77	ug/L		09/04/13 11:38	1
Naphthalene	0.096	U	0.19	0.096	0.060	ug/L		09/04/13 11:38	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 11:38	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 11:38	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 11:38	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-007C-0369-GW

Lab Sample ID: 240-28145-51

Date Collected: 08/19/13 13:24

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 11:38	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/04/13 11:38	1
N-Nitrosodi-n-propylamine	0.48	U	0.96	0.48	0.23	ug/L		09/04/13 11:38	1
N-Nitrosodiphenylamine	0.48	U	0.96	0.48	0.30	ug/L		09/04/13 11:38	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.96	0.48	0.38	ug/L		09/04/13 11:38	1
Pentachlorophenol	0.96	U	4.8	0.96	0.26	ug/L		09/04/13 11:38	1
Phenanthrene	0.096	U	0.19	0.096	0.060	ug/L		09/04/13 11:38	1
Phenol	0.96	U	0.96	0.96	0.58	ug/L		09/04/13 11:38	1
Pyrene	0.096	U	0.19	0.096	0.040	ug/L		09/04/13 11:38	1
1,2,4-Trichlorobenzene	0.48	U	0.96	0.48	0.27	ug/L		09/04/13 11:38	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/04/13 11:38	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/04/13 11:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	70		50 - 110	08/22/13 08:06	09/04/13 11:38	1
2-Fluorophenol (Surr)	65		20 - 110	08/22/13 08:06	09/04/13 11:38	1
Nitrobenzene-d5 (Surr)	75		40 - 110	08/22/13 08:06	09/04/13 11:38	1
Phenol-d5 (Surr)	71		10 - 115	08/22/13 08:06	09/04/13 11:38	1
Terphenyl-d14 (Surr)	92		50 - 135	08/22/13 08:06	09/04/13 11:38	1
2,4,6-Tribromophenol (Surr)	101		40 - 125	08/22/13 08:06	09/04/13 11:38	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 16:56	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 16:56	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 16:56	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 16:56	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 16:56	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 16:56	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 16:56	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 16:56	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 16:56	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 16:56	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 16:56	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 16:56	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 16:56	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 16:56	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 16:56	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 16:56	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 16:56	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 16:56	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 16:56	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 16:56	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		30 - 135	08/22/13 07:53	09/11/13 16:56	1
DCB Decachlorobiphenyl	62	M	30 - 135	08/22/13 07:53	09/11/13 16:56	1
Tetrachloro-m-xylene	80		25 - 140	08/22/13 07:53	09/11/13 16:56	1
Tetrachloro-m-xylene	95		25 - 140	08/22/13 07:53	09/11/13 16:56	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-007C-0369-GW

Lab Sample ID: 240-28145-51

Date Collected: 08/19/13 13:24

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 13:15	1
Aroclor-1221	0.19	U H	0.48	0.19	0.13	ug/L		09/04/13 13:15	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 13:15	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 13:15	1
Aroclor-1248	0.19	U H	0.48	0.19	0.096	ug/L		09/04/13 13:15	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 13:15	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 13:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		40 - 140	08/30/13 08:32	09/04/13 13:15	1
Tetrachloro-m-xylene	76		40 - 140	08/30/13 08:32	09/04/13 13:15	1
DCB Decachlorobiphenyl	40		40 - 135	08/30/13 08:32	09/04/13 13:15	1
DCB Decachlorobiphenyl	39	Q	40 - 135	08/30/13 08:32	09/04/13 13:15	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 14:50	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/28/13 17:31	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 17:31	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 17:31	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 17:31	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 17:31	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/28/13 17:31	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 17:31	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/28/13 17:31	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 17:31	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 17:31	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 17:31	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 17:31	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 17:31	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 17:31	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/28/13 17:31	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/28/13 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	89		79 - 111	08/23/13 12:56	08/28/13 17:31	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0080	J	0.010	0.010	0.0032	mg/L		08/23/13 13:25	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 17:19	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGRQLmw-007C-0369-GF**

**Lab Sample ID: 240-28145-52**

**Date Collected: 08/19/13 13:24**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	55		10	10	3.3	ug/L		09/09/13 14:08	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 14:08	1
Cobalt	7.1		7.0	4.0	1.5	ug/L		09/09/13 14:08	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 14:08	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 14:08	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 14:08	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 14:08	1
Barium	53	J	200	5.0	2.8	ug/L		09/09/13 14:08	1
Calcium	110000		5000	1000	630	ug/L		09/09/13 14:08	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 14:08	1
Magnesium	100000		5000	300	120	ug/L		09/09/13 14:08	1
Manganese	2100		15	5.0	1.8	ug/L		09/09/13 14:08	1
Nickel	14	J	40	5.0	2.2	ug/L		09/09/13 14:08	1
Potassium	7400		5000	900	300	ug/L		09/09/13 14:08	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 18:25	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 18:25	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 18:25	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 18:25	1
Iron	13000		150	100	44	ug/L		09/09/13 18:25	1
Sodium	5200		1000	400	160	ug/L		09/09/13 18:25	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 18:25	1
Zinc	50	U	50	50	27	ug/L		09/09/13 18:25	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:24	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGRQLmw-010C-0325-GW**

**Lab Sample ID: 240-28145-53**

**Date Collected: 08/19/13 15:34**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:32	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:32	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 22:32	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:32	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:32	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:32	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 22:32	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:32	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 22:32	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:32	1
Acetone	2.5	J	10	1.1	1.1	ug/L		08/29/13 22:32	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:32	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 22:32	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 22:32	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:32	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:32	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:32	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:32	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 22:32	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 22:32	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:32	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 22:32	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:32	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:32	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 22:32	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 22:32	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 22:32	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 22:32	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 22:32	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 22:32	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 22:32	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:32	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:32	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:32	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:32	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:32	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:32	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 22:32	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 120		08/29/13 22:32	1
4-Bromofluorobenzene (Surr)	87		75 - 120		08/29/13 22:32	1
Toluene-d8 (Surr)	96		85 - 120		08/29/13 22:32	1
Dibromofluoromethane (Surr)	97		85 - 115		08/29/13 22:32	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 12:03	1
Acenaphthylene	0.096	U	0.19	0.096	0.046	ug/L		09/04/13 12:03	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-010C-0325-GW

Lab Sample ID: 240-28145-53

Date Collected: 08/19/13 15:34

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.096	U	0.19	0.096	0.085	ug/L		09/04/13 12:03	1
Benzo[a]anthracene	0.096	U	0.19	0.096	0.028	ug/L		09/04/13 12:03	1
Benzo[a]pyrene	0.096	U	0.19	0.096	0.049	ug/L		09/04/13 12:03	1
Benzo[b]fluoranthene	0.096	U	0.19	0.096	0.038	ug/L		09/04/13 12:03	1
Benzo[g,h,i]perylene	0.096	U	0.19	0.096	0.045	ug/L		09/04/13 12:03	1
Benzoic acid	19	U	24	19	9.6	ug/L		09/04/13 12:03	1
Benzo[k]fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 12:03	1
Benzyl alcohol	0.48	U	4.8	0.48	0.37	ug/L		09/04/13 12:03	1
Bis(2-chloroethoxy)methane	0.48	U	0.96	0.48	0.31	ug/L		09/04/13 12:03	1
Bis(2-chloroethyl)ether	0.096	U	0.96	0.096	0.096	ug/L		09/04/13 12:03	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.63</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/04/13 12:03	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 12:03	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 12:03	1
Carbazole	0.48	U	0.96	0.48	0.27	ug/L		09/04/13 12:03	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 12:03	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 12:03	1
2-Chloronaphthalene	0.48	U	0.96	0.48	0.096	ug/L		09/04/13 12:03	1
2-Chlorophenol	0.48	U	0.96	0.48	0.28	ug/L		09/04/13 12:03	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/04/13 12:03	1
Chrysene	0.096	U	0.19	0.096	0.048	ug/L		09/04/13 12:03	1
Dibenz(a,h)anthracene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 12:03	1
Dibenzofuran	0.096	U	0.96	0.096	0.019	ug/L		09/04/13 12:03	1
1,2-Dichlorobenzene	0.48	U	0.96	0.48	0.28	ug/L		09/04/13 12:03	1
1,3-Dichlorobenzene	0.48	U	0.96	0.48	0.22	ug/L		09/04/13 12:03	1
1,4-Dichlorobenzene	0.48	U	0.96	0.48	0.33	ug/L		09/04/13 12:03	1
3,3'-Dichlorobenzidine	0.96	U	4.8	0.96	0.36	ug/L		09/04/13 12:03	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/04/13 12:03	1
Diethyl phthalate	0.96	U	1.9	0.96	0.58	ug/L		09/04/13 12:03	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/04/13 12:03	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 12:03	1
<b>Di-n-butyl phthalate</b>	<b>1.0</b>	<b>J</b>	1.9	0.96	0.64	ug/L		09/04/13 12:03	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/04/13 12:03	1
2,4-Dinitrophenol	0.96	U	4.8	0.96	0.31	ug/L		09/04/13 12:03	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 12:03	1
Fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		09/04/13 12:03	1
Fluorene	0.096	U	0.19	0.096	0.039	ug/L		09/04/13 12:03	1
Hexachlorobenzene	0.096	U	0.19	0.096	0.082	ug/L		09/04/13 12:03	1
Hexachlorobutadiene	0.48	U	0.96	0.48	0.26	ug/L		09/04/13 12:03	1
Hexachlorocyclopentadiene	0.48	U	9.6	0.48	0.23	ug/L		09/04/13 12:03	1
Hexachloroethane	0.48	U	0.96	0.48	0.18	ug/L		09/04/13 12:03	1
Indeno[1,2,3-cd]pyrene	0.096	U	0.19	0.096	0.042	ug/L		09/04/13 12:03	1
Isophorone	0.48	U	0.96	0.48	0.26	ug/L		09/04/13 12:03	1
2-Methylnaphthalene	0.096	U	0.19	0.096	0.087	ug/L		09/04/13 12:03	1
2-Methylphenol	0.48	U	0.96	0.48	0.16	ug/L		09/04/13 12:03	1
3 & 4 Methylphenol	0.96	U	1.9	0.96	0.77	ug/L		09/04/13 12:03	1
Naphthalene	0.096	U	0.19	0.096	0.060	ug/L		09/04/13 12:03	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 12:03	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 12:03	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 12:03	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-010C-0325-GW

Lab Sample ID: 240-28145-53

Date Collected: 08/19/13 15:34

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 12:03	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/04/13 12:03	1
N-Nitrosodi-n-propylamine	0.48	U	0.96	0.48	0.23	ug/L		09/04/13 12:03	1
N-Nitrosodiphenylamine	0.48	U	0.96	0.48	0.30	ug/L		09/04/13 12:03	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.96	0.48	0.38	ug/L		09/04/13 12:03	1
Pentachlorophenol	0.96	U	4.8	0.96	0.26	ug/L		09/04/13 12:03	1
Phenanthrene	0.096	U	0.19	0.096	0.060	ug/L		09/04/13 12:03	1
Phenol	0.96	U	0.96	0.96	0.58	ug/L		09/04/13 12:03	1
Pyrene	0.096	U	0.19	0.096	0.040	ug/L		09/04/13 12:03	1
1,2,4-Trichlorobenzene	0.48	U	0.96	0.48	0.27	ug/L		09/04/13 12:03	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/04/13 12:03	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/04/13 12:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	75		50 - 110	08/22/13 08:06	09/04/13 12:03	1
2-Fluorophenol (Surr)	73		20 - 110	08/22/13 08:06	09/04/13 12:03	1
Nitrobenzene-d5 (Surr)	81		40 - 110	08/22/13 08:06	09/04/13 12:03	1
Phenol-d5 (Surr)	78		10 - 115	08/22/13 08:06	09/04/13 12:03	1
Terphenyl-d14 (Surr)	99		50 - 135	08/22/13 08:06	09/04/13 12:03	1
2,4,6-Tribromophenol (Surr)	101		40 - 125	08/22/13 08:06	09/04/13 12:03	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 17:16	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 17:16	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 17:16	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 17:16	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 17:16	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 17:16	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 17:16	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 17:16	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 17:16	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 17:16	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 17:16	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:16	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:16	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:16	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 17:16	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 17:16	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 17:16	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 17:16	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 17:16	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 17:16	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	82		30 - 135	08/22/13 07:53	09/11/13 17:16	1
DCB Decachlorobiphenyl	95		30 - 135	08/22/13 07:53	09/11/13 17:16	1
Tetrachloro-m-xylene	79		25 - 140	08/22/13 07:53	09/11/13 17:16	1
Tetrachloro-m-xylene	87		25 - 140	08/22/13 07:53	09/11/13 17:16	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGRQLmw-010C-0325-GW

Lab Sample ID: 240-28145-53

Date Collected: 08/19/13 15:34

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 13:30	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 13:30	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 13:30	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 13:30	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 13:30	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 13:30	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 13:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	62		40 - 140	08/30/13 08:32	09/04/13 13:30	1
Tetrachloro-m-xylene	70		40 - 140	08/30/13 08:32	09/04/13 13:30	1
DCB Decachlorobiphenyl	63		40 - 135	08/30/13 08:32	09/04/13 13:30	1
DCB Decachlorobiphenyl	60		40 - 135	08/30/13 08:32	09/04/13 13:30	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 16:01	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/28/13 03:05	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:05	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:05	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 03:05	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 03:05	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/28/13 03:05	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 03:05	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/28/13 03:05	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 03:05	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:05	1
HMX	0.051	U M	0.15	0.051	0.037	ug/L		08/28/13 03:05	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 03:05	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:05	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:05	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/28/13 03:05	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/28/13 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90		79 - 111	08/23/13 12:56	08/28/13 03:05	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:25	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 15:02	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGRQLmw-010C-0325-GF**

**Lab Sample ID: 240-28145-54**

**Date Collected: 08/19/13 15:34**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.018	J	0.050	0.020	0.0088	ug/L		09/07/13 02:50	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 14:14	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 14:14	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 14:14	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 14:14	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 14:14	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 14:14	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 14:14	1
Barium	5.0	U	200	5.0	2.8	ug/L		09/09/13 14:14	1
Calcium	76000		5000	1000	630	ug/L		09/09/13 14:14	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 14:14	1
Magnesium	35000		5000	300	120	ug/L		09/09/13 14:14	1
Manganese	1300		15	5.0	1.8	ug/L		09/09/13 14:14	1
Nickel	5.4	J	40	5.0	2.2	ug/L		09/09/13 14:14	1
Potassium	2800	J	5000	900	300	ug/L		09/09/13 14:14	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 18:32	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 18:32	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 18:32	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 18:32	1
Iron	100	U	150	100	44	ug/L		09/09/13 18:32	1
Sodium	4000		1000	400	160	ug/L		09/09/13 18:32	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 18:32	1
Zinc	50	U	50	50	27	ug/L		09/09/13 18:32	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:25	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEBGmw-131-0316-GW

Lab Sample ID: 240-28145-55

Date Collected: 08/19/13 17:44

Matrix: Water

Date Received: 08/21/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:56	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:56	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 22:56	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:56	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:56	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:56	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 22:56	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:56	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 22:56	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:56	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 22:56	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:56	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 22:56	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 22:56	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:56	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:56	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:56	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:56	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 22:56	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 22:56	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:56	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 22:56	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 22:56	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:56	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 22:56	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 22:56	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 22:56	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 22:56	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 22:56	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 22:56	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 22:56	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 22:56	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 22:56	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:56	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 22:56	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 22:56	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 22:56	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 22:56	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 120		08/29/13 22:56	1
4-Bromofluorobenzene (Surr)	91		75 - 120		08/29/13 22:56	1
Toluene-d8 (Surr)	96		85 - 120		08/29/13 22:56	1
Dibromofluoromethane (Surr)	90		85 - 115		08/29/13 22:56	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/04/13 12:28	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/04/13 12:28	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEBGmw-131-0316-GW

Lab Sample ID: 240-28145-55

Date Collected: 08/19/13 17:44

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/04/13 12:28	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/04/13 12:28	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/04/13 12:28	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/04/13 12:28	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/04/13 12:28	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/04/13 12:28	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/04/13 12:28	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/04/13 12:28	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/04/13 12:28	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/04/13 12:28	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.38</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/04/13 12:28	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 12:28	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/04/13 12:28	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/04/13 12:28	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 12:28	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 12:28	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/04/13 12:28	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/04/13 12:28	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/04/13 12:28	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/04/13 12:28	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/04/13 12:28	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/04/13 12:28	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/04/13 12:28	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/04/13 12:28	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/04/13 12:28	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/04/13 12:28	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/04/13 12:28	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/04/13 12:28	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/04/13 12:28	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/04/13 12:28	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		09/04/13 12:28	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/04/13 12:28	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/04/13 12:28	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/04/13 12:28	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/04/13 12:28	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/04/13 12:28	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/04/13 12:28	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/04/13 12:28	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/04/13 12:28	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/04/13 12:28	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/04/13 12:28	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/04/13 12:28	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/04/13 12:28	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/04/13 12:28	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/04/13 12:28	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/04/13 12:28	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/04/13 12:28	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 12:28	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/04/13 12:28	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEBGmw-131-0316-GW

Lab Sample ID: 240-28145-55

Date Collected: 08/19/13 17:44

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/04/13 12:28	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/04/13 12:28	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/04/13 12:28	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/04/13 12:28	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/04/13 12:28	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/04/13 12:28	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/04/13 12:28	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/04/13 12:28	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/04/13 12:28	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/04/13 12:28	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/04/13 12:28	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/04/13 12:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	74		50 - 110	08/22/13 08:06	09/04/13 12:28	1
2-Fluorophenol (Surr)	74		20 - 110	08/22/13 08:06	09/04/13 12:28	1
Nitrobenzene-d5 (Surr)	78		40 - 110	08/22/13 08:06	09/04/13 12:28	1
Phenol-d5 (Surr)	81		10 - 115	08/22/13 08:06	09/04/13 12:28	1
Terphenyl-d14 (Surr)	93		50 - 135	08/22/13 08:06	09/04/13 12:28	1
2,4,6-Tribromophenol (Surr)	97		40 - 125	08/22/13 08:06	09/04/13 12:28	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/11/13 17:37	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/11/13 17:37	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/11/13 17:37	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/11/13 17:37	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/11/13 17:37	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/11/13 17:37	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/11/13 17:37	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/11/13 17:37	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/11/13 17:37	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/11/13 17:37	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 17:37	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:37	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:37	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/11/13 17:37	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/11/13 17:37	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/11/13 17:37	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/11/13 17:37	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/11/13 17:37	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/11/13 17:37	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/11/13 17:37	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/11/13 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	57		30 - 135	08/22/13 07:53	09/11/13 17:37	1
DCB Decachlorobiphenyl	70		30 - 135	08/22/13 07:53	09/11/13 17:37	1
Tetrachloro-m-xylene	76		25 - 140	08/22/13 07:53	09/11/13 17:37	1
Tetrachloro-m-xylene	84		25 - 140	08/22/13 07:53	09/11/13 17:37	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

Client Sample ID: FWGEBGmw-131-0316-GW

Lab Sample ID: 240-28145-55

Date Collected: 08/19/13 17:44

Matrix: Water

Date Received: 08/21/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:14	1
Aroclor-1221	0.19	U H	0.48	0.19	0.12	ug/L		09/04/13 14:14	1
Aroclor-1232	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:14	1
Aroclor-1242	0.38	U H	0.48	0.38	0.21	ug/L		09/04/13 14:14	1
Aroclor-1248	0.19	U H	0.48	0.19	0.095	ug/L		09/04/13 14:14	1
Aroclor-1254	0.19	U H	0.48	0.19	0.15	ug/L		09/04/13 14:14	1
Aroclor-1260	0.19	U H Q	0.48	0.19	0.16	ug/L		09/04/13 14:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		40 - 140	08/30/13 08:32	09/04/13 14:14	1
Tetrachloro-m-xylene	74		40 - 140	08/30/13 08:32	09/04/13 14:14	1
DCB Decachlorobiphenyl	64		40 - 135	08/30/13 08:32	09/04/13 14:14	1
DCB Decachlorobiphenyl	64		40 - 135	08/30/13 08:32	09/04/13 14:14	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/26/13 16:19	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/28/13 03:48	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:48	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:48	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 03:48	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/28/13 03:48	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/28/13 03:48	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 03:48	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/28/13 03:48	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/28/13 03:48	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:48	1
HMX	0.051	U M	0.15	0.051	0.037	ug/L		08/28/13 03:48	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/28/13 03:48	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:48	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/28/13 03:48	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/28/13 03:48	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/28/13 03:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	87		79 - 111	08/23/13 12:56	08/28/13 03:48	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:25	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/05/13 15:04	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28145-1

**Client Sample ID: FWGEBGmw-131-0316-GF**

**Lab Sample ID: 240-28145-56**

**Date Collected: 08/19/13 17:44**

**Matrix: Water**

**Date Received: 08/21/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 14:20	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 14:20	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 14:20	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 14:20	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 14:20	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 14:20	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 14:20	1
<b>Barium</b>	<b>110</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 14:20	1
<b>Calcium</b>	<b>72000</b>		5000	1000	630	ug/L		09/09/13 14:20	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 14:20	1
<b>Magnesium</b>	<b>29000</b>		5000	300	120	ug/L		09/09/13 14:20	1
<b>Manganese</b>	<b>150</b>		15	5.0	1.8	ug/L		09/09/13 14:20	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 14:20	1
<b>Potassium</b>	<b>1400</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 14:20	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 18:39	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 18:39	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 18:39	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 18:39	1
<b>Iron</b>	<b>730</b>		150	100	44	ug/L		09/09/13 18:39	1
<b>Sodium</b>	<b>2900</b>		1000	400	160	ug/L		09/09/13 18:39	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 18:39	1
Zinc	50	U	50	50	27	ug/L		09/09/13 18:39	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/23/13 14:27	1

TestAmerica Canton



# Shipping and Receiving Documents



# TestAmerica Canton

4101 Shuffel Street, N. H.

North Canton, OH 44720

Phone: 330.497.9396 Fax: 330.497.0772



240-28145 Chain of Custody

## Chain of Custody Record

☐ RCRA ☐ Other:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Client Contact		Project Manager: John Miller		Site Contact: Erik Corbin		Date: 8/26/13		COC No: 58202013			
Company Name: EOM		Tel/Fax: 513 825 7500		Lab Contact: Mark Lorb		Carrier: 105 Pickup		1 of 2 COCs			
Address: 1800 Carillon Blvd		Analysis Turnaround Time		Filtered Sample (Y/N) Perform MS/MSD (Y/N) VOC 8200 SVOC 8270 PCB 8081 PAH 8330 Pesticides NO <sub>2</sub> /NO <sub>x</sub> Metals 4810/6020 SVOC 8270 Perchlorate PCB Cyanide		Sampler:		For Lab Use Only:			
City/State/Zip: Cincinnati OH 45240		<input checked="" type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS				Walk-in Client:		Lab Sampling:			
Phone: 513 825 7500		TAT if different from Below 21				Job / SDG No.:					
Fax: 513 825 7495		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day									
Project Name: RVAAP 100 (OH)		Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)			
Site: 30174.001W.001.10.1		# of Cont.		Matrix		Cooler ID#		Sample Specific Notes:			
PO#											
FWGTAm1-Trip		8/20/13 8:00		G GW		11		12009			
FWGLL12mw-187C-0303-GW		8/20/13 9:35		G GW		11		12009			
FWGLL12mw-187C-0303-GF		8/20/13 9:35		G GW		1		12009			
FWGLL12mw-242C-0304-GW		8/20/13 11:11		G GW		11		176			
FWGLL12mw-242C-0304-GF		8/20/13 11:11		G GW		1		176			
FWGLL12mw-247-0330-GW		8/20/13 13:01		G GW		11		TS17			
FWGLL12mw-247-0330-GF		8/20/13 13:01		G GW		1		TS17			
FWGLL12mw-DUP3-0338-GW		8/20/13 13:41		G GW		11		330			
FWGLL12mw-DUP3-0338-GF		8/20/13 13:41		G GW		1		330			
FWGDETMw-002C-0315-GW		8/20/13 15:11		G GW		13		STL1			
FWGDETMw-002C-0315-GF		8/20/13 15:11		G GW		2		STL1			
FWGDA2mw-114-0312-GW		8/20/13 17:05		G GW		13		M23			
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other											
Possible Hazard Identification:					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.											
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months						
Special Instructions/QC Requirements & Comments:											
All VOAs in Cooler #12009 perchlorates, metals, hex, chrom are field filtered Temps may not meet requirements if collected close to lab pickup time											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp (C):		Obs'd:		Therm ID No.:			
Relinquished by: [Signature]		Company: EOM		Date/Time: 8/20/13 18:00		Received by: [Signature]		Company: TAL-ACC			
Relinquished by: [Signature]		Company: TAL-ACC		Date/Time: 8-20-13 1940		Received by: [Signature]		Company: TA			
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:			



## Chain of Custody Record

<b>Client Contact</b> Company Name: Eom Address: 1800 Carillon Blvd City/State/Zip: Cincinnati OH 45240 Phone: 513 825 7500 Fax: 513 825 7495 Project Name: KIAAP (04) Site: 30174.0010.001.10.1 P O #		<b>Project Manager:</b> John Miller Tel/Fax: 513 825 7500 <b>Analysis Turnaround Time</b> <input checked="" type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <u>21</u> <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<b>Site Contact:</b> Erik Lab Contact: Mark Loeb Date: 8/20/13 Carrier: Lab Pickup COC No: SR8202013 2 of 2 COCs Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: cooler 10# Sample Specific Notes: m23	
<b>Sample Identification</b> Sample Date: 8/20/13 Sample Time: 17:05 Sample Type (C=Comp, G=Grab): G Matrix: GW # of Cont.: 1		Filtered Sample (Y/N): Y Perform MS / MSD (Y/N): N VOC: 8260 SVOC: 8270 PCB: 8081 PCB: 8260 Explo: 8260 Prop: 8260 Cyanide: 8260 Metals: 8260		X	
FWGDA2mw-114-0312-GF		8/20/13 17:05 G GW 1 Y N		X	
SR 8/20/13					
Preservation Used: 1= Ice, 2= HCL, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other		Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months	
Special Instructions/QC Requirements & Comments: All VOAs in cooler #12009 perchlorates, metals, hex chrom. are field filtered Temps may not meet requirements if collected close to lab pickup time		Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____		Relinquished by: Simon P. [Signature] Relinquished by: [Signature] Relinquished by: [Signature]	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Company: EQ Date/Time: 8/20/13 15:00		Company: TA-SC Date/Time: 8/20/13 19:10		Received by: RC [Signature] Company: TA Date/Time: 8/20/13 07:00	
Received by: [Signature] Company: [Signature]		Received in Laboratory by: [Signature]		Company: [Signature]	



Client Contact		Company Name: <u>EQM</u>		Client Project Manager: <u>John Miller</u>		Site Contact: <u>E. Corbin</u>		Lab Contact: <u>M. Loeb</u>		COC No: <u>043254</u>	
Address: <u>1800 CARILLON BLVD</u>		Telephone: _____		Telephone: <u>513 825 7500</u>		Telephone: <u>330 497 9396</u>		1 of 2 COCs pg. 2 of 000473			
City/State/Zip: <u>CINCINNATI OH 45240</u>		Email: <u>ecorbin@eqm.com</u>		Analysis Turnaround Time (in BUS days) <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Analyses		For lab use only			
Phone: <u>513 825 7500 FAX 7495</u>		Method of Shipment/Carrier: <u>LAB PICKUP</u>		TAT if different from below _____		Walk-in client <input type="checkbox"/> Lab pickup <input type="checkbox"/> Lab sampling <input type="checkbox"/>		Job/SDG No: <u>Cooler 10 #1</u>			
Project Name: <u>RVAAP66</u>		Shipping/Tracking No: _____				Filtered Sample (Y/N) Composite C / Grab-G		SUOC 8270 Residues Explo 8330 Propellants PCB SUOC 4-RCRA 8270 VOC 8260 Cyanide 9012 Metals 000000-1470		Sample Specific Notes / Special Instructions:	
Project Number: <u>3074.0016.01.10.1</u>											
PO #											
Sample Identification		Sample Date		Sample Time		Matrix		Containers & Preservatives			
						Air Aqueous Sediment Solid Other:		H2SO4 HNO3 HCl NaOH ZnAc/NaOH Unpres Other:			
FWG U1mw-0876-0356-GW		8/20/13		0928		X		7		404	
FWG U1mw-0876-0356-GF		↓		↓		X		1		404	
FWG SCFmw-002-0327-GW		8/20/13		1208		X		7		002	
FWG SCFmw-002-0327-GF		↓		↓		X		1		002	
FWG SCFmw-004-0372-GW		8/20/13		1048		X		7		pH12	
FWG SCFmw-004-0372-GF		↓		↓		X		1		pH12	
FWG SCFmw-DUP6-0378-GW		8/20/13		1302		X		7		001	
FWG SCFmw-DUP6-0378-GF		↓		↓		X		1		001	
FWG DAZmw-115-0313-GW		8/20/13		1458		X		3 1 9		S1	
FWG DAZmw-115-0313-GF		↓		↓		X		1		S1	
Possible Hazard Identification		Non-Hazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return to Client <input type="checkbox"/> Disposal By Lab <input checked="" type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements & Comments:											
Metals were field filtered											
Relinquished by: <u>[Signature]</u>		Company: <u>EQM</u>		Date/Time: <u>8/20/2013 18:00</u>		Received by: <u>TC</u>		Company: <u>TAHCC</u>		Date/Time: <u>8/20/13-1830</u>	
Relinquished by: <u>IR = [Signature]</u>		Company: <u>TAHCC</u>		Date/Time: <u>8/20-13-1940</u>		Received by: <u>Derry Burns</u>		Company: <u>TA</u>		Date/Time: <u>8/21/13 0700</u>	
Relinquished by: _____		Company: _____		Date/Time: _____		Received in Laboratory by: _____		Company: _____		Date/Time: _____	



# Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0408)

Client <b>EQM</b>			Project Manager <b>John Miller</b>			Date <b>8/20/13</b>			Chain of Custody Number <b>000473</b>		
Address <b>1800 Conner Blvd</b>			Telephone Number (Area Code)/Fax Number <b>513 825 7500</b>			Lab Number <b>330 497 9396</b>			Page <b>1</b> of <b>2</b>		
City <b>Cincinnati OH</b>	State <b>OH</b>	Zip Code <b>45240</b>	Site Contact <b>E. Corbin</b>			Lab Contact			Analysis (Attach list if more space is needed)		
Project Name and Location (State) <b>RVAAP 66 Ravenna Ohio</b>			Carrier/Waybill Number <b>Lab Pickup</b>								
Contract/Purchase Order/Quote No. <b>30174.0016.01.10.1</b>											

Contract/Purchase Order/Quote No. 30174.0016.01.10.1			Matrix				Containers & Preservatives								Conditions of Receipt									
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	VOC B2	SVOC B2	PCB B2	Pesticid	APLO B2	Repellants	Perchlorat	Cyanide	NO2 NO3	Metals		
FWG <del>EQUIP</del> Team 2 - Trip	8/20/13	0800		X						2			2										S1	
FWG EQUIP Rinse 2 - 0341 - GW	8/20/13	1342		X			10	1	1	3	1		3	2	2	2	X	2	1	1	1		1	04/11
FWG DAZmw - DUP1 - 0336 - GW	8/20/13	1608					5				Cell Sh		X	2	X	X	1	2						220
FWG DAZmw - DUP1 - 0336 - GF	1	1							1													1	220	

Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown			Sample Disposal <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			(A fee may be assessed if samples are retained longer than 1 month)		
Turn Around Time Required <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days <input checked="" type="checkbox"/> Other <b>Per SOW</b>			QC Requirements (Specify) <b>Metals were field filtered except EQUIP Rinse</b>					
1. Relinquished By <b>Gert Corbin EQ</b>	Date <b>8/20/13</b>	Time <b>1830</b>	1. Received By <b>TC</b>	Date <b>8-20-13</b>	Time <b>1940</b>	2. Received By <b>Darryl Burns</b>	Date <b>8-20-13</b>	Time <b>0700</b>
2. Relinquished By <b>FCORIN</b>	Date <b>8-20-13</b>	Time <b>1940</b>	3. Received By	Date	Time			
3. Relinquished By	Date	Time						

Comments  
**An VOA in cooler S1**

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



## Chain of Custody Record

TestAmerica

TestAmerica Laboratory location:

North Canton

Regulatory program:

☐ DW☐ NPDES☐ RCRA☐ Other

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Page 1 of 2 COC = 518036

Client Contact		Client Project Manager:		Site Contact:		Lab Contact:		COC No:											
Company Name: EQM		Sohn Miller		Eric Corbin		Mark Loeb		A0082013											
Address: 1800 Pavilion Blvd		Telephone: 513-825-7500		Telephone: Same		Telephone:		1 of 2 COCs											
City/State/Zip: Cincinnati, Ohio 45240		Email: ecorbin@eqm.com		TAT if different from below		Analysis:													
Phone: 513-825-7500				<input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		VOC 8060 SVOC 4 8270 SVOC 1 8270 Pest 8081 PCB 8082 Explosive/Propellant Cyanide Metals NO <sub>2</sub> /NO <sub>3</sub> Pesticide													
Project Name: RHAAP 66 (OH)		Method of Shipment/Carrier: Lab Pick Up																	
Project Number: 030174-0016-001.10.1		Shipping/Tracking No: N/A																	
PO #																			
Sample Identification		Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	NiOH	Unpres	Other:	Sample Specific Notes / Special Instructions:		
FUG TEAM 3 - TRIP	08/20/13	0800	X								2								
FUG L12 MW-245C-03105-GW	1	0956	X								3						MS/MSD SVOC Explo/Prop-Nitrate Nitrate + Metals only		
FUG L12 MW-245C-03105-GF		↓	X																
FUG L12 MW-185C-03102-GW		1139	X																
FUG L12 MW-185C-03102-GF		1139	X								1								
FUG L13 MW-244-0323-GW		1229	X									8							
FUG L13 MW-244-0323-GF		1229	X								1								
FUG DET MW-001C-0314-GW		1456	X								3		9						
FUG DET MW-001C-0314-GF		1456	X								1		1						
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)															
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown				<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months															
Special Instructions/OC Requirements & Comments:																			
All Vials in cooler A-1				Temps may not meet req. if collected near pickup time.															
Metals & per. field filtered																			
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:		Received by:		Company:		Date/Time:			
[Signature]		EQM		8/20/13 1830		[Signature]		TAL-NC		8/20/13-1830		[Signature]		TA		8/21/13 0700			
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:		Date/Time:									
[Signature]		TAL-NC		8/20/13-1830		[Signature]													



North Canton

**Regulatory program:**

☐ DW

☐ NPDES☐ RCRA

Other

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

COC No. 56036

2 of 2 COCs

For lab use only

Walk-in client	
----------------	--

## Lab pickup

### Lab sampling

Job/SDG No:

**Sample Specific Notes /  
Special Instructions:**

Page 4576 of 4586

### 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

\_\_\_\_ Months

Special Instructions/QC Requirements &amp; Comments:

Relinquished by                     

Compos

Date/Time:

Received by:

Company
---------

Date/Time:

Relinquished by:

Company:

Date/Time:

Received by:

Company
---------

Date/Time:

Relinquished by:

Company:

Date/Time:

Received in Laboratory by:

	Company
--	---------

Date/Time:



## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: CANTON, OHRegulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other \_\_\_\_\_

TestAmerica Laboratories, Inc.

Client Contact		Client Project Manager:		Site Contact:		Lab Contact:		COC No:																			
Company Name: <u>ERM</u>		Client Project Manager: <u>JOHN MILLER</u>		Site Contact: <u>ERIK CORBIN</u>		Lab Contact: <u>MARK LOEB</u>		COC No: <u>ER 082013</u>																			
Address: <u>1800 CARILLON BLVD.</u>		Telephone: <u>(513) 825-7500</u>		Telephone: <u>SAME</u>		Telephone: <u>(930) 497-9396</u>		1 of 2 COCs																			
City/State/Zip: <u>CINCINNATI, OH 45240</u>		Email: <u>ECORBIN@ERM.COM</u>		TAT if different from below _____		Analyses																					
Phone: <u>(513) 825-7500</u>				<input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<u>8260</u> <u>8270</u> <u>8281</u> <u>8282</u> <u>8330</u> <u>PROPPELLANTS</u> <u>CHARGE</u> <u>6010/6030</u> <u>7470</u> <u>PERCHLORATES</u>																					
Project Name: <u>RUAAP 66 (OH)</u>		Method of Shipment/Carrier: <u>LAB PICKUP</u>		PER SOW																							
Project Number: <u>03474.0016.001.10.1</u>		Shipping/Tracking No: <u>N/A</u>																									
P O #																											
Sample Identification		Sample Date	Sample Time	Alk	Aqueous	Sediment	Solid	Other:	H2SO4	INO3	HCl	NaOH	ZnAc	NaOH	Unpres	Other:	Vol	SUOC	PEST	PEB	EXPLO	PROPPELLANTS	CHARGE	6010/6030	7470	PERCHLORATES	Sample Specific Notes / Special Instructions: <u>COOLER 10 #</u>
<u>FUNGTEAM 4-TRIP</u>	<u>08/20/13</u>	<u>08:00</u>	<u>X</u>								<u>2</u>						<u>NG</u>	<u>X</u>									<u>A505</u>
<u>FUNGBK6MW-010C-0311-6F</u>	<u>08/20/13</u>	<u>09:34</u>	<u>X</u>										<u>3</u>				<u>YG</u>							<u>X</u>			<u>A505</u>
<u>FUNGB12MW-013-0313-6W</u>	<u>08/20/13</u>	<u>10:30</u>	<u>X</u>										<u>4</u>				<u>NG</u>		<u>X</u>	<u>X</u>							<u>A505</u>
<u>FUN6FUN6MW-011-0348-6W</u>	<u>08/20/13</u>	<u>11:50</u>	<u>X</u>										<u>5</u>				<u>NG</u>	<u>X</u>			<u>X</u>	<u>X</u>					<u>SR3</u>
<u>FUN6FUN6MW-011-0348-6F</u>	<u>08/20/13</u>	<u>11:50</u>	<u>X</u>							<u>1</u>							<u>YG</u>						<u>X</u>				<u>SR3</u>
<u>FUN6FUN6MW-012-0349-6W</u>	<u>08/20/13</u>	<u>12:54</u>	<u>X</u>										<u>5</u>				<u>NG</u>	<u>X</u>			<u>X</u>	<u>X</u>					<u>EC1</u>
<u>FUN6FUN6MW-012-0349-6F</u>	<u>08/20/13</u>	<u>12:54</u>	<u>X</u>							<u>1</u>							<u>YG</u>						<u>X</u>				<u>EC1</u>
<u>FUN6LLL10MW-003C-0361-6W</u>	<u>08/20/13</u>		<u>X</u>								<u>3</u>						<u>NG</u>	<u>X</u>									<u>A505</u>
<u>FUN6LLL10MW-003C-0361-6F</u>	<u>08/20/13</u>		<u>X</u>										<u>1</u>				<u>YG</u>						<u>X</u>				<u>A505</u>
<u>FUN6LLL1MW-084C-0352-6W</u>	<u>08/20/13</u>	<u>16:04</u>	<u>X</u>										<u>7</u>				<u>NG</u>	<u>X</u>	<u>X</u>		<u>X</u>	<u>X</u>					<u>E21</u>
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																							
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown				<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																							
Special Instructions/QC Requirements & Comments:																											
<u>ALL METALS, PERCHLORATE SAMPLES ARE FIELD FILTERED</u> <u>TEMPS MAY NOT MEET REQUIREMENTS IF SAMPLE COLLECTION IS CLOSE TO LAB PICKUP TIME.</u>																											
Relinquished by:				Company:				Date/Time:				Received by:				Company:				Date/Time:							
<u>[Signature]</u>				<u>ERM</u>				<u>08/20/2013 18:00H</u>				<u>TC</u>				<u>TAL-XC</u>				<u>8/20/13 1830</u>							
Relinquished by:				Company:				Date/Time:				Received by:				Company:				Date/Time:							
<u>RE (1200)</u>				<u>TAL-XC</u>				<u>8-20-13 1940</u>				<u>Avery Burns</u>				<u>TA</u>				<u>8/21/13 0700</u>							
Relinquished by:				Company:				Date/Time:				Received in Laboratory By:				Company:				Date/Time:							



## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: CANTON, OH

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact		Regulatory Program:		Other:		TestAmerica Laboratories, Inc.	
Company Name: <b>EAM</b>	Client Project Manager: <b>JOHN MILLER</b>	Site Contact: <b>ERIK CURBIN</b>	Lab Contact: <b>MARK LOEB</b>	COC No: <b>PER 08 2013</b>			
Address: <b>1800 CARILLON BLVD.</b>	Telephone: <b>(513) 825-7500</b>	Telephone: <b>SAME</b>	Telephone: <b>(330) 497-9396</b>	<b>2</b> of <b>2</b> COCs			
City/State/Zip: <b>CINCINNATI, OH 45240</b>	Email: <b>ECURBIN@EAM.COM</b>	TAT if different from below _____ <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Analyses		Sample Specific Notes / Special Instructions: <b>COOLER 10#</b>	
Phone: <b>(513) 825-7500</b>							
Project Name: <b>RUAAP 66 (OH)</b>	Method of Shipment/Carrier: <b>LAB PICKUP</b>						
Project Number: <b>030174.0016.001.10.1</b>	Shipping/Tracking No: <b>N/A</b>						
P O #							
Sample Identification	Sample Date	Sample Time	Air Aqueous Sediment Solid Other:	H2SO4 HNO3 HCl NaOH ZnAc/ NaOH Unpres Other:	METALS 5010/6020 7470		
<b>FU6LL1MW-064C-0352-6F</b>	<b>08/20/13</b>	<b>16:04</b>	<b>X</b>		<b>1</b>	<b>46X</b>	<b>E21</b>
<div>Possible Hazard Identification</div> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							
<div>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</div> <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Special Instructions/QC Requirements & Comments: <b>ALL METALS, PERCHLORATE SAMPLES ARE FIELD FILTERED</b> <b>ALL UOA'S IN COOLER A505</b> <b>TEMPS MAY NOT MEET REQUIREMENTS IF SAMPLE COLLECTION IS CLOSE TO LAB PICKUP TIME.</b>							
Relinquished by: <b>[Signature]</b>	Company: <b>EAM</b>	Date/Time: <b>08/20/2013 18:00</b>	Received by: <b>TC [Signature]</b>	Company: <b>TAL-XC</b>	Date/Time: <b>8-20-13 18:00</b>		
Relinquished by: <b>TC [Signature]</b>	Company: <b>TAL-XC</b>	Date/Time: <b>8-20-13.1940</b>	Received by: <b>[Signature]</b>	Company: <b>TA</b>	Date/Time: <b>8/21/13 07:00</b>		
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:		



## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: CANTON, OH

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact		Client Project Manager:		Site Contact:		Lab Contact:		TestAmerica Laboratories, Inc.							
Company Name: <b>EQM</b>		Client Project Manager: <b>JOHN MILLER</b>		Site Contact: <b>ERIK CORBIN</b>		Lab Contact: <b>MARK WEB</b>		COE # <b>081913</b>							
Address: <b>1800 CARILLON BLVD</b>		Telephone: <b>(513) 825-7500</b>		Telephone: <b>SAME</b>		Telephone: <b>(320) 497-9396</b>		1 of 1 COCs							
City/State/Zip: <b>CINCINNATI, OH 45240</b>		Email: <b>ECORBIN@EQM.COM</b>		Analysis Turnaround Time TAT if different from below _____ <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Analyses VOC 8260 SVOC 4 8270 PEST 8081 PCB 8082 EXPLO 8530 PESTELLANTS CYANIDE 9012 METALS 6010/6020 7470 PERCHLORATES									
Phone: <b>(513) 825-7500</b>															
Project Name: <b>RVAAP66 (OH)</b>		Method of Shipment/Carrier: <b>LAB PICKUP</b>													
Project Number: <b>030174.0016.001.10.1</b>		Shipping/Tracking No: <b>N/A</b>													
PO #															
Sample Identification	Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:	H2SO4	INO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Sample Specific Notes / Special Instructions:
<b>FWG TEAM 4-TRIP</b>	<b>08/19/13</b>	<b>11:00</b>	<input checked="" type="checkbox"/>							<b>2</b>					<b>15</b>
<b>FWG RQL MW-007C-0369-6W</b>	<b>08/19/13</b>	<b>13:24</b>	<input checked="" type="checkbox"/>							<b>3</b>	<b>1</b>	<b>9</b>			<b>15</b>
<b>FWG RQL MW-007C-0369-6F</b>	<b>1</b>	<b>1</b>	<input checked="" type="checkbox"/>							<b>1</b>					<b>15</b>
<b>FWG RQL MW-010C-0325-6W</b>	<b>08/19/13</b>	<b>15:34</b>	<input checked="" type="checkbox"/>							<b>3</b>	<b>1</b>	<b>9</b>			<b>577</b>
<b>FWG RQL MW-010C-0325-6F</b>	<b>1</b>	<b>1</b>	<input checked="" type="checkbox"/>							<b>1</b>		<b>1</b>			<b>577</b>
<b>FWG EBG MW-131-0316-6W</b>	<b>08/19/13</b>	<b>17:44</b>	<input checked="" type="checkbox"/>							<b>3</b>	<b>1</b>	<b>9</b>			<b>M12</b>
<b>FWG EBG MW-131-0316-6F</b>	<b>1</b>	<b>1</b>	<input checked="" type="checkbox"/>							<b>1</b>					<b>M12</b>
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months															
Special Instructions/QC Requirements & Comments: <b>ALL METALS, PERCHLORATE SAMPLES ARE FIELD FILTERED. ALL VOA'S IN COOLER 15</b> <b>TEMPS MAY NOT MEET REQUIREMENTS IF SAMPLE COLLECTION IS CLOSE TO LAB PICKUP TIME</b>															
Relinquished by: <b>PC</b>	Company: <b>EQM</b>	Date/Time: <b>08/19/2013 10:00</b>	Received by: <b>PC</b>		Company: <b>IAL-RC</b>		Date/Time: <b>8-20-13 18:20</b>								
Relinquished by: <b>PC</b>	Company: <b>IAL-RC</b>	Date/Time: <b>8-20-13-1940</b>	Received by: <b>Denny Burren</b>		Company: <b>TR</b>		Date/Time: <b>8/21/13 07:00</b>								
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Company:		Date/Time:								



Login # : 28145

Cooler unpacked by:

COOLANT: Wet Ice Blue Ice Dry Ice Water None

- IR GUN# 8 (CF -0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

☒ See Multiple Cooler Form

- Were custody seals on the bottle(s)? Yes ☒ No ☐

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

7. Could all bottle labels be reconciled with the COC? Yes No

13. Was a trip blank present in the cooler(s)? ☒ Yes ☐ No

Concerning

Samples processed by:

DAG / TL S

Sample(s)	were received with bubble >6 mm in diameter. (Notify PM)
-----------	----------------------------------------------------------

Time preserved: 8:25 Preservative(s) added/Lot number(s): 1113020



C:\Users\livengoodc\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLKID16\WI-NC-099-031813 Cooler Receipt  
Form\_page 2 - Multiple Coolers.doc  
Revision 3, 3/18/13'



## **Appendix I**



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28145 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1,
3. Were holding times met?	X				QAPP Table 5-1, J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1,
5. Were all QAPP addendum-specified target analytes reported?	X				QAPP Table 4-5
6. Was the GC/MS system tuned with bromofluorobenzene (BFB) during each 12 hour shift (prior to ICAL and Cal Ver.)?	X				QSM Table F-4
7. Calibration					
7a. Did the initial calibration curve consist of 5 concentration levels?	X			Instrument A3UX15-8/22/13, A3UX9 8/28/13	QSM Table F-4 R
7b. Did the Calibration Check Compounds (CCCs) (see Table 1 below) relative standard deviations (%RSD) $\leq$ 30%?	X				QSM Table F-4 R
7c. Were the minimum response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) met?	X				QSM Table F-4
7d. Did target analytes with an average calibration type have an RSD $\leq$ 15%?	X				QSM Table F-4 15% <RSD< 20% = J/UJ
7e. IF the RSD was >15% was a different calibration option used?	X				
7f. If a linear regression curve was used, was the correlation coefficient $r>0.995$ ?	X			A3UX15-Acetone and methylene chloride used a linear fit with $r>0.995$ . A3UX9-Acetone, 2-butanone and methylene chloride used a linear fit with $r>0.995$ .	QSM Table F-4 R<0.99=-J/R
7g. If a non-linear regression was used, was the COD $r\geq 0.99$ , with a minimum of 6 points for second order and 7 points for third order?			X		QSM Table F-4 R<0.99=-J/R
8. Was a LOD Level Verification performed quarterly for each reported analyte with detected results?	X				QSM Table F-4 and section D.1.2.1



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28145 Rev1

**Analysis:** SW846 8260B

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>Qual/Criteria</b>
9. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours?	<b>X</b>				
10. Were the QC/MRL recoveries 70-130%	<b>X</b>			The opening MRL analyzed 8/28/13 @ 1140 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 145%. The closing MRL analyzed at 2119 recovered above control limits of 70-130% for chloroethane at 132% and methylene chloride at 160%. The methylene chloride result for sample FWGTEAM1-Trip was qualified, "J". No additional qualifications were required for cis-1,3-dichloropropene or chloroethane as there were no detected concentrations of these analytes reported for the bracketed field samples. The opening MRL analyzed 8/29/13 @ 1836 recovered above control limits of 70-130% for toluene at 142% and trichloroethene at 143%. No qualifications were required as there were no detected toluene or trichloroethene concentrations reported for the bracketed field samples.	Louisville Supplement to the DOD QSM
11. Was a second source verification (ICV) analyzed? Were results 80-120%?	<b>X</b>			A3UX15-8/22/13@ 2329, A3UX9 8/28/13 @2034	QSM Table F-4 J=<80% and >120%
12. Was a CCV run daily prior to analysis and every 12 hours of analysis time?	<b>X</b>			A3UX15-8/22/13@ 1031,8/28/13 @1031 A3UX9 8/29/13 @1723	QSM Table F-4
12a. Were the average response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) met?	<b>X</b>				QSM Table F-4
12b. Were all target analytes $\leq$ 20%D?	<b>X</b>			The CCV analyzed 8/28/13 @ 1031 had a %D above control limits of 20% for acetone at 23.2% and 4-methyl-2-pentanone at 21.4%. The acetone result for sample FWGEQUIPRINSE2-0341-GW was qualified as estimated, "J". No qualifications were made for the 4-methyl-2-pentanone outlier as there were no detected 4-methyl-2-pentanone concentrations reported for the bracketed field samples.	QSM Table F-4 %D <20% = J/UJ
13. Were the internal standards added to every sample?	<b>X</b>				QSM Table F-4
13a. Was the EICP area between -50% and +100% of the ICAL mid-point standard?	<b>X</b>				QSM Table F-4 R
13b. Were the retention times for all IS compounds within $\pm$ 30 seconds from the RT of the mid-point standard in the ICAL?	<b>X</b>				QSM Table F-4 J/UJ



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28145 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
14. Were the retention times for target analytes within $\pm 0.06$ RRT units from the RT of the mid-point standard in the ICAL or the most recently updated RRT for all samples?	X				QSM Table F-4 J
15. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-4
15a. Were target analytes detected in the method blank $>1/2$ the MRL $>RL$ for common contaminants?	X			Checked by ADR. Toluene was detected at 0.164 $\mu$ g/L in the method blank from batch 240-99628. No qualifications were required as there were no detected toluene concentrations reported for the associated field samples.	QSM Table F-4 $<5/10X = B$
16. Was a field blank (equipment and/or trip) collected and analyzed?	X				
16a. Were target analytes detected in the field blanks?	X			Checked by ADR. Methylene chloride was detected in FWGTEAM1-TRIP at 0.33 $\mu$ g/L, in FWGTEAM2-TRIP at 0.59 $\mu$ g/L, in FWGTEAM3-TRIP at 0.45 $\mu$ g/L, FWGTeam4-Trip (collected 8/19/13) at 0.61 $\mu$ g/L and FWGTeam4-Trip (collected 8/20/13) at 0.52 $\mu$ g/L. FWGEQUIPRINSE1-0340-GW had acetone detected at 19 $\mu$ g/L, carbon disulfide at 0.13 $\mu$ g/L, toluene at 0.14 $\mu$ g/L and 2-butanone at 1.5 $\mu$ g/L. FWGEQUIPRINSE2-0341-GW had acetone detected at 21 $\mu$ g/L, carbon disulfide at 1.3 $\mu$ g/L and 2-butanone at 1.1 $\mu$ g/L. The carbon disulfide result for sample FWGDA2mw-115-0313-GW were qualified, "B" as the detected concentrations were $<5x$ blank contamination. The acetone results for samples FWGRQLmw-007c-0369-GW and FWGRQLmw-010c-0325-GW were qualified, "B" as the detected concentrations were $<10x$ blank contamination. There were no detected 2-butanone or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone or toluene contamination.	QSM Table F-4 $<5/10X = B$
17. Was a LCS prepared and analyzed with each batch?	X				QSM Table F-4
17a. Were the LCS recoveries within limits specified in Table G-5 of the DoD QSM?	X			ADR checked section;	QSM Table F-4, Table G-5, J/UJ
18. Was a MS/MSD prepared with each batch?			X	A matrix spike was not requested on a sample from this laboratory batch so no matrix spike information was provided or evaluated.	QSM Table F-4



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28145 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
18a. Were the MS/MSD recoveries within limits specified in Table G-4 of the DoD QSM with an RPD <30%?			X		QSM Table F-4, Table G-5 J/UJ Parent sample only
19. Was a field duplicate analyzed?	X			A field duplicate was collected and analyzed on sample FWGLL12mw-247-0336-GW.	QSM Table F-4,
19a. Were the field duplicates RPDs within $\pm 30\%$ ?	X			Checked by ADR.	QSM Table F-4, RPD >30=J Parent sample only
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% - 50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:

Table 1- CCCs

Analyte
1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

Table 2- SPCCs

Analyte	Minimum RF
Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 30, 2013

**SDG:** 240-28145-0 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1,
3. Were holding times met?	X				QAPP Table 5-1, J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1,
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-6
6. Was the GC/MS system tuned each 12 hour shift (prior to ICAL and Cal Ver.)?	X				QSM Table F-4
7. Initial Calibration					
7a. Did the initial calibration curve consist of 5 concentration levels?	X			Instrument A4HP9-8/26/13	QSM Table F-4 R
7b. Did the Calibration Check Compounds (CCCs) (see Table 1 below) relative standard deviations (%RSD) $\leq$ 30%?	X				QSM Table F-4 R
7c. Were the minimum response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) $\leq$ 0.050?	X				QSM Table F-4
7d. Were all other target analytes reported with an avg response have an RSD $\leq$ 15%?	X				QSM Table F-4 15% <RSD< 20% = J/UJ
7e. IF the RSD was >15% was a different calibration option used?	X				
7f. If a linear regression curve was used, was the correlation coefficient $r > 0.995$ ?	X				QSM Table F-4 R<0.99=-J/R
7g. If a non-linear regression was used, was the COD $r \geq 0.99$ , with a minimum of 6 points for second order and 7 points for third order?	X			A4HP9 (8/26/13) - Benzoic acid, 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol used a linear fit.	QSM Table F-4 R<0.99=-J/R
8. Was a LOD Level Verification performed quarterly for each reported analyte?	X				QSM Table F-4 and section D.1.2.1
9. Was a breakdown check run at the beginning of every 12 hours with DDT degradation <20% and tailing factors of benzidine and pentachlorophenol $\leq 2$ ?	X				QSM Table F-4 R



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ September 30, 2013

SDG: 240-28145-0 R0

Analysis: SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
10. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours with recoveries within 70-130%?	X			8/31/13 @ 1155, 2044 The opening and closing MRL checks analyzed 8/31/13 recovered above control limits of 70-130% for 4-nitrophenol at 136% and 138%, respectively. No qualification of the data was required as there were no detected concentrations of 4-nitrophenol reported for the bracket field samples. 9/3/13 @ 0817, 1715 and 9/4/13 @0900, 1812	Louisville Supplement to the DOD QSM
11. Was a second source verification (ICV) analyzed? Were results 80-120%?	X			A4HP9 8/26/13 @ 1509,	QSM Table F-4 J=<80% and >120%
12. Was a CCV run daily prior to analysis and every 12 hours of analysis time?	X			A4HP9 8/31/13 @ 1101, 9/3/13 @ 0727 and 9/4/13 @0808	QSM Table F-4
12a. Were the average response factors (RFs) for the System Performance Check Compounds (SPCCs) $\geq 0.050$ ?	X				QSM Table F-4
12b. Were all target analytes $\leq 20\%D$ ?		X		The CCV analyzed 8/31/13 @1101 had 4-nitrophenol with a %D above control limits of 20% D at 26.6% and 4-nitroaniline above limits at 20.9%. The CCV analyzed 9/3/13 @0727 had 4-nitrophenol with a %D above control limits of 20% D at 31.7%. The CCV analyzed 9/4/13 @0808 had 4-nitrophenol with a %D above control limits of 20% D at 37.1% and 4-nitroaniline above limits at 24.2%. No qualifications were made as there were no detected concentrations of 4-nitrophenol or 4-nitroaniline reported for the associated field samples.	QSM Table F-4 %D <20% = J/UJ
13. Were the internal standards added to every sample?	X				QSM Table F-4
13a. Was the EICP area between -50% and +100% of the ICAL mid-point standard?	X				QSM Table F-4 R
13b. Were the retention times for all IS compounds within $\pm 30$ seconds from the RT of the mid-point standard in the ICAL?	X				QSM Table F-4 J/UJ
14. Were the retention times for target analytes within $\pm 0.06$ RRT units from the RT of the mid-point standard in the ICAL or the most recently updated RRT for all samples?	X				QSM Table F-4 J



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ September 30, 2013

SDG: 240-28145-0 R0

Analysis: SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
15. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-4
15a. Were target analytes detected in the method blank >1/2 the MRL, >RL for common contaminants?	X			Checked by ADR. bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98943 at 0.376µg/L and at 0.601µg/L in the method blank from batch 240-984497. The bis (2-ethylhexyl) phthalate results for samples FWGFWGmw-012-0349-GW, FWGLL12mw-187-0363-GW, FWGLL12mw-242-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified, "B".	QSM Table F-4 <5/10X =B
16. Was a field blank (equipment and/or trip) collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW, FWGEQUIPRINSE2-0341-GW	
16a. Were target analytes detected in the field blank?	X			Checked by ADR. bis (2-Ethylhexyl) phthalate was detected at 0.38µg/L, diethylphthalate at 1.3µg/L and benzyl alcohol at 0.44µg/L in FWGEQUIPRINSE1-0340-GW. bis (2-Ethylhexyl) phthalate was detected at 0.53µg/L, diethylphthalate at 1.4µg/L, phenol at 0.61µg/L and benzyl alcohol at 0.66µg/L in FWGEQUIPRINSE2-0341-GW. The bis (2-ethylhexyl) phthalate results for samples FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDA2mw-DUP1-0336-GW, FWGDETmw-001c-0314-GW, FWGDETmw-002c-0315-GW, FWGDETmw-003c-0343-GW FWGFWGmw-012-0349-GW, FWGLL12mw-187-0363-GW, FWGLL12mw-242-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified, "B". No qualifications were made for the diethylphthalate, phenol or benzyl alcohol contamination as there were no detected 2-butanone, phenol or benzyl alcohol concentrations reported for the associated field samples.	QSM Table F-4 <5/10X =B
17. Was a LCS prepared and analyzed with each batch?	X				QSM Table F-4



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 30, 2013

**SDG:** 240-28145-0 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
17a. Were the LCS recoveries within limits specified in Table G-6 of the DoD QSM?	X			ADR checked section;	QSM Table F-4, Table G-6 J/UJ
18. Was a MS/MSD prepared with each batch?	X			A matrix spike was performed on sample FWGLL12mw-245C- 0365-GW	
18a. Were the MS/MSD recoveries within limits specified in Table G-6 of the DoD QSM with an RPD <30%?	X				QSM Table F-4, Table G-6 J/UJ Parent sample only
19. Was a field duplicate analyzed?	X			A field duplicate was analyzed on sample FWGLL12mw-247-0336-GW, FWGSCFmw-004-0372-GW and FWGDA2mw-115-0313-GW.	
19a. Were the field duplicates RPDs within $\pm 50\%$ ?	X			Checked by ADR.	QSM Table F-4, RPD >50=J Parent sample only detected above LOQ
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% - 50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				

## References:

- DoD Quality Systems Manual (QSM), version 4.1, October 2010
- Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007
- Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012
- Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ September 30, 2013

**SDG:** 240-28145-0 R0

**Analysis:** SW846 8270

Table 1: CCCs (All analytes if CCCs not included in standard)

Base / Neutral Compounds	Acid Compounds
Acenaphthalene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
N-Nitrosodiphehylamine	Phenol
Di-n-octylphthalate	Pentachlorophenol
Fluoroanthene	2,4,6-Trichlorophenol
Benzo(a)pyrene	

Table 2: SPCCs -

N-Nitroso-di-n-propylamine	0.050
Hexachlorocyclopentadiene	0.050
2,4-Dinitrophenol	0.050
4-Nitrophenol	0.050



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / October 1, 2013

**SDG:** 240-28145 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X			Checked by ADR	QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a DDT standard analyzed every 12 hours? Was the DDT %breakdown <15%?	X				QSM Table F-2 >15%=J/R
7. Was an endrin standard analyzed every 12 hours? Was the endrin %breakdown <15%?	X				QSM Table F-2 >15%=J/R
8. Initial Calibration					
8a. Does the initial calibration curve consist of 5 concentration levels?	X			Instrument A2HP3 8/29/13, 8/29/13(tox), A2HP9 9/11/13, 9/11/13 (tox)	QSM Table F-2 R
8a. Were the %RSDs for each analyte $\leq 20\%$ ? OR was the average %RSD $\geq 20\%$ with the $r^2 > 0.990$ ?	X			CLP-1 (8/23/13) Delta-BHC, 4,4'-DDE and 4,4'-DDD used a linear fit. CLP-2 (8/23/13) Delta-BHC used a quadratic fit. The peaks for 4,4'-DDD and Endosulfan II co-eluted on the confirmation column. No qualification of the data was required as there were no detected concentrations of 4,4'-DDD or Endosulfan II reported for the associated field samples.	QSM Table F-2 RSD>20% or $r < 0.99 = J/R$
9. Was a LOD Level Verification performed once per quarter with all target analytes detected?	X				QSM Table F-2 R
10. Was a MRL Verification performed at the beginning and end of the sequence or every 12 hours with results within limits of 70-130%?	X			<ul style="list-style-type: none"> <li>The MRL analyzed on 8/29/13@ 2251 recovered above control limits of 70-130% at 143% on CLP-2 for delta-BHC.</li> <li>The MRL analyzed on 8/30/13@ 0337 recovered above control limits of 70-130% at 149% on CLP-2 for delta-BHC.</li> <li>The closing MRL analyzed on 9/12/13 at 0209 recovered above control limits of 70-130 on CLP-1 and CLP-2 at 135% and 141% for 4,4'-DDE and at 131% and 135% for aldrin.</li> </ul> No qualifications were required as there were no detected concentrations reported for delta-BHC, 4,4'-DDD or aldrin in the bracketed field samples.	QSM Table F-2, G-14 >UL=J; <LL=J/UJ/R
11. Was a second source (ICV) verification analyzed after the ICAL? Were results 80-120%?	X			A2HP3 8/23/13 @ 1238, 1830 (tox), 8/29/13 @ 1829, 9/11/13 @ 1351, 1554 (Tox)	QSM Table F-2 >120%=J;<80%=J/UJ



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta / October 1, 2013

SDG: 240-28145 R0

Analysis: SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
12. Was a CCV run every 12 hours or at the beginning and end of the analytical run with the %D for all target analytes $\leq 20\%$ ?	X			<p>8/29/13 @2230, 8/30/13 @ 0235 (tox), 0316, 1044, 1134 (tox), 1155, and 9/11/13 @2021, 9/12/13 @ 0006, 128 (tox), 1034 (tox), 1054, 1510 (tox)</p> <p>The CCV analyzed 8/30/13 @ 0316 had a %D above control limits of 20% for endrin at 20.6% (CLP-1) and above limits for 4,4'-DDD at 23% and methoxychlor at 23.5% (CLP-2). No qualifications were required as there were no detected concentrations reported for the bracketed field samples.</p> <p>The CCV analyzed 8/30/13 @ 1044 had a %D above control limits of 20% for gamma-BHC at 24.3%, beta-BHC at 21.9%, heptachlor epoxide at 22.7%, gamma-chlordane at 24.4%, dieldrin at 25.9%, endrin at 34.9%, 4,4'-DDD at 42.3%, endosulfan II at 31.4%, endosulfan sulfate at 26.4 % and endrin ketone at 25% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-BHC at 21.6%, heptachlor epoxide at 20.7%, gamma-chlordane at 23.2%, dieldrin at 23.9%, endrin at 36.5%, 4,4'-DDD at 36%, endosulfan II at 21.9%, endosulfan sulfate at 30.2 %, endrin ketone at 29% and methoxychlor at 20.8%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.</p> <p>The CCV analyzed 8/30/13 @ 1155 had a %D above control limits of 20% for alpha-BHC at 22.4%, gamma-BHC at 30.9%, beta-BHC at 28.3%, delta-BHC at 22.5%, heptachlor epoxide at 27.3%, gamma-chlordane at 30.9, alpha-chlordane at 26.3%, 4,4'-DDE at 23.7%, dieldrin at 31.7%, endrin at 28.1%, 4,4'-DDD at 35.8%, endosulfan II at 27.3%, endosulfan sulfate at 24.3 % and endrin ketone at 24.2% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-chlordane at 21%, 4,4'-DDD at 22.6%, endosulfan sulfate at 21 % and endrin ketone at 20.9%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.</p> <p>The CCV analyzed 9/12/13 @ 0006 had a %D above control limits of 20% for alpha-BHC at 46.8%, gamma-BHC at 29.7%, beta-BHC at 41.7%, delta-BHC at 38%, aldrin at 51.4%, heptachlor epoxide at 43.4%, gamma-chlordane at 37.2%, alpha-chlordane at 42%, endosulfan I at 25.6%, 4,4'-DDE at 53.1%, dieldrin at 38.3%, endrin at 30.4% and 4,4'-DDD at 25.7%, (CLP-1). CLP-2 had a %D above control limits of 20% for alpha-BHC at 56%, gamma-BHC at 36.9%, beta-BHC at 47.5%, delta-BHC at 45.5%, aldrin at 60.4%, heptachlor epoxide at 54.6%, gamma-chlordane at 41.9%, alpha-chlordane at 53%, endosulfan I at 32.8%, 4,4'-DDE at 60.9%, dieldrin at 45.8%, endrin at 36.9%, 4,4'-DDD at 36.1%,</p>	QSM Table F-2 >120%=J; <80%=J/UJ



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta / October 1, 2013

SDG: 240-28145 R0

Analysis: SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
				<p>endosulfan II at 29.9% and endosulfan sulfate at 27%. The beta-BHC results for samples FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW, FWGSCFmw-DUP6-0378-GW, FWGDA2mw-115-0313-GW, FWGLL12mw-245c-0365-GW and FWGLL3mw-244-0323-GW and the endrin ketone result for sample FWGDETMw-001c-0314-GW were qualified as estimated, "J".</p> <p>The CCV analyzed 9/12/13 @ 1531 had a %D above control limits of 20% for alpha-BHC at 24.3%, gamma-BHC at 21.4%, delta-BHC at 21.4%, heptachlor at 20.5%, aldrin at 26.9%, 4,4'-DDE at 26.3%, endrin at 23.5%, 4,4'-DDD at 21% and below limits for endrin ketone at 20.9%(CLP-1). CLP-2 had a %D above control limits of 20% for alpha-BHC at 29.2%, gamma-BHC at 26%, beta-BHC at 24.3%, delta-BHC at 26%, heptachlor at 23.6%, aldrin at 30.7%, heptachlor epoxide at 23.9%, gamma-chlordane at 22.4%, alpha-chlordane at 23.7%, endosulfan I at 21.1%, 4,4'-DDE at 30.6%, dieldrin at 23.5%, endrin at 27.6%, 4,4'-DDD at 26.1%, endosulfan II at 20.9%, 4,4'-DDT at 21.9%, methoxychlor at 23% and endosulfan sulfate at 21.1%. The beta-BHC result for sample FWGDETMw-003c-0343-GW was qualified as estimated, "J".</p>	
13. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-2
14. Were target analytes detected > ½ the RL?		X			QSM Table F-2 <5x=B
15. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW and FWGEQUIPRINSE2-0341-GW	
16. Were target analytes detected in the field blank analyses >1/2 the MRL?	X			FWGEQUIPRINSE1-0340-GW had beta-BHC detected at 0.018µg/L. No qualifications were required as there were no detected beta-BHC concentrations reported for the samples associated with FWGEQUIPRINSE1-0340-GW.	QSM Table F-2 <5x=B
17. Was an LCS prepared and analyzed with each batch?	X				QSM Table F-2
18. Were the LCS recoveries within limits specified in QSM Table G-14?	X			Checked by ADR	QSM Table G-14 >UL=J; <LL=J/UJ/R
19. Was a MS/MSD pair prepared with each batch?	X				QSM Table F-2
20. Was the MS/MSD parent a Ravenna sample?			X	A matrix spike was not requested on a sample from this laboratory reporting batch, so data matrix spike data was provided or evaluated.	
21. Were MS/MSD recoveries and RPD within limits specified in QSM Table G-14?			X		QSM Table F-2 Pj with >UL=J; <LL=J/UJ/R



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / October 1, 2013

**SDG:** 240-28145 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
22. Were surrogate recoveries as specified in QSM table G-3?		X		The surrogate DCB recovered below control limits of 30-135 in sample FWGLL12mw-247-0336-GW at 25% on CLP-1 and CLP-2. TCMX recovered above control limits of 25-140% in sample FWGSCFmw-002-0327-GW at 194% (CLP-1), in sample FWGDA2mw-115-0313-GW at 181% (CLP-1) and in sample FWGDEtmw-003c-0343-GW at 151% (CLP-2). The results for sample FWGLL12mw-247-0336-GW were qualified as estimated, "UJ". The beta-BHC results for samples FWGSCFmw-002-0327-GW and FWGDA2mw-115-0313-GW were qualified as estimated, "J". No qualifications were required for FWGDEtmw-003c-0343-GW, as there were no detected concentrations associated with the sample.	QSM Table F-2 >LL=J; <LL=UJ/J/R
23. Was a field duplicate analyzed? Were the RPDs $\leq$ 50%?		X		Checked by ADR. A field duplicate was collected and analyzed for samples FWGLL12mw-247-0336-GW and FWGSCFmw-004-0372-GW. The field duplicate RPD was above control limits of 50% for the beta-BHC field duplicate RPD on sample FWGLL12mw-247-0336-GW at 200%. The beta-BHC result for sample FWGLL12mw-247-0336-GW was qualified as estimated, "J".	RPD >50=J parent sample only
24. Were all positive results verified by a second column confirmation? Were the RPD's $\leq$ 40?		X		The second column confirmation analysis was above control limits of 40% for beta-BHC at 174% on sample FWGLL12mw-247-0336-GW. The beta-BHC result for sample FWGLL12mw-247-0336-GW was qualified as estimated, "J".	QSM Table F-2 >40 RPD=J

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 1, 2013

**SDG:** 240-28145-0

**Analysis:** SW846 8082

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X			Samples FWGB12mw-013-0313-GW, FWGDETMw-001c-0314-GW, FWGDETMw-002c-0315-GW, FWGEQUIPRINSE2-0341-GW, FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDETMw-003c-0343-GW, FWGEBGmw-131-0316-GW, FWGRQLmw-007c-0369-GW and FWGRQLmw-010c-0325-GW were reextracted outside of hold but within two times hold due to surrogate outliers in the initial extraction. All data was reported from the reextract and qualified as estimated, "UJ".	QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Calibration					
6a. Does the initial calibration curve consist of 5 concentration levels of Aroclors 1016 and 1260?	X			Instrument A2HP12 8/27/13 Stds = 0.05, 0.1, 0.2, 0.5, 1.0, 2.0	QSM Table F-2 R
6b. Was the % RSD $\leq$ 20%? or Were the $r^2$ s $>0.990$ ?	X				QSM Table F-2 RSD $>20\%$ or $r<0.99=$ J/R
7. Was a LOD Verification performed once per quarter? Were all target analytes detected?	X				QSM Table F-2 R
8. Was an MRL Level Verification performed at the beginning and end of the sequence or every 12 hours? Were recoveries 70-130%?	X				LCG Table 3 >UCL=J; <LCL=J/UJ/R;
9. Was a second source (ICV) verification performed after the ICAL? Were the avg of all peaks for each aroclor 80-120%?		X		A2HP12 8/28/13	QSM Table F-2 >120%=J; <80%=J/ UJ/R
10. Were single standards of the other five Aroclors run to aid in pattern recognition and to determine a single point calibration factor?		X		All aroclors had a multi-point calibration.	Method 8082 Section 5.6.2



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 1, 2013

**SDG:** 240-28145-0

**Analysis:** SW846 8082

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
11. Was a CCV run every 12 hours?	X			9/4/13 @ 1119, 1359, 1625	QSM Table F-2
12. Was the % D ≤ 20 % for each analyte?	X				QSM Table F-2 D>20%(neg)=J/R D>20% (pos) =J
13. Was a method blank prepared and analyzed with each batch?	X			Section checked by ADR	QSM Table F-2
14. Were target analytes <1/2 the MRL?	X				QSM Table F-2 <5x = B
15. Was an equipment blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW and FWGEQUIPRINSE2-0341-GW	
16. Were target analytes in the field blank analyses (equipment) <1/2 the MRL?	X			Section checked by ADR	QSM Table F-2 <5x = B
17. Was an LCS prepared and analyzed with each batch?	X				QSM Table F-2
18. Were the LCS recoveries within limits specified in LCG Appendix C?	X			Section checked by ADR	QSM Table F-2, Table G-16, >UL=J; <LCL%=J/R/UJ;
19. Was a MS/MSD pair prepared with each batch?			X	A matrix spike analysis was not designated with this group of samples, so no information was provided or evaluated.	LCG Table 3
20. Was the MS/MSD parent a Ravenna sample?			X		
21. Were MS/MSD recoveries and RPD within limits specified in the DOD QSM Table G-16?			X		QSM Table F-2, Table G-16, >UL=J; <LCL%=J/R/UJ;
22. Was the surrogate spiked into all samples?	X				
23. Were surrogate recoveries As specified in table G-3 of the DoD QSM?		X		Checked by ADR. As there were no detected target analyte concentrations reported in the associated field samples, only the primary column was evaluated. The surrogate, DCB, recovered below control limits of 40-135% for samples FWGB12mw-013-0313-GW at 33%, FWGDETMw-001c-0314-GW at 28%, FWGDETMw-002c-0315-GW at 37% and FWGEQUIPRINSE2-0341-GW at 31%. The results for samples FWGB12mw-013-0313-GW, FWGDETMw-001c-0314-GW, FWGDETMw-002c-0315-GW and FWGEQUIPRINSE2-0341-GW were qualified as estimated, "UJ".	QSM Table F-2, Table G-3 >UCL=J; <LCL=J/UJ/R



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 1, 2013

**SDG:** 240-28145-0

**Analysis:** SW846 8082

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
24. Was a field duplicate analyzed? Were the RPDs <50%?	X			Checked by ADR.	QSM Table F-2, RPD >50=J
25. Were all positive results verified by a second dissimilar column confirmation? Was the RPD ≤ 40?			X	No detected concentrations were reported for the reported field samples.	QSM Table F-2, RPD>40=J

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ October 1, 2013

SDG: 240-28145-1

Analysis: SW846 9012

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Does the initial calibration curve consist of at least 6 standards and one blank, with the correlation coefficient $R \geq 0.995$ ?	X				DoD QSM Table F-10 R
7. Were a high and low standard distilled and analyzed with results within $\pm 15\%$ ?	X				DoD QSM Table F-10 R
8. Was an LOD Verification performed at least once per quarter with all target analytes detected?	X				LCG Table 10 R
9. Was a MRL Level Verification performed at the beginning and end of the daily sequence? Were results within 70-130%?		X		No closing MRLs were analyzed. As the opening MRL checks recovered within limits, the cyanide results for samples FWGDETmw-002C-0315-GW, FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGEQUIPRINSE2-0341-GW, FWGDETmw-001C-0314-GW, FWGDETmw-003C-0343-GW, FWGRQLmw-007C-0369-GW, FWGRQLmw-010C-0325-GW and FWGEBGmw-131-0316-GW were qualified estimated, "J/UJ" as opposed to unusable.	LCG Table 10, LS >130%=J; 65-70%=J/UJ; <65%=J/R
10. Was a second source verification (ICV) analyzed after the ICAL and all analytes 85-115%?	X				DoD QSM Table F-10 >115%=J; 80-85%=J/UJ; <80%=J/R
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-10
12. Were target analytes detected in the method blank >1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-10 <5x=B
13. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW and FWGEQUIPRINSE2-0341-GW	
14. Were target analytes in the field blank analyses <1/2 the MRL?	X				DoD QSM Table F-10 <5x=B



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 1, 2013

**SDG:** 240-28145-1

**Analysis:** SW846 9012

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>QUAL/Criteria</b>
15. Was a field duplicate analyzed? Were the RPDs $\leq 20\%$ ?	X			Checked by ADR.	$>30\% = J$
16. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-10
17. Were the LCS recoveries 80-118%?	X			Checked by ADR.	DoD QSM Table F-10 Lab Limits $>118\% = J$ ; $50-79\% = J/UJ$ ; $<50\% = R$
18. Was a MS and duplicate (sample or matrix) prepared once per every 10 samples?	X				DoD QSM Table F-10
19. Was the MS parent a Ravenna sample?	X			FWGRQLmw-007c-0369-GW	
20. Were matrix spike recoveries 42-140%?	X			Checked by ADR.	DoD QSM Table F-10 $>140\% = J$ ; $<42\% = J/UJ/R$

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 1, 2013

**SDG:** 240-28145-1 R0

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Was a LOD Verification performed once per quarter with all target analytes detected?	X				DoD QSM Table F-8
7. Tuning (ICP MS Only)					
7a. Was a tune performed daily prior to calibration	X				DoD QSM Table F-8 R
7b. Mass Calibration <0.1 amu from true value	X				
7c. Resolution <0.9 amu full width at 10 % peak height	X				
7d. RSD <5% for a minimum of four replicate analyses	X				
8. Calibration					
8a. Was the ICAL performed daily with at least One high standard and a blank for ICP & ICPMS	X				DoD QSM Tables F-8 and F-7
Five standards and a blank for Hg	X				
8b. Was the correlation coefficient $r \geq 0.995$ for each Hg?	X				DoD QSM Tables F-8 and F-7 $r < 0.995 = J/R$
8c. Was the ICV (second source verification) analyzed after the ICAL with results 90-110% of the true value?	X				DoD QSM Tables F-8 and F-7
8d. Was the ICB analyzed after the ICV with detected results <1/2 the MRL?	X			ICP The ICB analyzed 9/9/13 @ 0749 had magnesium detected at 100µg/L. No qualifications were required as the detected magnesium results for the associated field samples were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 < 5x = U



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ October 1, 2013

SDG: 240-28145-1 R0

Analysis: SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
Sample Analysis					
9. Was a MRL Level Verification performed at the beginning of the daily sequence and end of the analytical sequence bracketing samples? Were results 70-130%?	X				LS to the DoD QSM DoD QSM Table G-18 >130%=J; 70-80%=J/UJ; <70%=J/UJ <65%=R, unless DL check with detected results
10. Were CCVs analyzed every 10 samples and at the end of the analytical sequence with results 90-110% of the true value?		X		<u>ICPMS</u> The beryllium CCV analyzed 9/9/13 at 1603 recovered above control limits of 90-110% at 112% and at 1902 with a recovery of 114%. No qualifications were made as there were no detected concentrations of beryllium reported for the bracketed field samples.	DoD QSM Tables F-8 and F-7 >110%=J, <85%=J/R 90-85%=J/UJ;
11. Were the CCBs run every 10 samples and at the end of the analytical sequence? Were results <1/2 the MRL?	X			<u>ICP</u> The CCBs analyzed 9/9/13 had magnesium detected from 101 µg/L to 105µg/L. No qualifications were required as the detected magnesium results for the bracketed field samples were greater than 5x blank contamination. <u>ICPMS</u> The CCBs analyzed 9/9/13 had beryllium detected from 0.068µg/L to 0.103µg/L, cadmium from 0.03µg/L to 0.252µg/L, iron from 13.9 µg/L to 47.1µg/L, sodium from 6.45µg/L to 25.8µg/L and thallium at 0.0609µg/L (9/9/13 at 1311). No qualifications were required as the detected cadmium, iron and sodium results for the bracketed field samples were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 <5x = U
12. Was an Interelement Check Standard run at the beginning of the analytical sequence and every 12 hours with the ICS recovery within 80 to 120% of true value for each element of interest (ICP and ICPMS only)?	X				DoD QSM Tables F-8 and F-7 >120%=J; 50-79%=J/UJ; <50%=Pj/R
13. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Tables F-8 and F-7
14. Were target analytes detected >1/2 the MRL in the method blank?	X			Checked by ADR. ICP- Manganese was detected in the method blank at 2.75µg/L (batch 240-98385) and at 6.26µg/L(batch 240-98503). No qualifications were required as the detected manganese results were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 <5x = B



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ October 1, 2013

SDG: 240-28145-1 R0

Analysis: SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
15. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW and FWGEQUIPRINSE2-0341-GW	
16. Were target analytes reported in the field blank analyses >1/2 the MRL?	X			ADR checked section. ICPMS- FWGEQUIPRINSE1-0340-GW had sodium detected at 410 µg/L. No qualifications were required as the detected sodium results associated FWGEQUIPRINSE1-0340-GW with were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7
17. Was a LCS prepared and analyzed with each batch?	X				DoD QSM Tables F-8 and F-7
18. Were the LCS recoveries within limits specified in LCG Appendix C?	X			Checked by ADR.	DoD QSM Tables G-18, F-8 and F-7 >120%=J; 70-79%=J/UJ; <70%=J/R
19. Was a matrix spike (MS) and lab duplicate sample prepared with each batch?	X				DoD QSM Tables F-8 and F-7
20. Was the MS and Lab Duplicate parent a Ravenna sample?	X			A matrix spike analysis was performed on sample FWGLL12mw-245C-0365-GF.	
21. Were the MS recoveries within 80-120%?	X				DoD QSM Tables G-18, F-8 and F-7, >120%=J; 70-79%=J/UJ; <70%=J/R All samples in batch
22. Was the lab sample duplicate RPD ≤ 20%?		X		ICP- The lab duplicate analyzed on FWGLL12mw-245C-0365-GF had an RPD above control limits of 20% at 30% for cobalt. No qualifications were made as the detected concentration was less than the LOQ.	DoD QSM Tables F-8 and F-7 >20% = J All samples in batch
23. Was a serial dilution performed, with the five fold dilution within ± 10% of the original result?	X				DoD QSM Tables F-8 and F-7 >20% = J All samples in batch
24. Was a Post Digestion Spike analyzed as needed? Were results within 75-125%?	X				LCG Table 7 >125%=J; 30-75%=J/UJ; <30%=R



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 1, 2013

**SDG:** 240-28145-1 R0

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
25. Was a field duplicate analyzed? Were the RPDs $\leq 50\%$ for sample results detected above the LOQ?		X		Checked by ADR- ICP- The field duplicate analyzed on sample FWGSCFmw-004-0372-GF was above control limits of 50% for barium at 63%, calcium at 53%, magnesium at 73%, and manganese at 164%. The barium, calcium, magnesium and manganese results for sample FWGSCFmw-004-0372-GF were qualified as estimated, "J". ICPMS- The field duplicate analyzed on sample FWGLL12mw-247-0336-GF was above control limits of 50% for aluminum at 54%. The aluminum result for sample FWGLL12mw-247-0336-GF was qualified as estimated, "J". The field duplicate analyzed on sample FWGSCFmw-004-0372-GF was above control limits of 50% for sodium at 67%. The sodium result for sample FWGSCFmw-004-0372-GF was qualified as estimated, "J".	>30% = J parent sample Evaluate results above the LOQ only
26. Were internal standards added to all ICPMS samples with intensity within 30-120% of the intensity of the ICAL internal standard?	X				DoD QSM Table F-8 >120%=J/R <20%=J

## References:

- DoD Quality Systems Manual (QSM), version 4.1, October 2010
- Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007
- Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012
- Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/October 2, 2013

SDG: 240-28145-1 R0

Analysis: SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a LOD Verification analyzed once per quarter with all target analytes detected?	X				DoD QSM Table F-3 R
7. Calibration					
7a. Does the initial calibration curve consist of 5 concentration levels? (6 stds for quadratic curves)	X			LC10 7/24/13 LC12 8/14/13, 2-nitrotoluene coelutes with 4-nitrotoluene, LC12 not used as primary reporting column of 2-nitrotoluene and 4-nitrotoluene	DoD QSM Table F-3 R
7b. Did all target analytes using avg response have an RSD $\leq$ 15% ?	X				
7c. If a linear regression curve was used, was the correlation coefficient $r \geq 0.995$ ? (0.990 for a quadratic curve).			X		
8. Was a second source verification (ICV) analyzed after the ICAL and all analytes 80-120%?	X			LC10 7/24/13 @1750 LC12 8/15/13 @ 0118	DoD QSM Table F-3 >120%=J; <80%= J/UJ;
Sample Analysis					
9. Was a CCV run at the beginning of the analytical sequence, every 10 samples and at the end of the analytical run with targets and surrogates recovering 80-120% of the true value?	X			LC10- 8/27/13 @1400, 2116, 8/28/13 @0432, 1604, 2320, 8/29/13 @0719, 1308 9/3/13 @1253, 2009 LC12 8/28/13 @ 0407, 1503, 8/29/13 @ 0158, 0832, 1503, 8/30/13 @ 1628, 8/31/13 @ 0218, 1313	DoD QSM Table F-3 J/UJ
10. Was a MRL Level verification run at the beginning and end of every daily? Was the %D < 30%?		X		LC10- 8/27/13 @1316, 8/28/13 @ 0516, 1352, 1520, 8/29/13 @1852, 9/3/13 @1209,2347 LC12 8/27/13 @ 1712 , 8/29/13@ 0937 8/30/13 @1522, 8/31/13 @ 1419	LCG Table 5 >30%=J
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-3
12. Were target analytes detected in the method blank <1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x = B
13. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW, FWGEQUIPRINSE2-0341-GW	



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 2, 2013

**SDG:** 240-28145-1 R0

**Analysis:** SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
14. Were target analytes detected in the field blank analyses > ½ the MRL?		X		Checked by ADR	DoD QSM Table F-3 <5x=B
15. Was a field duplicate analyzed? Were the RPDs ≤30%?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs ≤ 40%?		X		1,3-dinitrobenzene and nitrobenzene were reported as detected for sample FWGSCFmw-002-0327-GW by the laboratory. Analysis on the second column did not confirm detection. The 1,3-dinitrobenzene and nitrobenzene results for sample FWGSCFmw-002-0327-GW were qualified, "U".	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within limits specified in table G-12 of the DoD QSM?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J;30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X			A matrix spike analysis was performed on sample FWGLL12mw-245C-0036-GW.	DoD QSM Table F-3
20. Were MS/MSD recoveries within limits specified in table G-12 of the DoD QSM with an RPD ≤30%?	X				DoD QSM Table F-3 Pj
21. Were surrogate recoveries within laboratory limits (79-111%)?	X			Checked by ADR. The surrogate 3,4-dinitrobenzene recovered above control limits of 79-111% for samples FWGFWGmw-012-0349-GW at 117% and FWGLL1mw-064c-0352-GW at 120%. No qualification of the data was required for the surrogate outliers as there were no detected target analyte concentrations reported for either sample, FWGFWGmw-012-0349-GW or FWGLL1mw-064c-0352-GW.	QSM Tables F-2 >UL=J; <LL =J/UJ

*References: DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



**Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 2, 2013

**SDG:** 240-28145-1

**Analysis:** SW846 8330M Nitroguanidine

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a LOD Verification analyzed once per quarter with all target analytes detected?	X				DoD QSM Table F-3 R
7. Calibration					
7a. Does the initial calibration curve consist of 5 concentration levels? (6 stds for quadratic curves)	X			PDA-1 8/20/13	DoD QSM Table F-3 R
7b. Did all target analytes using avg response have an $RSD \leq 15\%$ ?	X				
7c. If a linear regression curve was used, was the correlation coefficient $r \geq 0.995$ ? (0.990 for Quadratic curve).			X		
7d. Did reanalysis of the low level standard after calibration, recover within 15%?	X				
8. Was a second source verification (ICV) analyzed after the ICAL and all analytes 80-120%?	X			8/20/13 @1843	DoD QSM Table F-3 >120%=J; <80%= J/UJ;
Sample Analysis					
9. Was a CCV run at the beginning of the analytical sequence, every 10 samples and at the end of the analytical run with targets and surrogates recovering 80-120% of the true value?	X			8/26/13 @ 0914, 1211, 1526 8/29/13 @ 12235, 1532, 1848,2203	DoD QSM Table F-3 J/UJ
10. Was a MRL Level verification run at the beginning and end of every daily sequence or every 12 hours? Was the %D < 30%?	X				LCG Table 5 >30%=J
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-3



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 2, 2013

**SDG:** 240-28145-1

**Analysis:** SW846 8330M Nitroguanidine

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
12. Were target analytes detected in the method blank <1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x = B
13. Was a field blank collected and analyzed?	X				
14. Were target analytes detected in the field blank analyses < 1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x=B
15. Was a field duplicate analyzed? Were the RPDs ≤30%?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs ≤ 40%?			X	No detected concentrations were reported.	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within laboratory limits of 79%-119%?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J; 30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X			FWGLL12mw-245C-0365-GW and FWGRQLmw-007C-0369-GW were the parent samples used for the matrix spike analyses	DoD QSM Table F-3
20. Were MS/MSD recoveries within laboratory limits of 40%-150% with an RPD ≤20%?	X				DoD QSM Table F-3 Pj

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 2, 2013

**SDG:** 240-28145-1

**Analysis:** TAL SOP WS-WC-0050

Review Questions:	Yes	No	N/A	Comments	Qualifier
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Does the initial calibration curve consist of 5 concentration levels with the low standard near but > DL?	X				STL SOP Section 10.2 R
7. Was the correlation coefficient >0.995?	X				STL SOP Section 10.2
8. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours? Was the %D <30%?	X			The MRL analyzed 9/11/13 at 1707 recovered above control limits of 70-130% at 136%. No qualifications were required as there were no detected nitrocellulose concentrations reported for the field samples bracketed by the outlier MRL.	LCG Table 5 >30%=J
9. Was a second source verification (ICV) analyzed after the ICAL? Were all analytes 90-110%?	X				STL SOP Section 9.8, 10.3, LCG >110%=J; 90-85%=J/UJ; <85%=J/R
10. Was the ICB analyzed after the ICV with results <1/2 the MRL?	X				STL SOP Section 9.8, LCG, < 5x = U
11. Was a CCV run every 10 samples and at the end of the analytical run?	X				STL SOP Section 10.4
12. Was the ICV and CCV a mid-level standard from the initial calibration curve?	X				STL SOP Section 10.3.1
13. Were all CCV calibration analytes within 90-110%?	X				STL SOP Section 10.4, >110%=J; 85-90%=J/UJ; <85%=J/R
14. Was the ICB analyzed after the ICV with results <1/2 the MRL?	X				STL SOP Section 10.4, QSM, < 5x = U
15. Was the Nitrocellulose assay available and/or analyzed to be within 10%?	X				STL SOP Section 7.14.1, R
16. Was a method blank prepared and analyzed with each batch?	X				



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ October 2, 2013

SDG: 240-28145-1

Analysis: TAL SOP WS-WC-0050

Review Questions:	Yes	No	N/A	Comments	Qualifier
17. Were target analytes detected in the method blank <1/2 the MRL?		X		ADR checked section.	STL SOP Section 9.4, LCG, <5x=B
18. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW, FWGEQUIPRINSE2-0341-GW	
19. Were target analytes detected in the field blank analyses <1/2 the MRL?		X			<5x=B
20. Was a field duplicate analyzed? Were the RPDs ≤30%?	X			ADR checked section	QAPP Table 3-2 RPD > 30% = J
21. Was an LCS prepared and analyzed with each batch? Was the LCS recovery within lab's in-house limits% (26-144%)?	X				>UL%=J; <50%=J/R 50-LL%=J/UJ;
22. Was a MS/MSD pair prepared with each batch?	X				
23. Was the MS/MSD parent a Ravenna sample?	X			A matrix spike analysis was performed on sample FWGLL12mw-245C-0365-GW	
24. Were MS/MSD recoveries 26-144% and RPD ≤20?		X		ADR checked section. The matrix spike recoveries associated with sample FWGLL12mw-245C-0365-GW were within control limits, however the matrix spike/spike duplicate RPD was above control limits of 20% at 41%. The nitrocellulose results for samples FWGDETmw-001c-0314-GW, FWGDETmw-002c-0315-GW, FWGEQUIPRINSE2-0341-GW, FWGDA2mw-114-0312-GW, FWGDA2mw-115-0313-GW, FWGDETmw-003c-0343-GW, FWGFWGmw-011-0348-GW, FWGFWGmw-012-0349-GW, FWGLL12mw-187c-0363-GW, FWGLL12mw-242c-0364-GW, FWGLL12mw-245c-0365-GW, FWGLL12mw-247-0336-GW, FWGLL12mw-DUP3-0338-GW, FWGLL1mw-064c-0352-GW, FWGLL1mw-087c-0356-GW, FWGLL3mw-244-0323-GW, FWGSCFmw-002-0327-GW, FWGSCFmw-004-0372-GW and FWGSCFmw-DUP6-0378-GW were qualified as estimated, "J/UJ".	Method EPA 353.2 Section 9.4.2 >UL%=J; <LL%=J/UJ; RPD>20%=J/UJ

## References:

STL SOP SAC-WC-0050 "Preparation and Analysis of Nitrocellulose in Aqueous and Soil/Sediment Samples by Colorimetric Autoanalyzer", Jan 2007, rev. 2.0

DoD Quality Systems Manual (QSM), version 4.1, October 2010

Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007



## Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 2, 2013

**SDG:** 240-28145-1

**Analysis:** TAL SOP WS-WC-0050

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

Additional Comments:



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angye Dragotta/October 2, 2013

SDG: 240-28145-1

Analysis: SW846 6860/ Perchlorate

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				
3. Were holding times met (28 days)?	X				UJ/J/R
4. Were sample storage requirements met?	X				
5. Was the DOD specified PQLs of 0.5ug/L achieved?	X				
6. Were all QAPP-specified target analytes reported?	X				
7. Did the initial calibration curve consist of 5 concentration levels?	X			LC_LCMS1 9/4/13 Standards(ng/L): 20, 50, 100, 200, 500, 1000	R
8. Was the correlation coefficient $r \geq 0.995$ ?	X				$R < 0.995 = -J/R$
9. Was a second source verification (SSCV) analyzed after the ICAL? Were results 90-110%?	X				LCG Table 1 >120%=J; 60-80%=J/UJ; <60%=J/R
10. Was an ICV analyzed after the ICAL and daily before sample analysis?	X			9/4/13 @1850	R
11. Was the %Difference $\leq 15\%$ ?	X				R
12. Was a CCV analyzed after every 10 samples?	X			09/06/2013 @ 1206, 1750, 2206, 9/7/13 @0318	
13. Was the %Difference $\leq 15\%$ ?	X				%D > 15% = UJ/J
14. Was a Limit of Detection Verification (LODV) analyzed before and after every batch?	X				
15. Was the LODV recovery within 70-130%?	X				>130%=J; <60%=J/R 70-60%=J/UJ;
16. Was an Interference Check Sample extracted and analyzed with every batch?	X				
17. Was the ICS recovery within 70 to 130%?	X				>120%=J; <50%=Pj/R 50-79%=J/UJ;
18. Was a method blank prepared and analyzed with each batch?	X				
19. Were target analytes detected in the method blank at >1/2 the MRL?		X		Checked by ADR.	<5X =B



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angye Dragotta/October 2, 2013

SDG: 240-28145-1

Analysis: SW846 6860/ Perchlorate

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
20. Was a field blank (equipment) collected and analyzed?	X			FWGEQUIPRINSE1-0340-GW, FWGEQUIPRINSE2-0341-GW	
21. Were target analytes detected in the field blank analyses >1/2 the MRL?		X		Checked by ADR.	<5X =B
22. Were target analytes detected in the calibration blank analyses >1/2 the MRL?	X			The CCB analyzed 9/6/13 @ 2303 had perchlorate detected at 0.0117µg/L. The detected bracketed perchlorate results, FWGBKGmw-010c-0311-GF and FWGRQLmw-010c-0325-GF were qualified, "U".	<5X =U
23. Was a LCS prepared and analyzed with each batch, with recoveries within 85-115%?	X			Checked by ADR.	>115%=J; 50%-85%=J/UJ; <50%=J/R
24. Was a MS/MSD prepared with each batch?			X	A matrix spike analysis was not requested on samples from this batch, so no data was provided or evaluated.	
25. Were MS/MSD recoveries 75-125% and RPD values ≤20%?			X		>125% = J 30% - 75% = J/UJ <30% = J/R
26. Was a Laboratory Reagent Blank (LRB) analyzed prior to calibration and after high concentration samples?	x				
27. Were target analytes detected in the LRB at >1/2 the MRL?		x			<5X =B
28. Was a MRL Verification run with every ICAL?	X				
29. Were the MRL recoveries 70-130%?	X				R
30. Were the internal standards added to every sample?	X				
31. Did the IS recover within 50% to 150% of the ICAL mid-point standard?	X				R
32. Was a field duplicate analyzed? Were the RPDs within ±30%?		X		No field duplicate was collected or analyzed.	RPD >30=J
33. Was the Isotope ratio between 101 and 85 monitored and fell between 2.3 and 3.08?	X				J/UJ
34. Were reported sample concentrations within calibration range?	X				

## References:

DOD Perchlorate Handbook, March 2006; Section G "Selecting Analytical Methods and Services"      Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 2, 2013

**SDG:** 240-28145-1

**Analysis:** EPA 353.2

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Was the Linear Calibration Range verified using 3 standards and 1 blank?	X				Method EPA 353.2 Section 9.2.2, J
7. Were the calibration standards verified by preparation and analysis of a Quality Control Sample? Were results within 10% of the stated values?	X				Method EPA 353.2 Section 9.2.3 Pj
8. Was an Instrument Performance Check Solution (CCV) analyzed immediately following daily calibration, after every 10 <sup>th</sup> sample, and at the end of the analytical sequence?	X				Method EPA 353.2 Section 9.3.4
9. Was the CCV a mid-level standard from the initial calibration curve, with recovery 90-110%?	X				Method EPA 353.2 Section 9.3.4 >110%=J; <85%=J/R 85-90%=J/UJ;
10. Was an MRL check standard analyzed at the beginning and end of each analytical run, with recoveries 70-130%	X				LCG >130%=J; <70%=J/UJ;
11. Was a method blank and calibration blanks prepared and analyzed with each batch?	X				Method EPA 353.2 Section 9.3.1, 9.3.4
12. Were target analytes detected in the method blank or calibration blank >1/2 the MRL?	X			ADR checked section; The CCB analyzed 9/6/13 at 1712, had nitrate/nitrite detected at 0.004mg/L. No qualifications were made as there were no detected nitrate nitrite concentrations reported <5x blank contamination.	<5x = B(method blank) U (calibration blank)
13. Was a field blank (trip or equipment) collected and analyzed?	X				



## Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 2, 2013

**SDG:** 240-28145-1

**Analysis:** EPA 353.2

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
14. Were target analytes detected in the field blank analyses (trip or equipment) >1/2 the MRL?		X		ADR checked section;	<5x=B
15. Was a field duplicate analyzed? Were the RPDs acceptable?	X				
16. Was an LCS prepared and analyzed with each batch? Was the LCS recovery within 90-110%?	X				Method EPA 353.2 Section 9.3.3 J/UJ; <50%= R
17. Was a MS/MSD pair prepared with each batch?	X				Method EPA 353.2 Section 9.4.1
18. Was the MS/MSD parent sample a Ravenna sample?	X			Sample FWGLL12mw-245c-0365-GW was the parent sample used for matrix spike analysis.	
19. Were MS/MSD recoveries and RPD within acceptance criteria?	X			ADR checked section;	Method EPA 353.2 Section 9.4.2 Pj

*References:*

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

Additional Comments:



## **Appendix II**



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
353.2	FWGLL12mw-DUP3-0338-GW	AQ	FD	Nitrate-Nitrite	0.012	0.011J		J	mg/L	RI
6010B	FWGFWGmw-011-0348-GF	AQ	N	POTASSIUM	900	840J		J	ug/L	RI
6010B	FWGFWGmw-012-0349-GF	AQ	N	COBALT	4.0	1.8J		J	ug/L	RI
				NICKEL	5.0	2.4J		J	ug/L	RI
				POTASSIUM	900	830J		J	ug/L	RI
6010B	FWGLL10mw-003C-0361-GF	AQ	N	POTASSIUM	900	690J		J	ug/L	RI
6010B	FWGLL12mw-185C-0362-GF	AQ	N	COBALT	4.0	1.9J		J	ug/L	RI
6010B	FWGLL12mw-245C-0365-GF	AQ	N	COBALT	4.0	1.6J		J	ug/L	RI
6010B	FWGLL12mw-247-0336-GF	AQ	N	ARSENIC	10	6.3J		J	ug/L	RI
6010B	FWGLL12mw-DUP3-0338-GF	AQ	FD	ARSENIC	10	7.7J		J	ug/L	RI
6010B	FWGLL1mw-064C-0352-GF	AQ	N	POTASSIUM	900	740J		J	ug/L	RI
6010B	FWGLL1mw-087C-0356-GF	AQ	N	COBALT	4.0	1.5J		J	ug/L	RI
				POTASSIUM	900	610J		J	ug/L	RI

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
6010B	FWGSCFmw-004-0372-GF	AQ	N							
				BARIUM	5.0	83J		J	ug/L	Ld
				CALCIUM	1000	150000		J	ug/L	Ld
				MAGNESIUM	300	60000		J	ug/L	Ld
				MANGANESE	5.0	740		J	ug/L	Ld
6020	FWGDETMw-002C-0315-GF	AQ	N							
				IRON	100	93J		J	ug/L	RI
6020	FWGLL12mw-242C-0364-GF	AQ	N							
				ALUMINUM	60	50J		J	ug/L	RI
6020	FWGLL12mw-245C-0365-GF	AQ	N							
				THALLIUM	1.5	1.1J		J	ug/L	RI
6020	FWGLL12mw-247-0336-GF	AQ	N							
				ALUMINUM	60	160		J	ug/L	Ld
6020	FWGLL3mw-244-0323-GF	AQ	N							
				ANTIMONY	1.0	0.35J		J	ug/L	RI
6020	FWGSCFmw-004-0372-GF	AQ	N							
				SODIUM	400	11000		J	ug/L	Ld
6020	FWGSCFmw-DUP6-0378-GF	AQ	FD							
				THALLIUM	1.5	0.97J		J	ug/L	RI
6860	FWGBKGmw-010C-0311-GF	AQ	N							
				PERCHLORATE	0.020	0.018J		B	ug/L	Mb
6860	FWGDETMw-002C-0315-GF	AQ	N							
				PERCHLORATE	0.020	0.012J		J	ug/L	RI

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## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
6860	FWGRQLmw-010C-0325-GF	AQ	N	PERCHLORATE	0.020	0.018J		B	ug/L	Mb
8081A	FWGDA2mw-115-0313-GW	AQ	N	BETA-BHC	0.020	0.015J Q		J	ug/L	Surr, RI, C
8081A	FWGDETMw-001C-0314-GW	AQ	N	ENDRIN KETONE	0.019	0.012J		J	ug/L	RI, Ccv
8081A	FWGDETMw-002C-0315-GW	AQ	N	BETA-BHC	0.019	0.011J Q		J	ug/L	RI, Ccv
8081A	FWGDETMw-003C-0343-GW	AQ	N	BETA-BHC	0.019	0.015J		J	ug/L	RI, Ccv
8081A	FWGLL12mw-245C-0365-GW	AQ	N	BETA-BHC	0.019	0.011J Q		J	ug/L	RI, Ccv

*N = Normal Sample    TB = Trip Blank*  
*FD = Field Duplicate    FB = Field Blank*



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8081A	FWGLL12mw-247-0336-GW	AQ	N							
				4,4'-DDD	0.019	0.019U		UJ	ug/L	Surr
				4,4'-DDE	0.019	0.019U		UJ	ug/L	Surr
				4,4'-DDT	0.019	0.019U		UJ	ug/L	Surr
				ALDRIN	0.019	0.019U		UJ	ug/L	Surr
				ALPHA-BHC	0.019	0.019U		UJ	ug/L	Surr
				ALPHA-CHLORDANE	0.019	0.019U		UJ	ug/L	Surr
				BETA-BHC	0.019	0.18		J	ug/L	Fd, Surr, C
				DELTA-BHC	0.019	0.019U		UJ	ug/L	Surr
				DIELDRIN	0.019	0.019U		UJ	ug/L	Surr
				ENDOSULFAN I	0.019	0.019U		UJ	ug/L	Surr
				ENDOSULFAN II	0.019	0.019U		UJ	ug/L	Surr
				ENDOSULFAN SULFATE	0.019	0.019U		UJ	ug/L	Surr
				ENDRIN	0.019	0.019U		UJ	ug/L	Surr
				ENDRIN ALDEHYDE	0.019	0.019U		UJ	ug/L	Surr
				ENDRIN KETONE	0.019	0.019U		UJ	ug/L	Surr
				gamma-BHC (Lindane)	0.019	0.019U		UJ	ug/L	Surr
				GAMMA-CHLORDANE	0.019	0.019U		UJ	ug/L	Surr
				HEPTACHLOR	0.019	0.019U		UJ	ug/L	Surr
				HEPTACHLOR EPOXIDE	0.019	0.019U		UJ	ug/L	Surr
				METHOXYCHLOR	0.048	0.048U		UJ	ug/L	Surr
				TOXAPHENE	0.76	0.76U		UJ	ug/L	Surr
8081A	FWGLL3mw-244-0323-GW	AQ	N							
				BETA-BHC	0.019	0.025J Q		J	ug/L	Ccv
8081A	FWGSCFmw-002-0327-GW	AQ	N							
				BETA-BHC	0.019	0.014J Q		J	ug/L	Surr, RI, C
8081A	FWGSCFmw-004-0372-GW	AQ	N							
				BETA-BHC	0.020	0.0087J Q		J	ug/L	RI, Ccv

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## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8081A	FWGSCFmw-DUP6-0378-GW	AQ	FD	BETA-BHC	0.020	0.013J Q		J	ug/L	RI, Ccv
8082	FWGB12mw-013-0313-GW	AQ	N	AROCLOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE, Surr
				AROCLOR 1221	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCLOR 1232	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCLOR 1242	0.38	0.38U H		UJ	ug/L	StoE, Surr
				AROCLOR 1248	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCLOR 1254	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCLOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE, Surr
8082	FWGDA2mw-114-0312-GW	AQ	N	AROCLOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE
				AROCLOR 1221	0.19	0.19U H		UJ	ug/L	StoE
				AROCLOR 1232	0.19	0.19U H		UJ	ug/L	StoE
				AROCLOR 1242	0.38	0.38U H		UJ	ug/L	StoE
				AROCLOR 1248	0.19	0.19U H		UJ	ug/L	StoE
				AROCLOR 1254	0.19	0.19U H		UJ	ug/L	StoE
				AROCLOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8082	FWGDA2mw-115-0313-GW	AQ	N							
				AROCOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE
				AROCOR 1221	0.19	0.19U H		UJ	ug/L	StoE
				AROCOR 1232	0.19	0.19U H		UJ	ug/L	StoE
				AROCOR 1242	0.38	0.38U H		UJ	ug/L	StoE
				AROCOR 1248	0.19	0.19U H		UJ	ug/L	StoE
				AROCOR 1254	0.19	0.19U H		UJ	ug/L	StoE
				AROCOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE
8082	FWGDETmw-001C-0314-GW	AQ	N							
				AROCOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE, Surr
				AROCOR 1221	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1232	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1242	0.38	0.38U H		UJ	ug/L	StoE, Surr
				AROCOR 1248	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1254	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE, Surr
8082	FWGDETmw-002C-0315-GW	AQ	N							
				AROCOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE, Surr
				AROCOR 1221	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1232	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1242	0.38	0.38U H		UJ	ug/L	StoE, Surr
				AROCOR 1248	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1254	0.19	0.19U H		UJ	ug/L	StoE, Surr
				AROCOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE, Surr

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8082	FWGDETMw-003C-0343-GW	AQ	N							
				AROCOLOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE
				AROCOLOR 1221	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1232	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1242	0.38	0.38U H		UJ	ug/L	StoE
				AROCOLOR 1248	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1254	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE
8082	FWGEBGmw-131-0316-GW	AQ	N							
				AROCOLOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE
				AROCOLOR 1221	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1232	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1242	0.38	0.38U H		UJ	ug/L	StoE
				AROCOLOR 1248	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1254	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE
8082	FWGEQUIPRINSE2-0341-GW	AQ	EB							
				AROCOLOR 1016	0.20	0.20U H Q		UJ	ug/L	StoE, Surr
				AROCOLOR 1221	0.20	0.20U H		UJ	ug/L	StoE, Surr
				AROCOLOR 1232	0.20	0.20U H		UJ	ug/L	StoE, Surr
				AROCOLOR 1242	0.40	0.40U H		UJ	ug/L	StoE, Surr
				AROCOLOR 1248	0.20	0.20U H		UJ	ug/L	StoE, Surr
				AROCOLOR 1254	0.20	0.20U H		UJ	ug/L	StoE, Surr
				AROCOLOR 1260	0.20	0.20U H Q		UJ	ug/L	StoE, Surr

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8082	FWGRQLmw-007C-0369-GW	AQ	N							
				AROCOLOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE
				AROCOLOR 1221	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1232	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1242	0.38	0.38U H		UJ	ug/L	StoE
				AROCOLOR 1248	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1254	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE
8082	FWGRQLmw-010C-0325-GW	AQ	N							
				AROCOLOR 1016	0.19	0.19U H Q		UJ	ug/L	StoE
				AROCOLOR 1221	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1232	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1242	0.38	0.38U H		UJ	ug/L	StoE
				AROCOLOR 1248	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1254	0.19	0.19U H		UJ	ug/L	StoE
				AROCOLOR 1260	0.19	0.19U H Q		UJ	ug/L	StoE
8260B	FWGDA2mw-115-0313-GW	AQ	N							
				CARBON DISULFIDE	0.25	0.14J		B	ug/L	Eb
8260B	FWGEQUIPRINSE2-0341-GW	AQ	EB							
				ACETONE	1.1	21		J	ug/L	Ccv
8260B	FWGRQLmw-007C-0369-GW	AQ	N							
				1,2-DICHLOROETHENE (TOTAL)	0.25	0.18J		J	ug/L	RI
				ACETONE	1.1	1.2J		JB	ug/L	Eb, Ccv
				CIS-1,2-DICHLOROETHENE	0.25	0.18J		J	ug/L	RI

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8260B	FWGRQLmw-010C-0325-GW	AQ	N	ACETONE	1.1	2.5J		JB	ug/L	Eb, Ccv
8260B	FWGTEAM1-TRIP	AQ	TB	METHYLENE CHLORIDE	0.50	0.33J		J	ug/L	RI, ProfJu
8260B	FWGTEAM3-TRIP	AQ	TB	METHYLENE CHLORIDE	0.50	0.45J		J	ug/L	RI
8270C -SVOC1	FWGFWGmw-012-0349-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.74J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.74J		J	ug/L	RI
8270C -SVOC1	FWGLL12mw-187C-0363-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.65J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.84J		J	ug/L	RI
8270C -SVOC1	FWGLL12mw-242C-0364-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	1.2J		B	ug/L	Mb, Eb
				Butylbenzylphthalate	0.48	0.35J		J	ug/L	RI
8270C -SVOC1	FWGLL12mw-245C-0365-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.68J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL12mw-247-0336-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.55J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.67J		J	ug/L	RI
8270C -SVOC1	FWGLL12mw-DUP3-0338-GW	AQ	FD	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.62J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.70J		J	ug/L	RI

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8270C -SVOC1	FWGLL1mw-064C-0352-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.50	0.61J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.99	0.91J		J	ug/L	RI
8270C -SVOC1	FWGLL1mw-087C-0356-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.54	0.86J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	1.1	0.84J		J	ug/L	RI
8270C -SVOC1	FWGLL3mw-244-0323-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.46J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.69J		J	ug/L	RI
8270C -SVOC1	FWGSCFmw-002-0327-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.50	0.53J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGSCFmw-004-0372-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.53	0.95J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	1.1	0.84J		J	ug/L	RI
8270C -SVOC1	FWGSCFmw-DUP6-0378-GW	AQ	FD	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.57J		B	ug/L	Mb, Eb
8270C-SVOC4	FWGDA2mw-114-0312-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.35J		B	ug/L	Eb
8270C-SVOC4	FWGDA2mw-115-0313-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.56J		B	ug/L	Eb
				DI-N-BUTYL PHTHALATE	0.95	0.64J		J	ug/L	RI
8270C-SVOC4	FWGDA2mw-DUP1-0336-GW	AQ	FD	BIS(2-ETHYLHEXYL)PHTHALATE	0.53	0.88J		B	ug/L	Eb

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
8270C-SVOC4	FWGDETMw-001C-0314-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.51	3.4		B	ug/L	Eb
				DI-N-BUTYL PHTHALATE	1.0	0.70J		J	ug/L	RI
8270C-SVOC4	FWGDETMw-002C-0315-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.35J		B	ug/L	Eb
8270C-SVOC4	FWGDETMw-003C-0343-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.78J		B	ug/L	Eb
8270C-SVOC4	FWGEBGmw-131-0316-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.38J		J	ug/L	RI
8270C-SVOC4	FWGEQUIPRINSE2-0341-GW	AQ	EB	PHENOL	1.0	0.61J		J	ug/L	RI
8270C-SVOC4	FWGRQLmw-007C-0369-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.46J		J	ug/L	RI
				DI-N-BUTYL PHTHALATE	0.96	0.78J		J	ug/L	RI
8330	FWGSCFmw-002-0327-GW	AQ	N	1,3-DINITROBENZENE	0.11	0.064J		UJ	ug/L	RI, ProfJu
				NITROBENZENE	0.11	2.6		U	ug/L	ProfJudg
9012A	FWGDA2mw-114-0312-GW	AQ	N	CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGDA2mw-115-0313-GW	AQ	N	CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGDETMw-002C-0315-GW	AQ	N	CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
9012A	FWGEBGmw-131-0316-GW	AQ	N	CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGRQLmw-007C-0369-GW	AQ	N	CYANIDE	0.010	0.0080J		J	mg/L	RI
9012A	FWGRQLmw-010C-0325-GW	AQ	N	CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
WS-WC-0050	FWGDA2mw-114-0312-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGDA2mw-115-0313-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGDA2mw-DUP1-0336-GW	AQ	FD	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGDETMw-001C-0314-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGDETMw-002C-0315-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGDETMw-003C-0343-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGEQUIPRINSE2-0341-GW	AQ	EB	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGFWGmw-011-0348-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
WS-WC-0050	FWGFWGmw-012-0349-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL12mw-187C-0363-GW	AQ	N	Nitrocellulose	1.0	1.1J		J	mg/L	Ms
WS-WC-0050	FWGLL12mw-242C-0364-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL12mw-245C-0365-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL12mw-247-0336-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL12mw-DUP3-0338-GW	AQ	FD	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL1mw-064C-0352-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL1mw-087C-0356-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGLL3mw-244-0323-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGSCFmw-002-0327-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms
WS-WC-0050	FWGSCFmw-004-0372-GW	AQ	N	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28145-1</b>										
WS-WC-0050	FWGSCFmw-DUP6-0378-GW	AQ	FD	Nitrocellulose	1.0	1.0U		UJ	mg/L	Ms



# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: GENCHEM

Method: 353.2

Matrix: AQ

Sample ID: FWGLL12mw-DUP3-0338-GW

Collected: 8/20/2013 1:41:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrate-Nitrite	0.011	J	0.0053	MDL	0.012	LOD	mg/L	J	RI

Method Category: GENCHEM

Method: 6860

Matrix: AQ

Sample ID: FWGBKGmw-010C-0311-GF

Collected: 8/20/2013 9:34:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PERCHLORATE	0.018	J	0.0088	MDL	0.020	LOD	ug/L	U	Mb

Sample ID: FWGDEtmw-001C-0314-GF

Collected: 8/20/2013 2:56:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PERCHLORATE	0.020	U	0.0088	MDL	0.020	LOD	ug/L	UJ	ProfJudg

Sample ID: FWGDEtmw-002C-0315-GF

Collected: 8/20/2013 3:11:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PERCHLORATE	0.012	J	0.0088	MDL	0.020	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-010C-0325-GF

Collected: 8/19/2013 3:34:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PERCHLORATE	0.018	J	0.0088	MDL	0.020	LOD	ug/L	U	Mb

Method Category: GENCHEM

Method: 9012A

Matrix: AQ

Sample ID: FWGRQLmw-007C-0369-GW

Collected: 8/19/2013 1:24:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.0080	J	0.0032	MDL	0.010	LOD	mg/L	J	RI

\* denotes a non-reportable result

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: GENCHEM

Method: WS-WC-0050

Matrix: AQ

Sample ID: FWGDA2mw-114-0312-GW

Collected: 8/20/2013 5:05:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGDA2mw-115-0313-GW

Collected: 8/20/2013 2:58:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGDA2mw-DUP1-0336-GW

Collected: 8/20/2013 4:08:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGDETMw-001C-0314-GW

Collected: 8/20/2013 2:56:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGDETMw-002C-0315-GW

Collected: 8/20/2013 3:11:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGDETMw-003C-0343-GW

Collected: 8/20/2013 4:19:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGEQUIPRINSE2-0341-GW

Collected: 8/20/2013 1:42:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

Sample ID: FWGFWGmw-011-0348-GW

Collected: 8/20/2013 11:50:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: GENCHEM

Method: WS-WC-0050

Matrix: AQ

Sample ID:FWGFWGmw-012-0349-GW			Collected: 8/20/2013 12:54:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

Sample ID:FWGLL12mw-187C-0363-GW			Collected: 8/20/2013 9:35:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.1	J	0.48	MDL	1.0	LOD	mg/L	J	Ms	

Sample ID:FWGLL12mw-242C-0364-GW			Collected: 8/20/2013 11:11:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

Sample ID:FWGLL12mw-245C-0365-GW			Collected: 8/20/2013 9:56:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

Sample ID:FWGLL12mw-247-0336-GW			Collected: 8/20/2013 1:01:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

Sample ID:FWGLL12mw-DUP3-0338-GW			Collected: 8/20/2013 1:41:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

Sample ID:FWGLL1mw-064C-0352-GW			Collected: 8/20/2013 4:04:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

Sample ID:FWGLL1mw-087C-0356-GW			Collected: 8/20/2013 9:28:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms	

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

**Method Category:** GENCHEM

**Method:** WS-WC-0050

**Matrix:** AQ

**Sample ID:** FWGLL3mw-244-0323-GW

**Collected:** 8/20/2013 12:29:00

**Analysis Type:** RES/TOT

**Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

**Sample ID:** FWGSCFmw-002-0327-GW

**Collected:** 8/20/2013 12:08:00

**Analysis Type:** RES/TOT

**Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

**Sample ID:** FWGSCFmw-004-0372-GW

**Collected:** 8/20/2013 10:48:00

**Analysis Type:** RES/TOT

**Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

**Sample ID:** FWGSCFmw-DUP6-0378-GW

**Collected:** 8/20/2013 1:02:00

**Analysis Type:** RES/TOT

**Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrocellulose	1.0	U	0.48	MDL	1.0	LOD	mg/L	UJ	Ms

**Method Category:** METALS

**Method:** 6010B

**Matrix:** AQ

**Sample ID:** FWGFWGmw-011-0348-GF

**Collected:** 8/20/2013 11:50:00

**Analysis Type:** RES/TOT

**Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	840	J	300	MDL	900	LOD	ug/L	J	RI

**Sample ID:** FWGFWGmw-012-0349-GF

**Collected:** 8/20/2013 12:54:00

**Analysis Type:** RES/TOT

**Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COBALT	1.8	J	1.5	MDL	4.0	LOD	ug/L	J	RI
NICKEL	2.4	J	2.2	MDL	5.0	LOD	ug/L	J	RI
POTASSIUM	830	J	300	MDL	900	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6010B

Matrix: AQ

Sample ID:FWGLL10mw-003C-0361-GF			Collected: 8/20/2013 2:30:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
POTASSIUM	690	J	300	MDL	900	LOD	ug/L	J	RI	
Sample ID:FWGLL12mw-185C-0362-GF			Collected: 8/20/2013 11:39:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
COBALT	1.9	J	1.5	MDL	4.0	LOD	ug/L	J	RI	
Sample ID:FWGLL12mw-245C-0365-GF			Collected: 8/20/2013 9:56:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
COBALT	1.6	J	1.5	MDL	4.0	LOD	ug/L	J	RI	
Sample ID:FWGLL12mw-247-0336-GF			Collected: 8/20/2013 1:01:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
ARSENIC	6.3	J	3.3	MDL	10	LOD	ug/L	J	RI	
Sample ID:FWGLL12mw-DUP3-0338-GF			Collected: 8/20/2013 1:41:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
ARSENIC	7.7	J	3.3	MDL	10	LOD	ug/L	J	RI	
Sample ID:FWGLL1mw-064C-0352-GF			Collected: 8/20/2013 4:04:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
POTASSIUM	740	J	300	MDL	900	LOD	ug/L	J	RI	
Sample ID:FWGLL1mw-087C-0356-GF			Collected: 8/20/2013 9:28:00			Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
COBALT	1.5	J	1.5	MDL	4.0	LOD	ug/L	J	RI	
POTASSIUM	610	J	300	MDL	900	LOD	ug/L	J	RI	

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6010B

Matrix: AQ

Sample ID: FWGSCFmw-004-0372-GF

Collected: 8/20/2013 10:48:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BARIUM	83	J	2.8	MDL	5.0	LOD	ug/L	J	Ld
CALCIUM	150000		630	MDL	1000	LOD	ug/L	J	Ld
MAGNESIUM	60000		120	MDL	300	LOD	ug/L	J	Ld
MANGANESE	740		1.8	MDL	5.0	LOD	ug/L	J	Ld

Method Category: METALS

Method: 6020

Matrix: AQ

Sample ID: FWGDETmw-002C-0315-GF

Collected: 8/20/2013 3:11:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
IRON	93	J	44	MDL	100	LOD	ug/L	J	RI

Sample ID: FWGLL12mw-242C-0364-GF

Collected: 8/20/2013 11:11:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	50	J	20	MDL	60	LOD	ug/L	J	RI

Sample ID: FWGLL12mw-245C-0365-GF

Collected: 8/20/2013 9:56:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
THALLIUM	1.1	J	0.79	MDL	1.5	LOD	ug/L	J	RI

Sample ID: FWGLL12mw-247-0336-GF

Collected: 8/20/2013 1:01:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	160		20	MDL	60	LOD	ug/L	J	Ld

Sample ID: FWGLL3mw-244-0323-GF

Collected: 8/20/2013 12:29:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.35	J	0.33	MDL	1.0	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6020

Matrix: AQ

Sample ID: FWGSCFmw-004-0372-GF

Collected: 8/20/2013 10:48:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SODIUM	11000		160	MDL	400	LOD	ug/L	J	Ld

Sample ID: FWGSCFmw-DUP6-0378-GF

Collected: 8/20/2013 1:02:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
THALLIUM	0.97	J	0.79	MDL	1.5	LOD	ug/L	J	RI

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGDA2mw-115-0313-GW

Collected: 8/20/2013 2:58:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.015	J Q	0.0082	MDL	0.020	LOD	ug/L	J	RI, Ccv, Surr

Sample ID: FWGDEtmw-001C-0314-GW

Collected: 8/20/2013 2:56:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ENDRIN KETONE	0.012	J	0.0074	MDL	0.019	LOD	ug/L	J	RI, Ccv

Sample ID: FWGDEtmw-002C-0315-GW

Collected: 8/20/2013 3:11:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.011	J Q	0.0081	MDL	0.019	LOD	ug/L	J	RI, Ccv

Sample ID: FWGDEtmw-003C-0343-GW

Collected: 8/20/2013 4:19:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.015	J	0.0080	MDL	0.019	LOD	ug/L	J	RI, Ccv

Sample ID: FWGLL12mw-245C-0365-GW

Collected: 8/20/2013 9:56:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.011	J Q	0.0080	MDL	0.019	LOD	ug/L	J	RI, Ccv

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGLL12mw-247-0336-GW

Collected: 8/20/2013 1:01:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDD	0.019	U	0.0091	MDL	0.019	LOD	ug/L	UJ	Surr
4,4'-DDE	0.019	U	0.0092	MDL	0.019	LOD	ug/L	UJ	Surr
4,4'-DDT	0.019	U	0.015	MDL	0.019	LOD	ug/L	UJ	Surr
ALDRIN	0.019	U	0.0078	MDL	0.019	LOD	ug/L	UJ	Surr
ALPHA-BHC	0.019	U	0.0067	MDL	0.019	LOD	ug/L	UJ	Surr
ALPHA-CHLORDANE	0.019	U	0.013	MDL	0.019	LOD	ug/L	UJ	Surr
BETA-BHC	0.18		0.0080	MDL	0.019	LOD	ug/L	J	Surr, Ccv, Fd
DELTA-BHC	0.019	U	0.0083	MDL	0.019	LOD	ug/L	UJ	Surr
DIELDRIN	0.019	U	0.0071	MDL	0.019	LOD	ug/L	UJ	Surr
ENDOSULFAN I	0.019	U	0.012	MDL	0.019	LOD	ug/L	UJ	Surr
ENDOSULFAN II	0.019	U	0.011	MDL	0.019	LOD	ug/L	UJ	Surr
ENDOSULFAN SULFATE	0.019	U	0.010	MDL	0.019	LOD	ug/L	UJ	Surr
ENDRIN	0.019	U	0.010	MDL	0.019	LOD	ug/L	UJ	Surr
ENDRIN ALDEHYDE	0.019	U	0.010	MDL	0.019	LOD	ug/L	UJ	Surr
ENDRIN KETONE	0.019	U	0.0074	MDL	0.019	LOD	ug/L	UJ	Surr
gamma-BHC (Lindane)	0.019	U	0.0061	MDL	0.019	LOD	ug/L	UJ	Surr
GAMMA-CHLORDANE	0.019	U	0.011	MDL	0.019	LOD	ug/L	UJ	Surr
HEPTACHLOR	0.019	U	0.0076	MDL	0.019	LOD	ug/L	UJ	Surr
HEPTACHLOR EPOXIDE	0.019	U	0.0068	MDL	0.019	LOD	ug/L	UJ	Surr
METHOXYCHLOR	0.048	U	0.030	MDL	0.048	LOD	ug/L	UJ	Surr
TOXAPHENE	0.76	U	0.30	MDL	0.76	LOD	ug/L	UJ	Surr

Sample ID: FWGLL3mw-244-0323-GW

Collected: 8/20/2013 12:29:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.025	J Q	0.0080	MDL	0.019	LOD	ug/L	J	Ccv

Sample ID: FWGSCFmw-002-0327-GW

Collected: 8/20/2013 12:08:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.014	J Q	0.0080	MDL	0.019	LOD	ug/L	J	RI, Ccv, Surr

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGSCFmw-004-0372-GW

Collected: 8/20/2013 10:48:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.0087	J Q	0.0082	MDL	0.020	LOD	ug/L	J	RI, Ccv

Sample ID: FWGSCFmw-DUP6-0378-GW

Collected: 8/20/2013 1:02:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.013	J Q	0.0086	MDL	0.020	LOD	ug/L	J	RI, Ccv

Method Category: SVOA

Method: 8082

Matrix: AQ

Sample ID: FWGB12mw-013-0313-GW

Collected: 8/20/2013 10:30:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	Surr, StoE

Sample ID: FWGDA2mw-114-0312-GW

Collected: 8/20/2013 5:05:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8082

Matrix: AQ

Sample ID: FWGDA2mw-115-0313-GW

Collected: 8/20/2013 2:58:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE

Sample ID: FWGDETMw-001C-0314-GW

Collected: 8/20/2013 2:56:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	Surr, StoE

Sample ID: FWGDETMw-002C-0315-GW

Collected: 8/20/2013 3:11:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	Surr, StoE

Sample ID: FWGDETMw-003C-0343-GW

Collected: 8/20/2013 4:19:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	StoE

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8082

Matrix: AQ

Sample ID: FWGDETMw-003C-0343-GW

Collected: 8/20/2013 4:19:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE

Sample ID: FWGEBGmw-131-0316-GW

Collected: 8/19/2013 5:44:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE

Sample ID: FWGEQUIPRINSE2-0341-GW

Collected: 8/20/2013 1:42:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.20	U H Q	0.17	MDL	0.20	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1221	0.20	U H	0.13	MDL	0.20	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1232	0.20	U H	0.16	MDL	0.20	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1242	0.40	U H	0.22	MDL	0.40	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1248	0.20	U H	0.10	MDL	0.20	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1254	0.20	U H	0.16	MDL	0.20	LOD	ug/L	UJ	Surr, StoE
AROCLOR 1260	0.20	U H Q	0.17	MDL	0.20	LOD	ug/L	UJ	Surr, StoE

Sample ID: FWGRQLmw-007C-0369-GW

Collected: 8/19/2013 1:24:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1221	0.19	U H	0.13	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	StoE

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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## Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8082

Matrix: AQ

Sample ID: FWGRQLmw-007C-0369-GW

Collected: 8/19/2013 1:24:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1248	0.19	U H	0.096	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE

Sample ID: FWGRQLmw-010C-0325-GW

Collected: 8/19/2013 3:34:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1221	0.19	U H	0.12	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1232	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1242	0.38	U H	0.21	MDL	0.38	LOD	ug/L	UJ	StoE
AROCLOR 1248	0.19	U H	0.095	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1254	0.19	U H	0.15	MDL	0.19	LOD	ug/L	UJ	StoE
AROCLOR 1260	0.19	U H Q	0.16	MDL	0.19	LOD	ug/L	UJ	StoE

Method Category: SVOA

Method: 8270C -SVOC1

Matrix: AQ

Sample ID: FWGFWGmw-012-0349-GW

Collected: 8/20/2013 12:54:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.74	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHthalate	0.74	J	0.64	MDL	0.95	LOD	ug/L	J	RI

Sample ID: FWGLL12mw-187C-0363-GW

Collected: 8/20/2013 9:35:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.65	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHthalate	0.84	J	0.64	MDL	0.95	LOD	ug/L	J	RI

Sample ID: FWGLL12mw-242C-0364-GW

Collected: 8/20/2013 11:11:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	1.2	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
Butylbenzylphthalate	0.35	J	0.25	MDL	0.48	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8270C -SVOC1

Matrix: AQ

Sample ID:FWGLL12mw-245C-0365-GW

Collected: 8/20/2013 9:56:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.68	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb

Sample ID:FWGLL12mw-247-0336-GW

Collected: 8/20/2013 1:01:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.55	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.67	J	0.64	MDL	0.95	LOD	ug/L	J	RI

Sample ID:FWGLL12mw-DUP3-0338-GW

Collected: 8/20/2013 1:41:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.62	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.70	J	0.64	MDL	0.95	LOD	ug/L	J	RI

Sample ID:FWGLL1mw-064C-0352-GW

Collected: 8/20/2013 4:04:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.61	J	0.22	MDL	0.50	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.91	J	0.66	MDL	0.99	LOD	ug/L	J	RI

Sample ID:FWGLL1mw-087C-0356-GW

Collected: 8/20/2013 9:28:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.86	J	0.24	MDL	0.54	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.84	J	0.73	MDL	1.1	LOD	ug/L	J	RI

Sample ID:FWGLL3mw-244-0323-GW

Collected: 8/20/2013 12:29:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.46	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.69	J	0.64	MDL	0.95	LOD	ug/L	J	RI

Sample ID:FWGSCFmw-002-0327-GW

Collected: 8/20/2013 12:08:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.53	J	0.22	MDL	0.50	LOD	ug/L	U	Mb, Eb

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8270C -SVOC1

Matrix: AQ

Sample ID:FWGSCFmw-004-0372-GW

Collected: 8/20/2013 10:48:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.95	J	0.23	MDL	0.53	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.84	J	0.71	MDL	1.1	LOD	ug/L	J	RI

Sample ID:FWGSCFmw-DUP6-0378-GW

Collected: 8/20/2013 1:02:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.57	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb

Method Category: SVOA

Method: 8270C-SVOC4

Matrix: AQ

Sample ID:FWGDA2mw-114-0312-GW

Collected: 8/20/2013 5:05:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.35	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

Sample ID:FWGDA2mw-115-0313-GW

Collected: 8/20/2013 2:58:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.56	J	0.21	MDL	0.48	LOD	ug/L	U	Eb
DI-N-BUTYL PHTHALATE	0.64	J	0.64	MDL	0.95	LOD	ug/L	J	RI

Sample ID:FWGDA2mw-DUP1-0336-GW

Collected: 8/20/2013 4:08:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.88	J	0.23	MDL	0.53	LOD	ug/L	U	Eb

Sample ID:FWGDETMw-001C-0314-GW

Collected: 8/20/2013 2:56:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	3.4		0.22	MDL	0.51	LOD	ug/L	U	Eb
DI-N-BUTYL PHTHALATE	0.70	J	0.68	MDL	1.0	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8270C-SVOC4

Matrix: AQ

Sample ID:FWGDETMw-002C-0315-GW

Collected: 8/20/2013 3:11:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.35	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

Sample ID:FWGDETMw-003C-0343-GW

Collected: 8/20/2013 4:19:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.78	J	0.21	MDL	0.48	LOD	ug/L	U	Eb

Sample ID:FWGEBGmw-131-0316-GW

Collected: 8/19/2013 5:44:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.38	J	0.21	MDL	0.48	LOD	ug/L	J	RI

Sample ID:FWGEQUIPRINSE2-0341-GW

Collected: 8/20/2013 1:42:00

Analysis Type: RES-ACID Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PHENOL	0.61	J	0.60	MDL	1.0	LOD	ug/L	J	RI

Sample ID:FWGRQLmw-007C-0369-GW

Collected: 8/19/2013 1:24:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.46	J	0.21	MDL	0.48	LOD	ug/L	J	RI
DI-N-BUTYL PHthalate	0.78	J	0.64	MDL	0.96	LOD	ug/L	J	RI

Method Category: SVOA

Method: 8330

Matrix: AQ

Sample ID:FWGSCFmw-002-0327-GW

Collected: 8/20/2013 12:08:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DINITROBENZENE	0.064	J	0.057	MDL	0.11	LOD	ug/L	UJ	RI, ProfJudg
NITROBENZENE	2.6		0.057	MDL	0.11	LOD	ug/L	U	ProfJudg

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

Method Category: VOA

Method: 8260B

Matrix: AQ

Sample ID: FWGDA2mw-115-0313-GW

Collected: 8/20/2013 2:58:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON DISULFIDE	0.14	J	0.13	MDL	0.25	LOD	ug/L	U	Eb

Sample ID: FWGEQUIPRINSE2-0341-GW

Collected: 8/20/2013 1:42:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	21		1.1	MDL	1.1	LOD	ug/L	J	Ccv

Sample ID: FWGRQLmw-007C-0369-GW

Collected: 8/19/2013 1:24:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHENE (TOTAL)	0.18	J	0.17	MDL	0.25	LOD	ug/L	J	RI
ACETONE	1.2	J	1.1	MDL	1.1	LOD	ug/L	UJ	Ccv, Eb
CIS-1,2-DICHLOROETHENE	0.18	J	0.17	MDL	0.25	LOD	ug/L	J	RI

Sample ID: FWGRQLmw-010C-0325-GW

Collected: 8/19/2013 3:34:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	2.5	J	1.1	MDL	1.1	LOD	ug/L	UJ	Ccv, Eb

Sample ID: FWGTEAM1-TRIP

Collected: 8/20/2013 8:00:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.33	J	0.33	MDL	0.50	LOD	ug/L	J	RI, ProfJudg

Sample ID: FWGTEAM3-TRIP

Collected: 8/20/2013 8:00:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.45	J	0.33	MDL	0.50	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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## Data Qualifier Summary

Lab Reporting Batch ID: 240-28145-1

Laboratory: TA CAN

EDD Filename: Prep240-28145-1r

eQAPP Name: RVAAP 66-rev July 2012

### Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Eb	Equipment Blank Contamination
Fd	Field Duplicate Precision
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Ms	Matrix Spike Precision
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
StoE	Sampling to Extraction Estimation
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Upper Estimation

\* denotes a non-reportable result

Project Name and Number: 030174.0016.001.10.1 - RVAAP66 (OH)

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## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28186

**Date:** December 9, 2013

**Revision:** 0

Data Reviewer: Angye Dragotta /Environmental Quality Management, Inc. (EQM, Inc.)

### QA/QC Summary

On August 20<sup>th</sup> and 21<sup>st</sup>, 2013 the following samples were collected from groundwater-monitoring wells at Ravenna Army Ammunition Plant and analyzed as part of SDG 240-28186. Sample analysis was performed by Test America. Test America-North Canton performed all analyses with the exception of the analytical for methods 8330, M8330, TALSOPWS-WC-0050 and 6860. Methods 8330, M8330 and TALSOPWS-WC-0050 were analyzed by Test America, West Sacramento and method 6860 was analyzed by Test America-Denver.

Sample ID	VOC by SW846 8260	SVOC 4 by SW846 8270	SVOC 1 and 3 by SW846 8270	SVOC 1 by SW846 8270	Pesticides by SW846 8081	PCBs/ SW846 8082	Explosives/Propellants by SW846 8330, Mod. 8330 and TALSOP WS-WC-0050	Cyanide SW846 9012	Perchlorate by SW846 6860	NO2/NO3, EPA 353.2	Metals <sup>4</sup>		
											SW846 6010B	SW846 6020	Mercury by SW846 7470A
FWGWBGmw-009C-0374-GW/GF				X			X				X	X	X
FWGWBGmw-020-0330-GW/GF	X	X			X	X	X	X			X	X	X
FWGLL2mw-265C-0321-GW/GF	X			X			X				X	X	X
FWGLL2mw-059C-0357-GW/GF	X			X			X				X	X	X
FWGLL1mw-084C-0355-GW/GF				X	X		X				X	X	X
FWGLL1mw-083C-0354-GW/GF				X	X		X				X	X	X
FWGDETmw-004C-0344-GW/GF	X	X			X	X	X	X			X	X	X
FWGNTAmw-119-0367-GW/GF	X		X				X				X	X	X
FWGFWGmw-006-0318-GW	X												
FWGFBQmw-174C-0345-GW/GF				X	X		X				X	X	X
FWGWBGmw-019-0329-GW/GF	X	X			X	X	X	X			X	X	X
FWGWBGmw-018-0328-GW/GF	X	X			X	X	X	X			X	X	X
FWGWBGmw-Dup4-0339-GW/GF	X	X			X	X	X	X			X	X	X
FWGLL2mw-267C-0358-GW/GF				X			X				X	X	X
FWGLL1mw-086-0320-GW/GF				X	X		X				X	X	X
FWGLL1mw-065C-0353-GW/GF				X	X		X				X	X	X
FWGWBGmw-021-0331-GW/GF	X	X			X	X	X	X			X	X	X
FWGWBGmw-006C-0373-GW/GF				X			X				X	X	X
FWGFWGmw-009-0319-GW/GF	X	X			X	X	X	X	X		X	X	X
FWGFWGmw-007-0347-GW/GF				X			X				X	X	X
FWGEQUIPRINSE3-0342-GW/GF	X	X			X	X	X	X	X		X	X	X

Notes:

- 1) All metals and perchlorate samples with the exception of FWGEQUIPRINSE3-0342-GW were field filtered (GF).
- 2) FWGTEAM1-TRIP, FWGTEAM2-TRIP082013, FWGTEAM3-TRIP, FWGTEAM4-TRIP were collected and analyzed for VOC by EPA 8260B.
- 3) SVOC4= Full SVOC List. SVOC 1&3= Nitroaromatics, phthalates and PAH. SVOC 1= Nitroaromatics and phthalates.
- 4) EPA 6020 metals include aluminum, antimony, beryllium, cadmium, iron, sodium, thallium and zinc. EPA 6010B metals include arsenic, chromium, cobalt, lead, selenium, silver, vanadium, barium, calcium, copper, magnesium, manganese, nickel and potassium.



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28186

**Date:** December 9, 2013

**Revision:** 0

The data presented in this report were evaluated according to the *Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January, 2012*. The following documents were used as needed to supplement the project documentation: The United States Department of Defense (DoD) Quality Services Manual (QSM) for Environmental Laboratories, Version 4.1, and the United States Army Corps of Engineers (USACE), Louisville District Quality Systems Manual Supplement (LS), *EPA National Functional Guidelines (NFG) for Organic Data Review, EPA-540/R-08-01, June 2008, NFG for Inorganic Data Review, EPA-540/R-04-004, October 2004*, Analytical Methods, and Laboratory Standard Operating Procedures. The QC criteria provided in the reference documents represent accuracy and precision performance goals for each analytical method. QC criteria reviewed for each method are listed below, along with any outliers.

All analytical results have been verified against compliance requirements specified in the project QAPP, QSM, LS, associated analytical methods and/or SOPs, as appropriate, and reported by the laboratory as directed by the DoD QSM.

Per the DoD QSM, the laboratory data is reported as follows: Non detected results were reported at the LOD with a "U" flag. Detected results between the DL and LOQ were reported as estimated, qualified with a "J" flag.

LOD - An estimate of the minimum amount of a substance that an analytical process can reliably detect.

LOQ - The lowest concentration that produces a quantitative result within specified limits of precision and bias.

DL- The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence.

Checklists used in review of the data have been presented in Appendix 1. Outliers have been noted below and results requiring qualification, as a result of this verification process, have been summarized in Appendix 2.

The completeness objective for the project was 90%. The completeness objective was met for this SDG, at 100%. Limitations, if any, on the data are indicated with qualifiers detailed below.

### **VOAs - 8260B**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Tuning criteria
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Internal standard area counts and retention times
- LOD and MRL verification criteria
- Method/Field/Trip blank Criteria
- Surrogate recoveries
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD

### **MRL Recovery**

The opening MRL analyzed 8/31/13 @ 0824 recovered above control limits of 70-130% for bromomethane at 157%, chloroethane at 139%, chloromethane at 149%, methylene chloride at 254% and vinyl chloride at 143%. The closing MRL analyzed 8/31/13 @ 1255 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 135% and methylene chloride at 183%. The methylene chloride results for samples FWGTeam4-Trip and FWGEQUIPRINSE3-0342-GW were qualified as estimated, "J". No additional qualifications were made for the



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28186

**Date:** December 9, 2013

**Revision:** 0

other MRL outliers, as there were no detected bromomethane, chloroethane, chloromethane, cis-1,3-dichloropropene or vinyl chloride concentrations reported for the bracketed field samples.

The opening MRL analyzed 8/29/13 @ 1836 recovered above control limits of 70-130% for toluene at 142% and trichloroethene at 143%. No qualifications were required as there were no detected toluene or trichloroethene concentrations reported for the bracketed field samples.

### CCV

The CCV analyzed 8/31/13 @ 0717 had a %D above control limits of 20% for methylene chloride at 20.5%, carbon tetrachloride at 21.2% and trans-1,3-dichloropropene at 21.6%. The methylene chloride results for samples FWGTeam4-Trip and FWGEQUIPRINSE3-0342-GW were qualified as estimated, "J". No qualifications were made for the carbon tetrachloride or trans-1,3-dichloropropene outliers as there were no detected carbon tetrachloride or trans-1,3-dichloropropene concentrations reported for the bracketed field samples.

### Blanks

Toluene was detected at 0.164µg/L in the method blank from batch 240-99628 and methylene chloride was detected in the method blank from batch 240-99810 at 0.893µg/L. The methylene chloride results for samples FWGEQUIPRINSE3-0342-GW and FWGTEAM4-TRIP were qualified, "B". No qualifications were required for the toluene contamination as there were no detected toluene concentrations reported for the associated field samples.

Methylene chloride was detected in FWGTEAM1-TRIP at 0.47µg/L, in FWGTEAM2-TRIP at 0.69µg/L and in FWGTEAM3-TRIP at 0.77µg/L. FWGTeam4-Trip had acetone detected at 1.4µg/L and methylene chloride at 0.85µg/L. FWGEQUIPRINSE3-0342-GW had acetone detected at 9.9µg/L, chloroform at 0.52µg/L, 2-butanone at 1.7µg/L, toluene at 0.18µg/L and methylene chloride at 0.81µg/L. The methylene chloride results for samples FWGEQUIPRINSE3-0342-GW and the acetone results for samples FWGFWGmw-009-0319-GW, FWGLL2mw-059C-0357-GW and FWGWBGmw-DUP4-0339-GW were qualified, "B" as the detected concentrations were <10x blank contamination. There were no detected 2-butanone, chloroform or toluene results reported for the associated field samples, so no qualifications were made for the 2-butanone, chloroform or toluene contamination.

### Field Duplicate RPD

A field duplicate was collected and analyzed on sample FWGWBGmw-018-0328-GW. The field duplicate RPD was above control limits for acetone at 200%, no qualification was made as acetone was not detected in the parent sample, FWGWBGmw-018-0328-GW.

### SVOCs- 8270C

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Tuning criteria
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Internal standard area counts and retention times
- LOD and MRL verification criteria
- Method/Field blank Criteria
- Surrogate recoveries
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD

### MRL Verification

The closing MRL check analyzed 9/7/13 recovered below control limits of 70-130% for 2,4-nitrophenol at 58%. An check standard was analyzed with detected results, so the 2,4-dinitrophenol results for samples FWGFWGmw-009-0319-GW, FWGDETmw-004C-0344-GW, FWGWBGmw-021-0331-GW, FWGEQUIPRINSE3-0342-GW,



## Data Verification Summary

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Sample Delivery Group:** 240-28186

**Date:** December 9, 2013

**Revision:** 0

FWGWBGmw-018-0328-GW, FWGWBGmw-DUP4-0328-GW, FWGWBGmw-020-0330-GW and FWGWBGmw-019-0329-GW were qualified as estimated, "UJ".

### ICV/CCV

The ICV analyzed 9/5/13 @ 1936 had 2,4-dimethylphenol with a %D above control limits of 20% at 25.4%. No qualifications were made as there were no detected concentrations of 2,4-dimethylphenol reported for the associated field samples.

The CCV analyzed 8/30/13 @ 1101 had 4-nitroaniline with a %D above control limits of 20% D at 22.1%. No qualifications were made as there were no detected concentrations of 4-nitroaniline reported for the associated field samples.

### Blanks

bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98675 at 0.425µg/L and di-n-butyl phthalate at 0.720µg/L. bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98883 at 0.25µg/L. The bis (2-ethylhexyl) phthalate and di-n-butyl phthalate results for samples FWGLL1mw-084C-0355-GW, FWGLL1mw-083C-0354-GW, FWGFBQmw-174C-0345-GW, FWGLL1mw-086-0320-GW, FWGLL2mw-267C-0358-GW, FWGDETmw-004C-0344-GW, FWGWBGmw-006C-0373-GW, FWGWBGmw-009C-0374-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-021-0331-GW, FWGEQUIPRINSE3-0342-GW, FWGWBGmw-DUP4-0328-GW, FWGLL2mw-265c-0321-GW, FWGLL2mw-059c-0357-GW, FWGWBGmw-020-0330-GW, FWGNTAmw-119-0367-GW and FWGWBGmw-019-0329-GW were qualified, "B". The bis (2-ethylhexyl) phthalate results for samples FWGFWGmw-009-0319-GW, FWGWBGmw-018-0328-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-006C-0373-GW and FWGFWGmw-007-0347-GW were qualified, "B".

bis (2-Ethylhexyl)phthalate was detected at 0.41µg/L and di-n-butyl phthalate at 1µg/L in sample FWGEQUIPRINSE3-0342-GW. The bis (2-ethylhexyl) phthalate and di-n-butyl phthalate results for samples FWGLL1mw-084C-0355-GW, FWGLL1mw-083C-0354-GW, FWGFBQmw-174C-0345-GW, FWGLL1mw-086-0320-GW, FWGLL2mw-267C-0358-GW, FWGDETmw-004C-0344-GW, FWGWBGmw-006C-0373-GW, FWGWBGmw-009C-0374-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-021-0331-GW, FWGWBGmw-DUP4-0328-GW, FWGLL2mw-265c-0321-GW, FWGLL2mw-059c-0357-GW, FWGWBGmw-020-0330-GW, FWGNTAmw-119-0367-GW and FWGWBGmw-019-0329-GW were qualified, "B". The bis (2-ethylhexyl) phthalate results for samples FWGFWGmw-009-0319-GW, FWGWBGmw-018-0328-GW, FWGLL1mw-065C-0353-GW, FWGWBGmw-006C-0373-GW and FWGFWGmw-007-0347-GW were qualified, "B".

### Field Duplicate RPD

The field duplicate analyzed on sample FWGWBGmw-018-0328-GW had an RPD above control limits of 50% for bis (2-ethylhexyl) phthalate at 82% and di-n-butyl phthalate at 200%. No qualification was made for the di-n-butyl phthalate RPD outlier as the parent sample result was no detected above the LOQ. However; the bis (2-ethylhexyl) phthalate result for sample FWGWBGmw-018-0328-GW was qualified as estimated, "J".

### Matrix Spike Recovery

A matrix spike was performed on sample FWGFWGmw-009-0319-GW. The benzo (a) pyrene matrix spike recovered below control limits of 55-110% at 53%. The benzo (a) pyrene result for sample FWGFWGmw-009-0319-GW was qualified as estimated, "UJ"

### Pesticides- 8081A

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Preservation, holding time and sample handling
- Initial Calibration criteria
- DDT and Endrin breakdown criteria
- Retention time criteria
- ICV criteria
- CCV Criteria



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- Method/Field blank Criteria
- LCS Recoveries
- Field Duplicate Criteria
- LOD and MRL verification criteria
- Matrix Spike Recovery Criteria and RPD
- Surrogate Recoveries
- Second Column confirmation criteria

### MRL Recovery

- The MRL analyzed on 8/29/13@ 2251 recovered above control limits of 70-130% at 143% on CLP-2 for delta-BHC.
- The MRL analyzed on 8/30/13@ 0337 recovered above control limits of 70-130% at 149% on CLP-2 for delta-BHC.
- The MRL analyzed on 8/30/13@ 1254 recovered above control limits of 70-130% at 139% on CLP-2 for delta-BHC.
- The MRL analyzed on 9/10/13@ 1711 recovered above control limits of 70-130% at 233% on CLP-2 for 4,4'-DDD and at 139% for methoxychlor.
- The MRL analyzed on 9/10/13@ 2015 recovered above control limits of 70-130% at 260% on CLP-2 for 4,4'-DDD and at 161% for methoxychlor.

No qualifications were required as there were no detected concentrations reported for delta-BHC, 4,4'-DDD or aldrin in the bracketed field samples from CLP-2.

### ICV/CCV

The ICV analyzed 8/29/13 at 1825 had a %D above control limits of 20% for methoxychlor at 22% on CLP-1. No qualification was required as there were no detected concentrations of methoxychlor reported for the associated field samples.

The ICV analyzed 8/29/13 at 2028 had a %D below control limits of 20% for toxaphene at -26% on CLP-2. The ICV analyzed 9/10/13 at 1448 had a %D of -30.8% for toxaphene on CLP-2. No toxaphene qualifications were required as CLP-2 was used for confirmation only and there were no detected concentrations of toxaphene reported for the associated field samples from the primary column.

The CCV analyzed 8/30/13 @ 0316 had a %D above control limits of 20% for endrin at 20.6% (CLP-1) and above limits for 4,4'-DDD at 23% and methoxychlor at 23.5% (CLP-2). No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 8/30/13 @ 0316 (CLP-2) had a %D above control limits of 20% for 4,4'-DDD at 23% and for methoxychlor at 23.5%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples and CLP-2 was used for confirmation only.

The CCV analyzed 8/30/13 @ 1044 (CLP-1) had a %D above control limits of 20% for gamma-BHC at 24.3%, beta-BHC at 21.9%, heptachlor epoxide at 22.7%, gamma-chlordane at 24.4%, dieldrin at 25.9%, endrin at 34.9%, 4,4'-DDD at 42.3%, endosulfan II at 31.4%, endosulfan sulfate at 26.4 % and endrin ketone at 25% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-BHC at 21.6%, heptachlor epoxide at 20.7%, gamma-chlordane at 23.2%, dieldrin at 23.9%, endrin at 36.5%, 4,4'-DDD at 36%, endosulfan II at 21.9%, endosulfan sulfate at 30.2 %, endrin ketone at 29% and methoxychlor at 20.8%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 8/30/13 @ 1155 had a %D above control limits of 20% for alpha-BHC at 22.4%, gamma-BHC at 30.9%, beta-BHC at 28.3%, delta-BHC at 22.5%, heptachlor epoxide at 27.3%, gamma-chlordane at 30.9, alpha-chlordane at 26.3%, 4,4'-DDE at 23.7%, dieldrin at 31.7%, endrin at 28.1%, 4,4'-DDD at 35.8%, endosulfan II at 27.3%, endosulfan sulfate at 24.3 % and endrin ketone at 24.2% (CLP-1). CLP-2 had a %D above control limits of



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20% for gamma-chlordane at 21%, 4,4'-DDD at 22.6%, endosulfan sulfate at 21 % and endrin ketone at 20.9%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 9/10/13 @ 1955 had a %D above control limits of 20% for 4,4'-DDD at 25.7% (CLP-1). CLP-2 had a %D above control limits for 4,4'-DDD at 31.6% and methoxychlor at 26.6% (CLP-2). No qualifications were required as there were no detected concentrations reported for the bracketed field samples.

The CCV analyzed 9/12/13 @ 1531 had a %D above control limits of 20% for alpha-BHC at 24.3%, gamma-BHC at 21.4%, delta-BHC at 21.4%, heptachlor at 20.5%, aldrin at 26.9%, 4,4'-DDE at 26.3%, endrin at 23.5%, 4,4'-DDD at 21% and below limits for endrin ketone at 20.9%(CLP-1). CLP-2 had a %D above control limits of 20% for alpha-BHC at 29.2%, gamma-BHC at 26%, beta-BHC at 24.3%, delta-BHC at 26%, heptachlor at 23.6%, aldrin at 30.7%, heptachlor epoxide at 23.9%, gamma-chlordane at 22.4%, alpha-chlordane at 23.7%, endosulfan I at 21.1%, 4,4'-DDE at 30.6%, dieldrin at 23.5%, endrin at 27.6%, 4,4'-DDD at 26.1%, endosulfan II at 20.9%, 4,4'-DDT at 21.9%, methoxychlor at 23% and endosulfan sulfate at 21.1%. No qualifications were required as FWGWBgmw-019-0329 had no detected concentrations reported for the outlier target analytes on CLP-1 and CLP-2 was used for confirmation only.

### Surrogate Recovery

The surrogate DCB recovered below control limits of 30-135 in sample FWGFBQmw-174C-0345-GW at 23% and at 27% for sample FWGLL1mw-086-0320-GW on CLP-2. TCMX recovered above control limits of 25-140% in sample FWGLL1mw-086-0320-GW at 1813% (CLP-1). The results for sample FWGLL1mw-086-0320-GW were qualified as estimated, "UJ".

### Matrix Spike Recovery

The matrix spike recovery for toxaphene was below control limits of 70-130% in the MS at 61%. The toxaphene result for sample FWGFWGmw-009-0319-GW was qualified as estimated, "UJ".

### PCB- 8082

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Preservation, holding time and sample handling
- Initial Calibration criteria
- DDT and Endrin breakdown criteria
- Retention time criteria
- ICV criteria
- CCV Criteria
- Method/Field blank Criteria
- LCS Recoveries
- Field Duplicate Criteria
- LOD and MRL verification criteria
- Matrix Spike Recovery Criteria and RPD
- Surrogate Recoveries
- Second Column confirmation criteria

No QC outliers were noted.

### Metals - 6010B

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery



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- Lab and Field Duplicate RPD Criteria
- Post digestion spike and serial dilution results

### Blanks

The ICB analyzed 9/9/13 @ 0749 had magnesium detected at 100µg/L. No qualifications were required as the detected magnesium results for the associated field samples were greater than 5x blank contamination.

The CCBs analyzed 9/9/13 had magnesium detected from 101 µg/L to 104µg/L. No qualifications were required as the detected magnesium results for the bracketed field samples were greater than 5x blank contamination.

Manganese was detected in the method blank from batch 240-98698 at 2.16µg/L. The manganese result for sample FWGDEtmw-004c-0344-GF was qualified, "B" as the detected results was < 5x blank contamination.

### Metals - 6020

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- Internal standards within 30-120% of the internal standard in the ICAL
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field Duplicate RPD Criteria
- Post digestion spike and serial dilution results

### CCV

The beryllium CCVs analyzed 9/9/13 from 1902-2246 recovered above control limits of 90-110% at 114% (1902), 117% (2031), 116% (2116) and at 121% (2246). No qualifications were required as there were no detected beryllium concentrations reported for the bracketed field samples.

### Blanks

The CCBs analyzed 9/9/13 had beryllium detected from 0.061µg/L to 0.103µg/L, cadmium from 0.043µg/L to 0.252µg/L, iron from 12.7 µg/L to 16.4µg/L, sodium from 6.45µg/L to 17.1µg/L and thallium at 0.0609µg/L (9/9/13 at 1311). The iron result for sample FWGLL1mw-084c-0355-GF was qualified, "U". No additional qualifications were required as the detected cadmium and sodium results for the bracketed field samples were greater than 5x blank contamination.

Aluminum was detected in the method blank from batch 240-98698 at 107µg/L. The aluminum result for sample FWGWBgmw-009c-0374-GF was qualified, "B" as the detected aluminum result was < 5x blank contamination.

### LCS Recovery

Beryllium recovered above control limits of 80-120% in the LCS from batch 240-98698 at 124%. No qualification was made to the associated data as there were no detected beryllium concentrations reported for the associated field samples.

### Mercury - 7470A

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria



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- ICB /CCBs criteria
- Method/Field blank Criteria
- LOD and MRL verification criteria
- LCS percent recovery criteria
- Matrix Spike Recovery
- Lab and Field duplicate RPD criteria

No QC outliers were noted.

### **Cyanide - 9012**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and MDL verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

### **MRL Recovery**

No closing MRL check was analyzed on 8/23/13 or 8/26/13. Opening MRL checks recovered within control limits. The cyanide results for samples FWGFWGmw-009c-0319-GW, FWGDETMw-004c-0344-GW, FWGWBGmw-019-0329-GW, FWGWBGmw-018-0328-GW, FWGWBGmw-DUP4-0339-GW, FWGWBGmw-020-0330-GW, FWGWBGmw-021-0331-GW and FWGEQUIPRINSE3-0342-GW were qualified as estimated, "J/UJ".

No additional outliers were noted.

### **Explosives- 8330**

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration Criteria
- ICV and CCV criteria
- Retention time criteria
- LOD and MRL verification criteria
- Surrogate recovery criteria
- Equipment and method blanks free from contamination
- LCS/LCD Recovery and RPD Criteria

### **MRL Recovery**

The MRL analyzed 9/9/13 @ 1151 recovered above control limits of 70-130% for 3-nitrotoluene at 139% and RDX at 141%. The MRL analyzed 9/10/13 at 2037 recovered above control limits of 70-130% for 3-nitrotoluene at 132%, RDX at 140%, 2,4-dinitrotoluene at 132% and 4-amino-2,6-dinitrotoluene at 134%. No qualifications were made as LC12 was used only as a confirmation column for these target analytes.

### **Confirmation Analysis**

The second column confirmation analysis for sample FWGLL2mw-059c-0357-GW had an RPD above control limits of 40% for 1,3,5-trinitrobenzene at 101%. The 1,3,5-trinitrobenzene result for sample FWGLL2mw-059c-0357-GW was qualified as estimated, "J".



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The second column confirmation analysis for sample FWGLL1mw-084c-0355-GW had an RPD above control limits of 40% for HMX at 80%. The HMX result for sample FWGLL1mw-084c-0355-GW was qualified as estimated, "J".

### Surrogate Recovery

The surrogate 3,4-dinitrobenzene recovered above control limits of 79-111% for samples FWGLL1mw-083c-0354-GW at 162% and FWGLL1mw-084c-0355-GW at 432%. The detected results for samples, FWGLL1mw-083c-0354-GW or FWGLL1mw-084c-0355-GW were qualified as estimated, "J".

### Nitroguanidine- 8330M

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- Retention time criteria
- LOD and MRL verification criteria
- ICV and CCV criteria
- The method blank and equipment blanks were free from contamination
- LCS/LCSD percent recoveries and RPD value criteria
- Matrix spike recovery criteria

No QC outliers were noted.

### Nitrocellulose – WS-WC-0050

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Sample preparation criteria
- Initial Calibration criteria
- ICV and CCV criteria
- The method and equipment blanks were free from contamination
- LOD and MRL verification criteria
- ICB and CCBs were free from contamination
- LCS/LCSD percent recoveries and RPD value criteria
- MS/MSD percent recoveries

No QC outliers were noted.

### Perchlorate 6860

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration criteria
- ICV and CCV criteria
- ICB /CCBs criteria
- Method/Field blank Criteria
- MRL and LOD verification criteria
- LCS percent recovery criteria
- MS percent recovery
- Matrix Duplicate RPD criteria
- Field duplicate RPD criteria

No QC outliers were noted.



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## Sample Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-28186-1	FWGWBGMw-009C-0374-GW	Water	08/21/13 09:35	08/22/13 07:00
240-28186-2	FWGWBGMw-009C-0374-GF	Water	08/21/13 09:35	08/22/13 07:00
240-28186-3	FWGWBGMw-020-0330-GW	Water	08/21/13 10:31	08/22/13 07:00
240-28186-4	FWGWBGMw-020-0330-GF	Water	08/21/13 10:31	08/22/13 07:00
240-28186-5	FWGLL2mw-265C-0321-GW	Water	08/21/13 11:55	08/22/13 07:00
240-28186-6	FWGLL2mw-265C-0321-GF	Water	08/21/13 11:55	08/22/13 07:00
240-28186-7	FWGLL2mw-059C-0357-GW	Water	08/21/13 12:51	08/22/13 07:00
240-28186-8	FWGLL2mw-059C-0357-GF	Water	08/21/13 12:51	08/22/13 07:00
240-28186-9	FWGTeam1-Trip	WQ	08/21/13 08:00	08/22/13 07:00
240-28186-10	FWGLL1mw-084C-0355-GW	Water	08/21/13 14:05	08/22/13 07:00
240-28186-11	FWGLL1mw-084C-0355-GF	Water	08/21/13 14:05	08/22/13 07:00
240-28186-12	FWGLL1mw-083C-0354-GW	Water	08/21/13 15:15	08/22/13 07:00
240-28186-13	FWGLL1mw-083C-0354-GF	Water	08/21/13 15:15	08/22/13 07:00
240-28186-14	FWGTeam2-Trip082013	WQ	08/20/13 17:08	08/22/13 07:00
240-28186-15	FWGDETMw-004C-0344-GW	Water	08/20/13 17:10	08/22/13 07:00
240-28186-16	FWGDETMw-004C-0344-GF	Water	08/20/13 17:10	08/22/13 07:00
240-28186-17	FWGNTAmw-119-0367-GW	Water	08/21/13 09:22	08/22/13 07:00
240-28186-18	FWGNTAmw-119-0367-GF	Water	08/21/13 09:22	08/22/13 07:00
240-28186-19	FWGFWGMw-006-0318-GW	Water	08/21/13 10:48	08/22/13 07:00
240-28186-20	FWGFBQmw-174C-0345-GW	Water	08/21/13 11:38	08/22/13 07:00
240-28186-21	FWGFBQmw-174C-0345-GF	Water	08/21/13 11:38	08/22/13 07:00
240-28186-22	FWGTeam3-TRIP	WQ	08/21/13 08:00	08/22/13 07:00
240-28186-23	FWGWBGMw-019-0329-GW	Water	08/21/13 08:56	08/22/13 07:00
240-28186-24	FWGWBGMw-019-0329-GF	Water	08/21/13 08:56	08/22/13 07:00
240-28186-25	FWGWBGMw-018-0328-GW	Water	08/21/13 10:03	08/22/13 07:00
240-28186-26	FWGWBGMw-018-0328-GF	Water	08/21/13 10:03	08/22/13 07:00
240-28186-27	FWGWBGMw-Dup4-0339-GW	Water	08/21/13 11:03	08/22/13 07:00
240-28186-28	FWGWBGMw-Dup4-0339-GF	Water	08/21/13 11:03	08/22/13 07:00
240-28186-29	FWGLL2mw-267C-0358-GW	Water	08/21/13 12:18	08/22/13 07:00
240-28186-30	FWGLL2mw-267C-0358-GF	Water	08/21/13 12:18	08/22/13 07:00
240-28186-31	FWGLL1mw-086-0320-GW	Water	08/21/13 13:33	08/22/13 07:00
240-28186-32	FWGLL1mw-086-0320-GF	Water	08/21/13 13:33	08/22/13 07:00
240-28186-33	FWGLL1mw-065C-0353-GW	Water	08/21/13 14:43	08/22/13 07:00
240-28186-34	FWGLL1mw-065C-0353-GF	Water	08/21/13 14:43	08/22/13 07:00
240-28186-35	FWGTEAM4-TRIP	WQ	08/21/13 08:00	08/22/13 07:00
240-28186-36	FWGWBGMw-021-0331-GW	Water	08/21/13 09:24	08/22/13 07:00
240-28186-37	FWGWBGMw-021-0331-GF	Water	08/21/13 09:24	08/22/13 07:00
240-28186-38	FWGWBGMw-006C-0373-GW	Water	08/21/13 10:40	08/22/13 07:00
240-28186-39	FWGWBGMw-006C-0373-GF	Water	08/21/13 10:40	08/22/13 07:00
240-28186-40	FWGFWGMw-009-0319-GW	Water	08/21/13 12:20	08/22/13 07:00
240-28186-41	FWGFWGMw-009-0319-GF	Water	08/21/13 12:20	08/22/13 07:00
240-28186-42	FWGFWGMw-007-0347-GW	Water	08/21/13 15:04	08/22/13 07:00
240-28186-43	FWGFWGMw-007-0347-GF	Water	08/21/13 15:04	08/22/13 07:00
240-28186-44	FWGEQUIPRINSE3-0342-GW	WQ	08/21/13 15:34	08/22/13 07:00

TestAmerica Canton



## Method Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Method	Method Description	Protocol	Laboratory
8260B/DoD	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8270C/DoD	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
8081/DOD	Organochlorine Pesticides (GC)	SW846	TAL CAN
8082/DOD	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
8330 Modified	Nitroguanidine (HPLC)	SW846	TAL SAC
8330A	Nitroaromatics and Nitramines	SW846	TAL SAC
6860	Perchlorate by IC/MS or IC/MS/MS	EPA	TAL DEN
6010B/DOD	Metals (ICP)	SW846	TAL CAN
6020/DOD	Metals (ICP/MS)	SW846	TAL CAN
7470A/DOD	Mercury (CVAA)	SW846	TAL CAN
9012A	Cyanide, Total and/or Amenable	SW846	TAL CAN
WS-WC-0050	Nitrocellulose	TAL-SAC	TAL SAC

### Protocol References:

EPA = US Environmental Protection Agency

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

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.

### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Job ID: 240-28186-1**

**Laboratory: TestAmerica Canton**

Narrative

### CASE NARRATIVE

**Client: Environmental Quality Mgt., Inc.**

**Project: RVAAP66 (OH)**

**Report Number: 240-28186-1**

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 some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

TestAmerica utilizes USEPA approved methods and DOD QSM, where applicable, in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

The 353.2 Nitrocellulose, the 8330\_NGu Nitroguanidine, and the 8330A Explosives analyses were performed at the TestAmerica Sacramento laboratory. The 6860 Perchlorate analysis was performed at the TestAmerica Denver laboratory.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters for which TestAmerica North Canton has certification were evaluated to the limit of detection (LOD) and include qualified results where applicable. Parameters not certified under QSM, if any, were evaluated to the detection limit (DL) and include qualified results where applicable.

The sample(s) that contain constituents flagged with U are undetected. The result associated with this flag is the limit of detection (LOD).

#### RECEIPT

The samples were received on 08/22/2013; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.4, 0.8, 1.2, 1.3, 1.4, 2.2, 2.4, 2.8, 3.1, 3.4, 3.6, 3.8, 4.2, 4.8 and 6.0 C.

#### VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples FWGWBGMw-020-0330-GW (240-28186-3), FWGLL2mw-265C-0321-GW (240-28186-5), FWGLL2mw-059C-0357-GW (240-28186-7), FWGTeam1-Trip (240-28186-9), FWGTeam2-Trip082013 (240-28186-14), FWGDETmw-004C-0344-GW (240-28186-15), FWGNTAmw-119-0367-GW (240-28186-17), FWGFWGMw-006-0318-GW (240-28186-19), FWGTeam3-TRIP (240-28186-22), FWGWBGMw-019-0329-GW (240-28186-23), FWGWBGMw-018-0328-GW (240-28186-25), FWGWBGMw-Dup4-0339-GW



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

### Job ID: 240-28186-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

(240-28186-27), FWGTEAM4-TRIP (240-28186-35), FWGWBGMw-021-0331-GW (240-28186-36), FWGFWGMw-009-0319-GW (240-28186-40) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B DoD. The samples were analyzed on 08/29/2013, 08/30/2013 and 08/31/2013.

Toluene was detected in method blank MB 240-99628/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Methylene Chloride was detected in method blank MB 240-99810/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Toluene and Trichloroethene failed the recovery criteria high for MRL 240-99628/7.

cis-1,3-Dichloropropene and Methylene Chloride failed the recovery criteria high for MRL 240-99810/16.

Bromomethane, Chloroethane, Chloromethane, Methylene Chloride and Vinyl chloride failed the recovery criteria high for MRL 240-99810/5.

The continuing calibration verification (CCV) for Methylene Chloride, Carbon Tetrachloride, Dichlorobromomethane, trans-1,3-Dichloropropene associated with batch 99810 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other difficulties were encountered during the VOCs analysis. All other quality control parameters were within the acceptance limits.

#### SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples FWGWBGMw-009C-0374-GW (240-28186-1), FWGWBGMw-020-0330-GW (240-28186-3), FWGLL2mw-265C-0321-GW (240-28186-5), FWGLL2mw-059C-0357-GW (240-28186-7), FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-083C-0354-GW (240-28186-12), FWGDETmw-004C-0344-GW (240-28186-15), FWGNTAmw-119-0367-GW (240-28186-17), FWGFBQmw-174C-0345-GW (240-28186-20), FWGWBGMw-019-0329-GW (240-28186-23), FWGWBGMw-018-0328-GW (240-28186-25), FWGWBGMw-Dup4-0339-GW (240-28186-27), FWGLL2mw-267C-0358-GW (240-28186-29), FWGLL1mw-086-0320-GW (240-28186-31), FWGLL1mw-065C-0353-GW (240-28186-33), FWGWBGMw-021-0331-GW (240-28186-36), FWGWBGMw-006C-0373-GW (240-28186-38), FWGFWGMw-009-0319-GW (240-28186-40), FWGFWGMw-007-0347-GW (240-28186-42) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 08/23/2013 and 08/26/2013 and analyzed on 08/30/2013 and 09/06/2013.

Surrogates are added during the extraction process prior to dilution. When the sample is diluted, surrogate recoveries are diluted out and no corrective action is required.

Bis(2-ethylhexyl) phthalate and Di-n-butyl phthalate were detected in method blank MB 240-98675/23-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Bis(2-ethylhexyl) phthalate was detected in method blank MB 240-98883/21-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

2-Fluorobiphenyl (Surr) failed the surrogate recovery criteria low for MB 240-98883/21-A. Refer to the QC report for details.

Benzo[a]pyrene failed the recovery criteria low for the MS of sample FWGFWGMw-009-0319-GWMS (240-28186-40) in batch 240-100453.

The continuing calibration verifications (CCV) for 4-nitrophenol and 4-nitroaniline, associated with batch 99673, recovered above the upper control limit. The samples associated with this CCV, FWGFWGMw-007-0347-GW (240-28186-42), FWGWBGMw-020-0330-GW (240-28186-3), were non-detects for the affected analytes; therefore, the data have been reported.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

### Job ID: 240-28186-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

The method blank associated for prep batch 98883, associated with sample FWGFWGmw-007-0347-GW (240-28186-42), had one BN surrogate recovery below acceptance criteria. Due to insufficient sample corrective action could not be initiated. The results have been reported.

No other difficulties were encountered during the SVOCs analysis. All other quality control parameters were within the acceptance limits.

#### NITROGUANIDINE (HPLC)

Samples FWGWBGMw-009C-0374-GW (240-28186-1), FWGWBGMw-020-0330-GW (240-28186-3), FWGLL2mw-265C-0321-GW (240-28186-5), FWGLL2mw-059C-0357-GW (240-28186-7), FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-083C-0354-GW (240-28186-12), FWGDETMw-004C-0344-GW (240-28186-15), FWGNTAmw-119-0367-GW (240-28186-17), FWGFBQmw-174C-0345-GW (240-28186-20), FWGWBGMw-019-0329-GW (240-28186-23), FWGWBGMw-018-0328-GW (240-28186-25), FWGWBGMw-Dup4-0339-GW (240-28186-27), FWGLL2mw-267C-0358-GW (240-28186-29), FWGLL1mw-086-0320-GW (240-28186-31), FWGLL1mw-065C-0353-GW (240-28186-33), FWGWBGMw-021-0331-GW (240-28186-36), FWGWBGMw-006C-0373-GW (240-28186-38), FWGFWGmw-009-0319-GW (240-28186-40), FWGFWGmw-007-0347-GW (240-28186-42) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for nitroguanidine (HPLC) in accordance with EPA SW-846 Method 8330\_Ngu. The samples were prepared and analyzed on 08/27/2013.

No difficulties were encountered during the explosives analysis. All quality control parameters were within the acceptance limits.

#### CHLORINATED PESTICIDES

Samples FWGWBGMw-020-0330-GW (240-28186-3), FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-083C-0354-GW (240-28186-12), FWGDETMw-004C-0344-GW (240-28186-15), FWGFBQmw-174C-0345-GW (240-28186-20), FWGWBGMw-019-0329-GW (240-28186-23), FWGWBGMw-018-0328-GW (240-28186-25), FWGWBGMw-Dup4-0339-GW (240-28186-27), FWGLL1mw-086-0320-GW (240-28186-31), FWGLL1mw-065C-0353-GW (240-28186-33), FWGWBGMw-021-0331-GW (240-28186-36), FWGFWGmw-009-0319-GW (240-28186-40) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for chlorinated pesticides in accordance with EPA SW-846 Method 8081A DoD. The samples were prepared on 08/23/2013 and analyzed on 08/29/2013, 08/30/2013, 09/10/2013 and 09/12/2013.

Tetrachloro-m-xylene failed the surrogate recovery criteria high for FWGLL1mw-086-0320-GW (240-28186-31). Refer to the QC report for details.

The closing continuing calibration verification (CCV) associated with batch 99596 recovered Endrin above the upper control limit on the primary column. Endrin met criteria on the confirmation column and the samples associated with this CCVFWGDETMw-004C-0344-GW (240-28186-15), FWGFBQmw-174C-0345-GW (240-28186-20), FWGLL1mw-083C-0354-GW (240-28186-12), FWGLL1mw-084C-0355-GW (240-28186-10), FWGWBGMw-020-0330-GW (240-28186-3), FWGWBGMw-Dup4-0339-GW (240-28186-27) were non-detects for the affected analyte; therefore the data have been reported.

The opening continuing calibration verification (CCV) associated with batch 99596 recovered Endrin above the upper control limit on the primary column. Endrin met criteria on the confirmation column and the samples associated with this CCVFWGEQUIPRINSE3-0342-GW (240-28186-44), FWGFWGmw-009-0319-GW (240-28186-40), FWGLL1mw-065C-0353-GW (240-28186-33), FWGLL1mw-086-0320-GW (240-28186-31), FWGWBGMw-021-0331-GW (240-28186-36) were non-detects for the affected analyte; therefore the data have been reported.

The closing continuing calibration verification (CCV) associated with batch 99596 recovered beta-BHC, Heptachlor Epoxide, Lindane, gamma-Chlordane, Endrin Ketone, Dieldrin, Endosulfan Sulfate, Endosulfan II, Endrin, and DDD above upper control limits. The samples associated with this CCV FWGEQUIPRINSE3-0342-GW (240-28186-44), FWGFWGmw-009-0319-GW (240-28186-40), FWGLL1mw-065C-0353-GW (240-28186-33), FWGLL1mw-086-0320-GW (240-28186-31), FWGWBGMw-021-0331-GW (240-28186-36) were non-detects for the affected analytes; therefore, the data have been reported.

The initial calibration verification (ICV) for Toxaphene for analytical batch 99596 was outside control criteria on the confirmation column. Since the ICV met criteria on the primary column, all Toxaphene data have been reported for the associated samplesFWGDETMw-004C-0344-GW (240-28186-15), FWGEQUIPRINSE3-0342-GW (240-28186-44), FWGFBQmw-174C-0345-GW (240-28186-20), FWGFWGmw-009-0319-GW (240-28186-40), FWGLL1mw-065C-0353-GW (240-28186-33), FWGLL1mw-083C-0354-GW (240-28186-12), FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-086-0320-GW (240-28186-31),



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

### Job ID: 240-28186-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

FWGWBGmw-020-0330-GW (240-28186-3), FWGWBGmw-021-0331-GW (240-28186-36), FWGWBGmw-Dup4-0339-GW (240-28186-27).

The initial Toxaphene calibration verification (ICV) for analytical batch 100782 was outside control criteria for the confirmation column.. Since the ICV met criteria for the primary column and the associated sample FWGWBGmw-018-0328-GW (240-28186-25) was non-detect for the affected analyte, the data have been reported.

The opening and closing Method Reporting Limit (MRLs) associated with batch 100782 recovered DDD and Methoxychlor above the upper control limits on the confirmation column. Since the MRL on the primary column passed all criteria and the sample associated with these MRLs FWGWBGmw-018-0328-GW (240-28186-25)s was non-detect for the affected analytes; the data have been reported.

The closing continuing calibration verification (CCV) associated with batch 100782 recovered above the upper control limit for DDD.. The sample associated with this CCFWGWBGmw-018-0328-GW (240-28186-25)V was non-detect for the affected analyte ; therefore, the data have been reported.

The closing continuing calibration verification (CCV) associated with batch 101146 recovered above the upper control limits. The samples associated with this CCVFWGWBGmw-019-0329-GW (240-28186-23) were non-detects for the affected analytes; therefore, the data have been reported.

No other difficulties were encountered during the pesticides analysis. All other quality control parameters were within the acceptance limits.

#### POLYCHLORINATED BIPHENYLS (PCBS)

Samples FWGWBGmw-020-0330-GW (240-28186-3), FWGDETMw-004C-0344-GW (240-28186-15), FWGWBGmw-019-0329-GW (240-28186-23), FWGWBGmw-018-0328-GW (240-28186-25), FWGWBGmw-Dup4-0339-GW (240-28186-27), FWGWBGmw-021-0331-GW (240-28186-36), FWGFWGmw-009-0319-GW (240-28186-40) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082 DoD. The samples were prepared on 08/23/2013 and analyzed on 08/28/2013 and 08/29/2013.

No difficulties were encountered during the PCBs analysis. All quality control parameters were within the acceptance limits.

#### PERCHLORATE

Samples FWGFWGmw-009-0319-GF (240-28186-41) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for perchlorate in accordance with EPA SW-846 Method 6860. The samples were analyzed on 09/11/2013.

No difficulties were encountered during the perchlorate analysis. All quality control parameters were within the acceptance limits.

#### EXPLOSIVES

Samples FWGWBGmw-009C-0374-GW (240-28186-1), FWGWBGmw-020-0330-GW (240-28186-3), FWGLL2mw-265C-0321-GW (240-28186-5), FWGLL2mw-059C-0357-GW (240-28186-7), FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-083C-0354-GW (240-28186-12), FWGDETMw-004C-0344-GW (240-28186-15), FWGNTAmw-119-0367-GW (240-28186-17), FWGFBQmw-174C-0345-GW (240-28186-20), FWGWBGmw-019-0329-GW (240-28186-23), FWGWBGmw-018-0328-GW (240-28186-25), FWGWBGmw-Dup4-0339-GW (240-28186-27), FWGLL2mw-267C-0358-GW (240-28186-29), FWGLL1mw-086-0320-GW (240-28186-31), FWGLL1mw-065C-0353-GW (240-28186-33), FWGWBGmw-021-0331-GW (240-28186-36), FWGWBGmw-006C-0373-GW (240-28186-38), FWGFWGmw-009-0319-GW (240-28186-40), FWGFWGmw-007-0347-GW (240-28186-42) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for explosives in accordance with EPA SW-846 Method 8330A. The samples were prepared on 08/27/2013 and analyzed on 08/30/2013, 08/31/2013, 09/03/2013, 09/09/2013, 09/10/2013 and 09/13/2013.

3,4-Dinitrotoluene failed the surrogate recovery criteria high for FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-083C-0354-GW (240-28186-12), and FWGFBQmw-174C-0345-GW (240-28186-20).

Samples FWGLL1mw-084C-0355-GW (240-28186-10)[3X], FWGLL1mw-083C-0354-GW (240-28186-12)[2X] and FWGFBQmw-174C-0345-GW (240-28186-20)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Due malfunction of the port # 2 at Auto trace #2 during the loaded process we lost 130 ml.FWGDETMw-004C-0344-GW (240-28186-15)



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

### Job ID: 240-28186-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

We re-run the sample using a secondary initial weighted.

The continuing calibration verification at the reporting limit (CCVL) for analytical batch 24684 exceeded control criteria for m-Nitrotoluene, RDX, 4-Amino-2,6-Dinitrotoluene, and, The corrective action for this deficiency is an analysis of a standard at approximately 2x the MDL. The acceptance criterion for the 2x MDL standard is detection of the compound. As the compounds were detected, the data have been qualified and reported.

Surrogate recovery for the following sample(s) 240-28186-10,12 was outside control limit. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other difficulties were encountered during the explosives analysis. All other quality control parameters were within the acceptance limits.

#### TOTAL RECOVERABLE METALS (ICP)

Samples FWGWBGMw-009C-0374-GF (240-28186-2), FWGWBGMw-020-0330-GF (240-28186-4), FWGLL2mw-265C-0321-GF (240-28186-6), FWGLL2mw-059C-0357-GF (240-28186-8), FWGLL1mw-084C-0355-GF (240-28186-11), FWGLL1mw-083C-0354-GF (240-28186-13), FWGDETMw-004C-0344-GF (240-28186-16), FWGNTAmw-119-0367-GF (240-28186-18), FWGFBQmw-174C-0345-GF (240-28186-21), FWGWBGMw-019-0329-GF (240-28186-24), FWGWBGMw-018-0328-GF (240-28186-26), FWGWBGMw-Dup4-0339-GF (240-28186-28), FWGLL2mw-267C-0358-GF (240-28186-30), FWGLL1mw-086-0320-GF (240-28186-32), FWGLL1mw-065C-0353-GF (240-28186-34), FWGWBGMw-021-0331-GF (240-28186-37), FWGWBGMw-006C-0373-GF (240-28186-39), FWGFWGMw-009-0319-GF (240-28186-41), FWGFWGMw-007-0347-GF (240-28186-43) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B DoD. The samples were prepared on 08/23/2013 and analyzed on 09/09/2013.

ICB, CCB, and ICSA samples are evaluated using the lowest LOD and DL criteria in LIMS. Using this criteria, an individual element may occasionally be flagged as out of control. If the element has a higher LOD or DL, the data is evaluated to the higher limit and determined to be acceptable.

Manganese was detected in method blank MB 240-98698/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Arsenic, Barium and Potassium exceeded the RPD limit for the duplicate of sample FWGFWGMw-009-0319-GF DU (240-28186-41). Refer to the QC report for details.

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

#### TOTAL RECOVERABLE METALS (ICPMS)

Samples FWGWBGMw-009C-0374-GF (240-28186-2), FWGWBGMw-020-0330-GF (240-28186-4), FWGLL2mw-265C-0321-GF (240-28186-6), FWGLL2mw-059C-0357-GF (240-28186-8), FWGLL1mw-084C-0355-GF (240-28186-11), FWGLL1mw-083C-0354-GF (240-28186-13), FWGDETMw-004C-0344-GF (240-28186-16), FWGNTAmw-119-0367-GF (240-28186-18), FWGFBQmw-174C-0345-GF (240-28186-21), FWGWBGMw-019-0329-GF (240-28186-24), FWGWBGMw-018-0328-GF (240-28186-26), FWGWBGMw-Dup4-0339-GF (240-28186-28), FWGLL2mw-267C-0358-GF (240-28186-30), FWGLL1mw-086-0320-GF (240-28186-32), FWGLL1mw-065C-0353-GF (240-28186-34), FWGWBGMw-021-0331-GF (240-28186-37), FWGWBGMw-006C-0373-GF (240-28186-39), FWGFWGMw-009-0319-GF (240-28186-41), FWGFWGMw-007-0347-GF (240-28186-43) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020 DoD. The samples were prepared on 08/23/2013 and 09/10/2013 and analyzed on 09/09/2013 and 09/11/2013.

ICB, CCB, and ICSA samples are evaluated using the lowest LOD and DL criteria in LIMS. Using this criteria, an individual element may occasionally be flagged as out of control. If the element has a higher LOD or DL, the data is evaluated to the higher limit and determined to be acceptable.

Aluminum was detected in method blank MB 240-98698/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

### Job ID: 240-28186-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

Beryllium failed the recovery criteria high for LCS 240-98698/3-A. Refer to the QC report for details.

The continuing calibration verification (CCV) and Laboratory Control Sample (LCS) for Beryllium associated with batch 98698 recovered above the upper control limit. The samples associated with this CCV/LCS were non-detects for the affected analytes; therefore, the data have been reported. FWGDETMw-004C-0344-GF (240-28186-16), FWGEQUIPRINSE3-0342-GW (240-28186-44), FWGFBQmw-174C-0345-GF (240-28186-21), FWGFWGmw-007-0347-GF (240-28186-43), FWGFWGmw-009-0319-GF (240-28186-41), FWGLL1mw-065C-0353-GF (240-28186-34), FWGLL1mw-083C-0354-GF (240-28186-13), FWGLL1mw-084C-0355-GF (240-28186-11), FWGLL1mw-086-0320-GF (240-28186-32), FWGLL2mw-059C-0357-GF (240-28186-8), FWGLL2mw-265C-0321-GF (240-28186-6), FWGLL2mw-267C-0358-GF (240-28186-30), FWGNTAmw-119-0367-GF (240-28186-18), FWGWBGMw-006C-0373-GF (240-28186-39), FWGWBGMw-009C-0374-GF (240-28186-2), FWGWBGMw-018-0328-GF (240-28186-26), FWGWBGMw-019-0329-GF (240-28186-24), FWGWBGMw-020-0330-GF (240-28186-4), FWGWBGMw-021-0331-GF (240-28186-37), FWGWBGMw-Dup4-0339-GF (240-28186-28)

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

#### TOTAL MERCURY

Samples FWGWBGMw-009C-0374-GF (240-28186-2), FWGWBGMw-020-0330-GF (240-28186-4), FWGLL2mw-265C-0321-GF (240-28186-6), FWGLL2mw-059C-0357-GF (240-28186-8), FWGLL1mw-084C-0355-GF (240-28186-11), FWGLL1mw-083C-0354-GF (240-28186-13), FWGDETMw-004C-0344-GF (240-28186-16), FWGNTAmw-119-0367-GF (240-28186-18), FWGFBQmw-174C-0345-GF (240-28186-21), FWGWBGMw-019-0329-GF (240-28186-24), FWGWBGMw-018-0328-GF (240-28186-26), FWGWBGMw-Dup4-0339-GF (240-28186-28), FWGLL2mw-267C-0358-GF (240-28186-30), FWGLL1mw-086-0320-GF (240-28186-32), FWGLL1mw-065C-0353-GF (240-28186-34), FWGWBGMw-021-0331-GF (240-28186-37), FWGWBGMw-006C-0373-GF (240-28186-39), FWGFWGmw-009-0319-GF (240-28186-41), FWGFWGmw-007-0347-GF (240-28186-43) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for total mercury in accordance with EPA SW-846 Method 7470A. The samples were prepared on 08/23/2013 and analyzed on 08/27/2013.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

#### NITROCELLULOSE

Samples FWGWBGMw-009C-0374-GW (240-28186-1), FWGWBGMw-020-0330-GW (240-28186-3), FWGLL2mw-265C-0321-GW (240-28186-5), FWGLL2mw-059C-0357-GW (240-28186-7), FWGLL1mw-084C-0355-GW (240-28186-10), FWGLL1mw-083C-0354-GW (240-28186-12), FWGDETMw-004C-0344-GW (240-28186-15), FWGNTAmw-119-0367-GW (240-28186-17), FWGFBQmw-174C-0345-GW (240-28186-20), FWGWBGMw-019-0329-GW (240-28186-23), FWGWBGMw-018-0328-GW (240-28186-25), FWGWBGMw-Dup4-0339-GW (240-28186-27), FWGLL2mw-267C-0358-GW (240-28186-29), FWGLL1mw-086-0320-GW (240-28186-31), FWGLL1mw-065C-0353-GW (240-28186-33), FWGWBGMw-021-0331-GW (240-28186-36), FWGWBGMw-006C-0373-GW (240-28186-38), FWGFWGmw-009-0319-GW (240-28186-40), FWGFWGmw-007-0347-GW (240-28186-42) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for Nitrocellulose in accordance with EPA Method 353.2. The samples were prepared on 09/10/2013 and analyzed on 09/11/2013.

The bracketing MRL's in positions 25 and 47 in batch #25017 had recoveries that were slightly above the established control limits. However, because all samples within batch #25017 were non-detect at the reporting limit, there is no adverse impact on the data. All other QC requirements in batch #25017 -- including the laboratory control samples (LCS's), all continuing calibration verifications (CCV's), and continuing calibration blanks (CCB's) -- are within acceptable control limits.

No difficulties were encountered during the Nitrocellulose analysis. All quality control parameters were within the acceptance limits.

#### TOTAL CYANIDE

Samples FWGWBGMw-020-0330-GW (240-28186-3), FWGDETMw-004C-0344-GW (240-28186-15), FWGWBGMw-019-0329-GW (240-28186-23), FWGWBGMw-018-0328-GW (240-28186-25), FWGWBGMw-Dup4-0339-GW (240-28186-27), FWGWBGMw-021-0331-GW (240-28186-36), FWGFWGmw-009-0319-GW (240-28186-40) and FWGEQUIPRINSE3-0342-GW (240-28186-44) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/23/2013 and 08/26/2013.

No difficulties were encountered during the cyanide analysis. All quality control parameters were within the acceptance limits.



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-009C-0374-GW

Lab Sample ID: 240-28186-1

Date Collected: 08/21/13 09:35

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.64</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 19:30	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 19:30	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 19:30	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 19:30	1
<b>Di-n-butyl phthalate</b>	<b>0.75</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 19:30	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	81		50 - 110	08/23/13 09:12	09/06/13 19:30	1
2-Fluorophenol (Surr)	81		20 - 110	08/23/13 09:12	09/06/13 19:30	1
Nitrobenzene-d5 (Surr)	83		40 - 110	08/23/13 09:12	09/06/13 19:30	1
Phenol-d5 (Surr)	87		10 - 115	08/23/13 09:12	09/06/13 19:30	1
Terphenyl-d14 (Surr)	112		50 - 135	08/23/13 09:12	09/06/13 19:30	1
2,4,6-Tribromophenol (Surr)	98		40 - 125	08/23/13 09:12	09/06/13 19:30	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 14:32	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.031	ug/L		09/03/13 17:14	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:14	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:14	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		09/03/13 17:14	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		09/03/13 17:14	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		09/03/13 17:14	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		09/03/13 17:14	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		09/03/13 17:14	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		09/03/13 17:14	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:14	1
<b>HMX</b>	<b>1.2</b>	<b>M</b>	0.15	0.051	0.037	ug/L		09/03/13 17:14	1
<b>RDX</b>	<b>3.5</b>		0.15	0.051	0.037	ug/L		09/03/13 17:14	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:14	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:14	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		09/03/13 17:14	1
PETN	0.51	U	0.66	0.51	0.30	ug/L		09/03/13 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	88	M	79 - 111	08/27/13 07:26	09/03/13 17:14	1
3,4-Dinitrotoluene	98		79 - 111	08/27/13 07:26	09/09/13 15:08	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:07	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-009C-0374-GF**

**Lab Sample ID: 240-28186-2**

**Date Collected: 08/21/13 09:35**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 15:26	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 15:26	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 15:26	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 15:26	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 15:26	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 15:26	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 15:26	1
Barium	8.3	J	200	5.0	2.8	ug/L		09/09/13 15:26	1
Calcium	29000		5000	1000	630	ug/L		09/09/13 15:26	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 15:26	1
Magnesium	8900		5000	300	120	ug/L		09/09/13 15:26	1
Manganese	17		15	5.0	1.8	ug/L		09/09/13 15:26	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 15:26	1
Potassium	370	J	5000	900	300	ug/L		09/09/13 15:26	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	23	J B	60	60	20	ug/L		09/09/13 19:54	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 19:54	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 19:54	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 19:54	1
Iron	100	U	150	100	44	ug/L		09/09/13 19:54	1
Sodium	3500		1000	400	160	ug/L		09/09/13 19:54	1
Thallium	1.0	J	2.0	1.5	0.79	ug/L		09/09/13 19:54	1
Zinc	50	U	50	50	27	ug/L		09/09/13 19:54	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:47	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-020-0330-GW

Lab Sample ID: 240-28186-3

Date Collected: 08/21/13 10:31

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 23:20	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 23:20	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 23:20	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 23:20	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 23:20	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 23:20	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 23:20	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 23:20	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 23:20	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 23:20	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 23:20	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:20	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 23:20	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 23:20	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:20	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:20	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 23:20	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 23:20	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 23:20	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 23:20	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 23:20	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 23:20	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 23:20	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 23:20	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 23:20	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 23:20	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 23:20	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 23:20	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 23:20	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 23:20	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 23:20	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 23:20	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:20	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 23:20	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 23:20	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 23:20	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 23:20	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 23:20	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 120		08/29/13 23:20	1
4-Bromofluorobenzene (Surr)	89		75 - 120		08/29/13 23:20	1
Toluene-d8 (Surr)	95		85 - 120		08/29/13 23:20	1
Dibromofluoromethane (Surr)	92		85 - 115		08/29/13 23:20	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.098	U	0.20	0.098	0.043	ug/L		09/06/13 22:46	1
Acenaphthylene	0.098	U	0.20	0.098	0.047	ug/L		09/06/13 22:46	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-020-0330-GW

Lab Sample ID: 240-28186-3

Date Collected: 08/21/13 10:31

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.098	U	0.20	0.098	0.086	ug/L		09/06/13 22:46	1
Benzo[a]anthracene	0.098	U	0.20	0.098	0.029	ug/L		09/06/13 22:46	1
Benzo[a]pyrene	0.098	U	0.20	0.098	0.050	ug/L		09/06/13 22:46	1
Benzo[b]fluoranthene	0.098	U	0.20	0.098	0.039	ug/L		09/06/13 22:46	1
Benzo[g,h,i]perylene	0.098	U	0.20	0.098	0.045	ug/L		09/06/13 22:46	1
Benzoic acid	20	U	25	20	9.8	ug/L		09/06/13 22:46	1
Benzo[k]fluoranthene	0.098	U	0.20	0.098	0.044	ug/L		09/06/13 22:46	1
Benzyl alcohol	0.49	U	4.9	0.49	0.37	ug/L		09/06/13 22:46	1
Bis(2-chloroethoxy)methane	0.49	U	0.98	0.49	0.31	ug/L		09/06/13 22:46	1
Bis(2-chloroethyl)ether	0.098	U	0.98	0.098	0.098	ug/L		09/06/13 22:46	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.54</b>	<b>J</b>	2.0	0.49	0.22	ug/L		09/06/13 22:46	1
4-Bromophenyl phenyl ether	0.49	U	2.0	0.49	0.22	ug/L		09/06/13 22:46	1
Butyl benzyl phthalate	0.49	U	2.0	0.49	0.25	ug/L		09/06/13 22:46	1
Carbazole	0.49	U	0.98	0.49	0.27	ug/L		09/06/13 22:46	1
4-Chloroaniline	0.49	U	2.0	0.49	0.21	ug/L		09/06/13 22:46	1
4-Chloro-3-methylphenol	0.49	U	2.0	0.49	0.21	ug/L		09/06/13 22:46	1
2-Chloronaphthalene	0.49	U	0.98	0.49	0.098	ug/L		09/06/13 22:46	1
2-Chlorophenol	0.49	U	0.98	0.49	0.28	ug/L		09/06/13 22:46	1
4-Chlorophenyl phenyl ether	0.49	U	2.0	0.49	0.29	ug/L		09/06/13 22:46	1
Chrysene	0.098	U	0.20	0.098	0.049	ug/L		09/06/13 22:46	1
Dibenz(a,h)anthracene	0.098	U	0.20	0.098	0.044	ug/L		09/06/13 22:46	1
Dibenzofuran	0.098	U	0.98	0.098	0.020	ug/L		09/06/13 22:46	1
1,2-Dichlorobenzene	0.49	U	0.98	0.49	0.28	ug/L		09/06/13 22:46	1
1,3-Dichlorobenzene	0.49	U	0.98	0.49	0.23	ug/L		09/06/13 22:46	1
1,4-Dichlorobenzene	0.49	U	0.98	0.49	0.33	ug/L		09/06/13 22:46	1
3,3'-Dichlorobenzidine	0.98	U	4.9	0.98	0.36	ug/L		09/06/13 22:46	1
2,4-Dichlorophenol	0.49	U	2.0	0.49	0.19	ug/L		09/06/13 22:46	1
Diethyl phthalate	0.98	U	2.0	0.98	0.59	ug/L		09/06/13 22:46	1
2,4-Dimethylphenol	0.49	U	2.0	0.49	0.25	ug/L		09/06/13 22:46	1
Dimethyl phthalate	0.49	U	2.0	0.49	0.28	ug/L		09/06/13 22:46	1
<b>Di-n-butyl phthalate</b>	<b>0.76</b>	<b>J</b>	2.0	0.98	0.66	ug/L		09/06/13 22:46	1
4,6-Dinitro-2-methylphenol	3.9	U	4.9	3.9	2.4	ug/L		09/06/13 22:46	1
2,4-Dinitrophenol	0.98	U	4.9	0.98	0.31	ug/L		09/06/13 22:46	1
Di-n-octyl phthalate	0.49	U	2.0	0.49	0.23	ug/L		09/06/13 22:46	1
Fluoranthene	0.098	U	0.20	0.098	0.044	ug/L		09/06/13 22:46	1
Fluorene	0.098	U	0.20	0.098	0.040	ug/L		09/06/13 22:46	1
Hexachlorobenzene	0.098	U	0.20	0.098	0.084	ug/L		09/06/13 22:46	1
Hexachlorobutadiene	0.49	U	0.98	0.49	0.26	ug/L		09/06/13 22:46	1
Hexachlorocyclopentadiene	0.49	U	9.8	0.49	0.24	ug/L		09/06/13 22:46	1
Hexachloroethane	0.49	U	0.98	0.49	0.19	ug/L		09/06/13 22:46	1
Indeno[1,2,3-cd]pyrene	0.098	U	0.20	0.098	0.042	ug/L		09/06/13 22:46	1
Isophorone	0.49	U	0.98	0.49	0.26	ug/L		09/06/13 22:46	1
2-Methylnaphthalene	0.098	U	0.20	0.098	0.089	ug/L		09/06/13 22:46	1
2-Methylphenol	0.49	U	0.98	0.49	0.17	ug/L		09/06/13 22:46	1
3 & 4 Methylphenol	0.98	U	2.0	0.98	0.78	ug/L		09/06/13 22:46	1
Naphthalene	0.098	U	0.20	0.098	0.061	ug/L		09/06/13 22:46	1
2-Nitroaniline	0.49	U	2.0	0.49	0.21	ug/L		09/06/13 22:46	1
3-Nitroaniline	0.49	U	2.0	0.49	0.27	ug/L		09/06/13 22:46	1
4-Nitroaniline	0.49	U	2.0	0.49	0.22	ug/L		09/06/13 22:46	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-020-0330-GW

Lab Sample ID: 240-28186-3

Date Collected: 08/21/13 10:31

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.49	U	2.0	0.49	0.27	ug/L		09/06/13 22:46	1
4-Nitrophenol	3.9	U	4.9	3.9	0.28	ug/L		09/06/13 22:46	1
N-Nitrosodi-n-propylamine	0.49	U	0.98	0.49	0.24	ug/L		09/06/13 22:46	1
N-Nitrosodiphenylamine	0.49	U	0.98	0.49	0.30	ug/L		09/06/13 22:46	1
2,2'-oxybis[1-chloropropane]	0.49	U	0.98	0.49	0.39	ug/L		09/06/13 22:46	1
Pentachlorophenol	0.98	U	4.9	0.98	0.26	ug/L		09/06/13 22:46	1
Phenanthrene	0.098	U	0.20	0.098	0.061	ug/L		09/06/13 22:46	1
Phenol	0.98	U	0.98	0.98	0.59	ug/L		09/06/13 22:46	1
Pyrene	0.098	U	0.20	0.098	0.041	ug/L		09/06/13 22:46	1
1,2,4-Trichlorobenzene	0.49	U	0.98	0.49	0.27	ug/L		09/06/13 22:46	1
2,4,5-Trichlorophenol	0.49	U	4.9	0.49	0.29	ug/L		09/06/13 22:46	1
2,4,6-Trichlorophenol	0.49	U	4.9	0.49	0.24	ug/L		09/06/13 22:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	88		50 - 110	08/23/13 09:12	09/06/13 22:46	1
2-Fluorophenol (Surr)	93		20 - 110	08/23/13 09:12	09/06/13 22:46	1
Nitrobenzene-d5 (Surr)	92		40 - 110	08/23/13 09:12	09/06/13 22:46	1
Phenol-d5 (Surr)	97		10 - 115	08/23/13 09:12	09/06/13 22:46	1
Terphenyl-d14 (Surr)	122		50 - 135	08/23/13 09:12	09/06/13 22:46	1
2,4,6-Tribromophenol (Surr)	95		40 - 125	08/23/13 09:12	09/06/13 22:46	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		08/29/13 23:52	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/29/13 23:52	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/29/13 23:52	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/29/13 23:52	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/29/13 23:52	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/29/13 23:52	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/29/13 23:52	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/29/13 23:52	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/29/13 23:52	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/29/13 23:52	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/29/13 23:52	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/29/13 23:52	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/29/13 23:52	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/29/13 23:52	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/29/13 23:52	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/29/13 23:52	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/29/13 23:52	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/29/13 23:52	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/29/13 23:52	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/29/13 23:52	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/29/13 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		30 - 135	08/23/13 09:00	08/29/13 23:52	1
DCB Decachlorobiphenyl	50		30 - 135	08/23/13 09:00	08/29/13 23:52	1
Tetrachloro-m-xylene	69		25 - 140	08/23/13 09:00	08/29/13 23:52	1
Tetrachloro-m-xylene	70		25 - 140	08/23/13 09:00	08/29/13 23:52	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-020-0330-GW

Lab Sample ID: 240-28186-3

Date Collected: 08/21/13 10:31

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 21:43	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/28/13 21:43	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 21:43	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/28/13 21:43	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/28/13 21:43	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 21:43	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	69		40 - 140	08/23/13 09:07	08/28/13 21:43	1
Tetrachloro-m-xylene	74		40 - 140	08/23/13 09:07	08/28/13 21:43	1
DCB Decachlorobiphenyl	41		40 - 135	08/23/13 09:07	08/28/13 21:43	1
DCB Decachlorobiphenyl	30	Q	40 - 135	08/23/13 09:07	08/28/13 21:43	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 14:49	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		09/03/13 17:58	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:58	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:58	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		09/03/13 17:58	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		09/03/13 17:58	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		09/03/13 17:58	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		09/03/13 17:58	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.059	ug/L		09/03/13 17:58	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		09/03/13 17:58	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:58	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		09/03/13 17:58	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		09/03/13 17:58	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:58	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 17:58	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		09/03/13 17:58	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		09/03/13 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	86		79 - 111	08/27/13 07:26	09/03/13 17:58	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/23/13 13:31	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:09	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-020-0330-GF**

**Lab Sample ID: 240-28186-4**

Date Collected: 08/21/13 10:31

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 15:32	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 15:32	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 15:32	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 15:32	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 15:32	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 15:32	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 15:32	1
Barium	17	J	200	5.0	2.8	ug/L		09/09/13 15:32	1
Calcium	31000		5000	1000	630	ug/L		09/09/13 15:32	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 15:32	1
Magnesium	11000		5000	300	120	ug/L		09/09/13 15:32	1
Manganese	330		15	5.0	1.8	ug/L		09/09/13 15:32	1
Nickel	3.6	J	40	5.0	2.2	ug/L		09/09/13 15:32	1
Potassium	590	J	5000	900	300	ug/L		09/09/13 15:32	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 20:02	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 20:02	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 20:02	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 20:02	1
Iron	4000		150	100	44	ug/L		09/09/13 20:02	1
Sodium	4000		1000	400	160	ug/L		09/09/13 20:02	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 20:02	1
Zinc	50	U	50	50	27	ug/L		09/09/13 20:02	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:48	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL2mw-265C-0321-GW

Lab Sample ID: 240-28186-5

Date Collected: 08/21/13 11:55

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 23:44	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 23:44	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/29/13 23:44	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 23:44	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 23:44	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 23:44	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/29/13 23:44	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 23:44	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/29/13 23:44	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 23:44	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/29/13 23:44	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:44	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/29/13 23:44	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/29/13 23:44	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:44	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:44	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 23:44	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 23:44	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/29/13 23:44	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/29/13 23:44	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 23:44	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 23:44	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/29/13 23:44	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 23:44	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/29/13 23:44	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/29/13 23:44	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/29/13 23:44	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/29/13 23:44	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/29/13 23:44	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/29/13 23:44	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/29/13 23:44	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/29/13 23:44	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/29/13 23:44	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 23:44	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/29/13 23:44	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/29/13 23:44	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/29/13 23:44	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/29/13 23:44	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/29/13 23:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 120		08/29/13 23:44	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/29/13 23:44	1
Toluene-d8 (Surr)	93		85 - 120		08/29/13 23:44	1
Dibromofluoromethane (Surr)	91		85 - 115		08/29/13 23:44	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	1.5	J	1.9	0.49	0.21	ug/L		09/06/13 21:57	1
Butyl benzyl phthalate	0.49	U	1.9	0.49	0.25	ug/L		09/06/13 21:57	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL2mw-265C-0321-GW

Lab Sample ID: 240-28186-5

Date Collected: 08/21/13 11:55

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.97	U	1.9	0.97	0.58	ug/L		09/06/13 21:57	1
Dimethyl phthalate	0.49	U	1.9	0.49	0.28	ug/L		09/06/13 21:57	1
<b>Di-n-butyl phthalate</b>	<b>1.4</b>	<b>J</b>	1.9	0.97	0.65	ug/L		09/06/13 21:57	1
Di-n-octyl phthalate	0.49	U	1.9	0.49	0.22	ug/L		09/06/13 21:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	83		50 - 110	08/23/13 09:12	09/06/13 21:57	1
2-Fluorophenol (Surr)	83		20 - 110	08/23/13 09:12	09/06/13 21:57	1
Nitrobenzene-d5 (Surr)	84		40 - 110	08/23/13 09:12	09/06/13 21:57	1
Phenol-d5 (Surr)	86		10 - 115	08/23/13 09:12	09/06/13 21:57	1
Terphenyl-d14 (Surr)	108		50 - 135	08/23/13 09:12	09/06/13 21:57	1
2,4,6-Tribromophenol (Surr)	94		40 - 125	08/23/13 09:12	09/06/13 21:57	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 15:07	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		09/03/13 18:41	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 18:41	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 18:41	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		09/03/13 18:41	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		09/03/13 18:41	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		09/03/13 18:41	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		09/03/13 18:41	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		09/03/13 18:41	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		09/03/13 18:41	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 18:41	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		09/09/13 17:19	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		09/03/13 18:41	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 18:41	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		09/03/13 18:41	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		09/03/13 18:41	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		09/03/13 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90		79 - 111	08/27/13 07:26	09/03/13 18:41	1
3,4-Dinitrotoluene	96		79 - 111	08/27/13 07:26	09/09/13 17:19	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:11	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL2mw-265C-0321-GF**

**Lab Sample ID: 240-28186-6**

**Date Collected: 08/21/13 11:55**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 15:38	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 15:38	1
<b>Cobalt</b>	<b>4.8</b>	<b>J</b>	7.0	4.0	1.5	ug/L		09/09/13 15:38	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 15:38	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 15:38	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 15:38	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 15:38	1
<b>Barium</b>	<b>11</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 15:38	1
<b>Calcium</b>	<b>81000</b>		5000	1000	630	ug/L		09/09/13 15:38	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 15:38	1
<b>Magnesium</b>	<b>24000</b>		5000	300	120	ug/L		09/09/13 15:38	1
<b>Manganese</b>	<b>540</b>		15	5.0	1.8	ug/L		09/09/13 15:38	1
<b>Nickel</b>	<b>12</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 15:38	1
<b>Potassium</b>	<b>710</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 15:38	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 20:09	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 20:09	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 20:09	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 20:09	1
<b>Iron</b>	<b>2900</b>		150	100	44	ug/L		09/09/13 20:09	1
<b>Sodium</b>	<b>12000</b>		1000	400	160	ug/L		09/09/13 20:09	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 20:09	1
Zinc	50	U	50	50	27	ug/L		09/09/13 20:09	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:51	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL2mw-059C-0357-GW

Lab Sample ID: 240-28186-7

Date Collected: 08/21/13 12:51

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:09	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:09	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 00:09	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:09	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:09	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:09	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 00:09	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:09	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 00:09	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:09	1
Acetone	1.4	J	10	1.1	1.1	ug/L		08/30/13 00:09	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:09	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 00:09	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 00:09	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:09	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:09	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:09	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:09	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 00:09	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 00:09	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:09	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 00:09	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:09	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:09	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 00:09	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 00:09	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 00:09	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 00:09	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/30/13 00:09	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 00:09	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 00:09	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:09	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:09	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:09	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:09	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:09	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:09	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 00:09	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 120		08/30/13 00:09	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/30/13 00:09	1
Toluene-d8 (Surr)	93		85 - 120		08/30/13 00:09	1
Dibromofluoromethane (Surr)	98		85 - 115		08/30/13 00:09	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	1.4	J	2.0	0.50	0.22	ug/L		09/06/13 22:22	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		09/06/13 22:22	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL2mw-059C-0357-GW

Lab Sample ID: 240-28186-7

Date Collected: 08/21/13 12:51

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	0.99	U	2.0	0.99	0.59	ug/L		09/06/13 22:22	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		09/06/13 22:22	1
<b>Di-n-butyl phthalate</b>	<b>1.5</b>	<b>J</b>	2.0	0.99	0.66	ug/L		09/06/13 22:22	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		09/06/13 22:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		50 - 110	08/23/13 09:12	09/06/13 22:22	1
2-Fluorophenol (Surr)	90		20 - 110	08/23/13 09:12	09/06/13 22:22	1
Nitrobenzene-d5 (Surr)	87		40 - 110	08/23/13 09:12	09/06/13 22:22	1
Phenol-d5 (Surr)	93		10 - 115	08/23/13 09:12	09/06/13 22:22	1
Terphenyl-d14 (Surr)	113		50 - 135	08/23/13 09:12	09/06/13 22:22	1
2,4,6-Tribromophenol (Surr)	99		40 - 125	08/23/13 09:12	09/06/13 22:22	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 15:25	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>1,3,5-Trinitrobenzene</b>	<b>0.28</b>		0.15	0.050	0.031	ug/L		09/03/13 19:25	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		09/03/13 19:25	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		09/03/13 19:25	1
<b>2,4-Dinitrotoluene</b>	<b>0.21</b>	<b>M</b>	0.13	0.10	0.050	ug/L		09/03/13 19:25	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		09/03/13 19:25	1
<b>2-Amino-4,6-dinitrotoluene</b>	<b>0.22</b>		0.15	0.10	0.015	ug/L		09/03/13 19:25	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		09/03/13 19:25	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.057	ug/L		09/03/13 19:25	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		09/03/13 19:25	1
<b>4-Amino-2,6-dinitrotoluene</b>	<b>0.38</b>	<b>M</b>	0.15	0.10	0.050	ug/L		09/03/13 19:25	1
HMX	0.050	U	0.15	0.050	0.036	ug/L		09/09/13 18:24	1
RDX	0.050	U	0.15	0.050	0.036	ug/L		09/09/13 18:24	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		09/03/13 19:25	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		09/03/13 19:25	1
Nitroglycerin	0.50	U	0.66	0.50	0.33	ug/L		09/03/13 19:25	1
PETN	0.50	U	0.66	0.50	0.30	ug/L		09/03/13 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	82		79 - 111	08/27/13 07:26	09/03/13 19:25	1
3,4-Dinitrotoluene	96		79 - 111	08/27/13 07:26	09/09/13 18:24	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:13	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL2mw-059C-0357-GF**

**Lab Sample ID: 240-28186-8**

Date Collected: 08/21/13 12:51

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	7.3	J	10	10	3.3	ug/L		09/09/13 15:56	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 15:56	1
Cobalt	14		7.0	4.0	1.5	ug/L		09/09/13 15:56	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 15:56	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 15:56	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 15:56	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 15:56	1
Barium	62	J	200	5.0	2.8	ug/L		09/09/13 15:56	1
Calcium	29000		5000	1000	630	ug/L		09/09/13 15:56	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 15:56	1
Magnesium	11000		5000	300	120	ug/L		09/09/13 15:56	1
Manganese	970		15	5.0	1.8	ug/L		09/09/13 15:56	1
Nickel	8.1	J	40	5.0	2.2	ug/L		09/09/13 15:56	1
Potassium	860	J	5000	900	300	ug/L		09/09/13 15:56	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 20:16	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 20:16	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 20:16	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 20:16	1
Iron	5300		150	100	44	ug/L		09/09/13 20:16	1
Sodium	4400		1000	400	160	ug/L		09/09/13 20:16	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 20:16	1
Zinc	50	U	50	50	27	ug/L		09/09/13 20:16	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:52	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGTeam1-Trip

Lab Sample ID: 240-28186-9

Date Collected: 08/21/13 08:00

Matrix: WQ

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:33	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:33	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 00:33	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:33	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:33	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:33	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 00:33	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:33	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 00:33	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:33	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 00:33	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:33	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 00:33	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 00:33	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:33	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:33	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:33	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:33	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 00:33	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 00:33	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:33	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 00:33	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:33	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:33	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 00:33	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 00:33	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 00:33	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 00:33	1
Methylene Chloride	0.47	J	1.0	0.50	0.33	ug/L		08/30/13 00:33	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 00:33	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 00:33	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:33	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:33	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:33	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:33	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:33	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:33	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 00:33	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 120		08/30/13 00:33	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/30/13 00:33	1
Toluene-d8 (Surr)	95		85 - 120		08/30/13 00:33	1
Dibromofluoromethane (Surr)	95		85 - 115		08/30/13 00:33	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-084C-0355-GW

Lab Sample ID: 240-28186-10

Date Collected: 08/21/13 14:05

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>1.8</b>	<b>J</b>	2.0	0.49	0.22	ug/L		09/06/13 16:38	1
Butyl benzyl phthalate	0.49	U	2.0	0.49	0.25	ug/L		09/06/13 16:38	1
Diethyl phthalate	0.98	U	2.0	0.98	0.59	ug/L		09/06/13 16:38	1
Dimethyl phthalate	0.49	U	2.0	0.49	0.28	ug/L		09/06/13 16:38	1
<b>Di-n-butyl phthalate</b>	<b>1.1</b>	<b>J</b>	2.0	0.98	0.66	ug/L		09/06/13 16:38	1
Di-n-octyl phthalate	0.49	U	2.0	0.49	0.23	ug/L		09/06/13 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	79		50 - 110	08/23/13 09:12	09/06/13 16:38	1
2-Fluorophenol (Surr)	85		20 - 110	08/23/13 09:12	09/06/13 16:38	1
Nitrobenzene-d5 (Surr)	82		40 - 110	08/23/13 09:12	09/06/13 16:38	1
Phenol-d5 (Surr)	88		10 - 115	08/23/13 09:12	09/06/13 16:38	1
Terphenyl-d14 (Surr)	110		50 - 135	08/23/13 09:12	09/06/13 16:38	1
2,4,6-Tribromophenol (Surr)	93		40 - 125	08/23/13 09:12	09/06/13 16:38	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.049	0.020	0.0094	ug/L		08/30/13 00:12	1
4,4'-DDE	0.020	U	0.049	0.020	0.0095	ug/L		08/30/13 00:12	1
4,4'-DDT	0.020	U	0.049	0.020	0.016	ug/L		08/30/13 00:12	1
Aldrin	0.020	U	0.029	0.020	0.0080	ug/L		08/30/13 00:12	1
alpha-BHC	0.020	U	0.029	0.020	0.0069	ug/L		08/30/13 00:12	1
alpha-Chlordane	0.020	U	0.049	0.020	0.014	ug/L		08/30/13 00:12	1
<b>beta-BHC</b>	<b>0.069</b>	<b>J M</b>	0.049	0.020	0.0082	ug/L		08/30/13 00:12	1
delta-BHC	0.020	U	0.049	0.020	0.0085	ug/L		08/30/13 00:12	1
Dieldrin	0.020	U	0.029	0.020	0.0074	ug/L		08/30/13 00:12	1
Endosulfan I	0.020	U	0.049	0.020	0.013	ug/L		08/30/13 00:12	1
Endosulfan II	0.020	U	0.049	0.020	0.012	ug/L		08/30/13 00:12	1
Endosulfan sulfate	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 00:12	1
Endrin	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 00:12	1
Endrin aldehyde	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 00:12	1
Endrin ketone	0.020	U	0.049	0.020	0.0076	ug/L		08/30/13 00:12	1
gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0063	ug/L		08/30/13 00:12	1
gamma-Chlordane	0.020	U	0.049	0.020	0.012	ug/L		08/30/13 00:12	1
Heptachlor	0.020	U	0.029	0.020	0.0078	ug/L		08/30/13 00:12	1
Heptachlor epoxide	0.020	U	0.029	0.020	0.0070	ug/L		08/30/13 00:12	1
Methoxychlor	0.049	U	0.098	0.049	0.031	ug/L		08/30/13 00:12	1
Toxaphene	0.78	U	2.0	0.78	0.31	ug/L		08/30/13 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	76		30 - 135	08/23/13 09:00	08/30/13 00:12	1
DCB Decachlorobiphenyl	70		30 - 135	08/23/13 09:00	08/30/13 00:12	1
Tetrachloro-m-xylene	97		25 - 140	08/23/13 09:00	08/30/13 00:12	1
Tetrachloro-m-xylene	69		25 - 140	08/23/13 09:00	08/30/13 00:12	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 15:43	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-084C-0355-GW

Lab Sample ID: 240-28186-10

Date Collected: 08/21/13 14:05

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	2.4		0.16	0.052	0.032	ug/L		08/30/13 18:59	1
1,3-Dinitrobenzene	0.35		0.16	0.10	0.052	ug/L		08/30/13 18:59	1
2,4,6-Trinitrotoluene	12		0.16	0.10	0.052	ug/L		08/30/13 18:59	1
2,4-Dinitrotoluene	1.4		0.13	0.10	0.052	ug/L		08/30/13 18:59	1
2,6-Dinitrotoluene	0.95		0.13	0.10	0.052	ug/L		08/30/13 18:59	1
2-Amino-4,6-dinitrotoluene	13		0.16	0.10	0.016	ug/L		08/30/13 18:59	1
2-Nitrotoluene	0.10	U	0.52	0.10	0.091	ug/L		09/09/13 20:35	1
3-Nitrotoluene	0.10	U	0.52	0.10	0.059	ug/L		09/09/13 20:35	1
4-Nitrotoluene	0.10	U	0.52	0.10	0.091	ug/L		09/09/13 20:35	1
HMX	0.97		0.16	0.052	0.037	ug/L		08/30/13 18:59	1
RDX	2.1		0.16	0.052	0.037	ug/L		08/30/13 18:59	1
Nitrobenzene	0.10	U	0.16	0.10	0.052	ug/L		08/30/13 18:59	1
Tetryl	0.10	U	0.16	0.10	0.052	ug/L		08/30/13 18:59	1
Nitroglycerin	0.52	U	0.67	0.52	0.34	ug/L		08/30/13 18:59	1
PETN	0.52	U	0.67	0.52	0.31	ug/L		08/30/13 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	432	Q	79 - 111	08/27/13 07:26	08/30/13 18:59	1
3,4-Dinitrotoluene	93		79 - 111	08/27/13 07:26	09/09/13 20:35	1

## Method: 8330A - Nitroaromatics and Nitramines - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4-Amino-2,6-dinitrotoluene	36		0.47	0.31	0.16	ug/L		09/03/13 20:52	3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	435	Q	79 - 111	08/27/13 07:26	09/03/13 20:52	3
3,4-Dinitrotoluene	92		79 - 111	08/27/13 07:26	09/09/13 19:30	3

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:15	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL1mw-084C-0355-GF**

**Lab Sample ID: 240-28186-11**

**Date Collected: 08/21/13 14:05**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:02	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:02	1
<b>Cobalt</b>	<b>9.0</b>		7.0	4.0	1.5	ug/L		09/09/13 16:02	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:02	1
<b>Selenium</b>	<b>4.9</b>	<b>J</b>	15	10	4.0	ug/L		09/09/13 16:02	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:02	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:02	1
<b>Barium</b>	<b>18</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:02	1
<b>Calcium</b>	<b>65000</b>		5000	1000	630	ug/L		09/09/13 16:02	1
<b>Copper</b>	<b>9.1</b>	<b>J</b>	25	10	4.4	ug/L		09/09/13 16:02	1
<b>Magnesium</b>	<b>3100</b>	<b>J</b>	5000	300	120	ug/L		09/09/13 16:02	1
<b>Manganese</b>	<b>67</b>		15	5.0	1.8	ug/L		09/09/13 16:02	1
<b>Nickel</b>	<b>18</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 16:02	1
<b>Potassium</b>	<b>3600</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:02	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Aluminum</b>	<b>1300</b>	<b>B</b>	60	60	20	ug/L		09/09/13 20:24	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 20:24	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 20:24	1
<b>Cadmium</b>	<b>1.4</b>	<b>J</b>	2.0	1.0	0.40	ug/L		09/09/13 20:24	1
<b>Iron</b>	<b>50</b>	<b>J</b>	150	100	44	ug/L		09/09/13 20:24	1
<b>Sodium</b>	<b>5700</b>		1000	400	160	ug/L		09/09/13 20:24	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 20:24	1
<b>Zinc</b>	<b>58</b>		50	50	27	ug/L		09/09/13 20:24	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:55	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-083C-0354-GW

Lab Sample ID: 240-28186-12

Date Collected: 08/21/13 15:15

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>1.1</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 17:03	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 17:03	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 17:03	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 17:03	1
<b>Di-n-butyl phthalate</b>	<b>1.6</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 17:03	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		50 - 110	08/23/13 09:12	09/06/13 17:03	1
2-Fluorophenol (Surr)	85		20 - 110	08/23/13 09:12	09/06/13 17:03	1
Nitrobenzene-d5 (Surr)	85		40 - 110	08/23/13 09:12	09/06/13 17:03	1
Phenol-d5 (Surr)	88		10 - 115	08/23/13 09:12	09/06/13 17:03	1
Terphenyl-d14 (Surr)	111		50 - 135	08/23/13 09:12	09/06/13 17:03	1
2,4,6-Tribromophenol (Surr)	98		40 - 125	08/23/13 09:12	09/06/13 17:03	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		08/30/13 00:33	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/30/13 00:33	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/30/13 00:33	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/30/13 00:33	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/30/13 00:33	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/30/13 00:33	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/30/13 00:33	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/30/13 00:33	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/30/13 00:33	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/30/13 00:33	1
<b>Endosulfan II</b>	<b>0.014</b>	<b>J</b>	0.048	0.019	0.011	ug/L		08/30/13 00:33	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 00:33	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 00:33	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 00:33	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/30/13 00:33	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/30/13 00:33	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 00:33	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/30/13 00:33	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/30/13 00:33	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/30/13 00:33	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/30/13 00:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	85		30 - 135	08/23/13 09:00	08/30/13 00:33	1
DCB Decachlorobiphenyl	84		30 - 135	08/23/13 09:00	08/30/13 00:33	1
Tetrachloro-m-xylene	93		25 - 140	08/23/13 09:00	08/30/13 00:33	1
Tetrachloro-m-xylene	76		25 - 140	08/23/13 09:00	08/30/13 00:33	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 16:00	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-083C-0354-GW

Lab Sample ID: 240-28186-12

Date Collected: 08/21/13 15:15

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	6.5		0.15	0.051	0.032	ug/L		08/30/13 19:43	1
1,3-Dinitrobenzene	0.28		0.15	0.10	0.051	ug/L		08/30/13 19:43	1
2,4,6-Trinitrotoluene	4.5		0.15	0.10	0.051	ug/L		08/30/13 19:43	1
2,4-Dinitrotoluene	2.9		0.13	0.10	0.051	ug/L		08/30/13 19:43	1
2,6-Dinitrotoluene	1.5		0.13	0.10	0.051	ug/L		08/30/13 19:43	1
2-Amino-4,6-dinitrotoluene	14		0.15	0.10	0.015	ug/L		08/30/13 19:43	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.091	ug/L		08/30/13 19:43	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.059	ug/L		08/30/13 19:43	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.091	ug/L		08/30/13 19:43	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		09/10/13 00:58	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		09/10/13 00:58	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 19:43	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 19:43	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/30/13 19:43	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/30/13 19:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	162	Q	79 - 111	08/27/13 07:26	08/30/13 19:43	1
3,4-Dinitrotoluene	99		79 - 111	08/27/13 07:26	09/10/13 00:58	1

## Method: 8330A - Nitroaromatics and Nitramines - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4-Amino-2,6-dinitrotoluene	28		0.31	0.21	0.10	ug/L		09/03/13 21:36	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	150	Q	79 - 111	08/27/13 07:26	09/03/13 21:36	2
3,4-Dinitrotoluene	99		79 - 111	08/27/13 07:26	09/09/13 23:52	2

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:17	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL1mw-083C-0354-GF**

**Lab Sample ID: 240-28186-13**

**Date Collected: 08/21/13 15:15**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:08	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:08	1
<b>Cobalt</b>	<b>7.1</b>		7.0	4.0	1.5	ug/L		09/09/13 16:08	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:08	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:08	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:08	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:08	1
<b>Barium</b>	<b>17</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:08	1
<b>Calcium</b>	<b>26000</b>		5000	1000	630	ug/L		09/09/13 16:08	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:08	1
<b>Magnesium</b>	<b>5400</b>		5000	300	120	ug/L		09/09/13 16:08	1
<b>Manganese</b>	<b>410</b>		15	5.0	1.8	ug/L		09/09/13 16:08	1
<b>Nickel</b>	<b>27</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 16:08	1
<b>Potassium</b>	<b>2800</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:08	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Aluminum</b>	<b>640</b>		60	60	20	ug/L		09/11/13 09:32	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 21:31	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 21:31	1
<b>Cadmium</b>	<b>0.51</b>	<b>J</b>	2.0	1.0	0.40	ug/L		09/09/13 21:31	1
Iron	100	U	150	100	44	ug/L		09/09/13 21:31	1
<b>Sodium</b>	<b>7800</b>		1000	400	160	ug/L		09/09/13 21:31	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 21:31	1
<b>Zinc</b>	<b>39</b>	<b>J</b>	50	50	27	ug/L		09/09/13 21:31	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:58	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGTeam2-Trip082013

Lab Sample ID: 240-28186-14

Date Collected: 08/20/13 17:08

Matrix: WQ

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:57	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:57	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 00:57	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:57	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:57	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:57	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 00:57	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:57	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 00:57	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:57	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 00:57	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:57	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 00:57	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 00:57	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:57	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:57	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:57	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:57	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 00:57	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 00:57	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:57	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 00:57	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 00:57	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:57	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 00:57	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 00:57	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 00:57	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 00:57	1
Methylene Chloride	0.69	J	1.0	0.50	0.33	ug/L		08/30/13 00:57	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 00:57	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 00:57	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 00:57	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 00:57	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:57	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 00:57	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 00:57	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 00:57	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 00:57	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 00:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 120		08/30/13 00:57	1
4-Bromofluorobenzene (Surr)	86		75 - 120		08/30/13 00:57	1
Toluene-d8 (Surr)	95		85 - 120		08/30/13 00:57	1
Dibromofluoromethane (Surr)	88		85 - 115		08/30/13 00:57	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGDETMw-004C-0344-GW

Lab Sample ID: 240-28186-15

Date Collected: 08/20/13 17:10

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 01:21	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 01:21	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 01:21	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 01:21	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 01:21	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 01:21	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 01:21	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 01:21	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 01:21	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 01:21	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 01:21	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:21	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 01:21	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 01:21	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:21	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:21	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 01:21	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 01:21	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 01:21	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 01:21	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 01:21	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 01:21	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 01:21	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 01:21	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 01:21	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 01:21	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 01:21	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 01:21	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/30/13 01:21	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 01:21	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 01:21	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 01:21	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:21	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 01:21	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 01:21	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 01:21	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 01:21	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 01:21	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 01:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 120		08/30/13 01:21	1
4-Bromofluorobenzene (Surr)	87		75 - 120		08/30/13 01:21	1
Toluene-d8 (Surr)	93		85 - 120		08/30/13 01:21	1
Dibromofluoromethane (Surr)	97		85 - 115		08/30/13 01:21	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 18:41	1
Acenaphthylene	0.099	U	0.20	0.099	0.048	ug/L		09/06/13 18:41	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGDEtmw-004C-0344-GW

Lab Sample ID: 240-28186-15

Date Collected: 08/20/13 17:10

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.099	U	0.20	0.099	0.087	ug/L		09/06/13 18:41	1
Benzo[a]anthracene	0.099	U	0.20	0.099	0.029	ug/L		09/06/13 18:41	1
Benzo[a]pyrene	0.099	U	0.20	0.099	0.051	ug/L		09/06/13 18:41	1
Benzo[b]fluoranthene	0.099	U	0.20	0.099	0.039	ug/L		09/06/13 18:41	1
Benzo[g,h,i]perylene	0.099	U	0.20	0.099	0.046	ug/L		09/06/13 18:41	1
Benzoic acid	20	U	25	20	9.9	ug/L		09/06/13 18:41	1
Benzo[k]fluoranthene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 18:41	1
Benzyl alcohol	0.50	U	5.0	0.50	0.38	ug/L		09/06/13 18:41	1
Bis(2-chloroethoxy)methane	0.50	U	0.99	0.50	0.32	ug/L		09/06/13 18:41	1
Bis(2-chloroethyl)ether	0.099	U	0.99	0.099	0.099	ug/L		09/06/13 18:41	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>1.4</b>	<b>J</b>	2.0	0.50	0.22	ug/L		09/06/13 18:41	1
4-Bromophenyl phenyl ether	0.50	U	2.0	0.50	0.22	ug/L		09/06/13 18:41	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		09/06/13 18:41	1
Carbazole	0.50	U	0.99	0.50	0.28	ug/L		09/06/13 18:41	1
4-Chloroaniline	0.50	U	2.0	0.50	0.21	ug/L		09/06/13 18:41	1
4-Chloro-3-methylphenol	0.50	U	2.0	0.50	0.21	ug/L		09/06/13 18:41	1
2-Chloronaphthalene	0.50	U	0.99	0.50	0.099	ug/L		09/06/13 18:41	1
2-Chlorophenol	0.50	U	0.99	0.50	0.29	ug/L		09/06/13 18:41	1
4-Chlorophenyl phenyl ether	0.50	U	2.0	0.50	0.30	ug/L		09/06/13 18:41	1
Chrysene	0.099	U	0.20	0.099	0.050	ug/L		09/06/13 18:41	1
Dibenz(a,h)anthracene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 18:41	1
Dibenzofuran	0.099	U	0.99	0.099	0.020	ug/L		09/06/13 18:41	1
1,2-Dichlorobenzene	0.50	U	0.99	0.50	0.29	ug/L		09/06/13 18:41	1
1,3-Dichlorobenzene	0.50	U	0.99	0.50	0.23	ug/L		09/06/13 18:41	1
1,4-Dichlorobenzene	0.50	U	0.99	0.50	0.34	ug/L		09/06/13 18:41	1
3,3'-Dichlorobenzidine	0.99	U	5.0	0.99	0.37	ug/L		09/06/13 18:41	1
2,4-Dichlorophenol	0.50	U	2.0	0.50	0.19	ug/L		09/06/13 18:41	1
Diethyl phthalate	0.99	U	2.0	0.99	0.59	ug/L		09/06/13 18:41	1
2,4-Dimethylphenol	0.50	U	2.0	0.50	0.25	ug/L		09/06/13 18:41	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		09/06/13 18:41	1
<b>Di-n-butyl phthalate</b>	<b>0.85</b>	<b>J</b>	2.0	0.99	0.66	ug/L		09/06/13 18:41	1
4,6-Dinitro-2-methylphenol	4.0	U	5.0	4.0	2.4	ug/L		09/06/13 18:41	1
2,4-Dinitrophenol	0.99	U	5.0	0.99	0.32	ug/L		09/06/13 18:41	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		09/06/13 18:41	1
Fluoranthene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 18:41	1
Fluorene	0.099	U	0.20	0.099	0.040	ug/L		09/06/13 18:41	1
Hexachlorobenzene	0.099	U	0.20	0.099	0.084	ug/L		09/06/13 18:41	1
Hexachlorobutadiene	0.50	U	0.99	0.50	0.27	ug/L		09/06/13 18:41	1
Hexachlorocyclopentadiene	0.50	U	9.9	0.50	0.24	ug/L		09/06/13 18:41	1
Hexachloroethane	0.50	U	0.99	0.50	0.19	ug/L		09/06/13 18:41	1
Indeno[1,2,3-cd]pyrene	0.099	U	0.20	0.099	0.043	ug/L		09/06/13 18:41	1
Isophorone	0.50	U	0.99	0.50	0.27	ug/L		09/06/13 18:41	1
2-Methylnaphthalene	0.099	U	0.20	0.099	0.090	ug/L		09/06/13 18:41	1
2-Methylphenol	0.50	U	0.99	0.50	0.17	ug/L		09/06/13 18:41	1
3 & 4 Methylphenol	0.99	U	2.0	0.99	0.79	ug/L		09/06/13 18:41	1
Naphthalene	0.099	U	0.20	0.099	0.062	ug/L		09/06/13 18:41	1
2-Nitroaniline	0.50	U	2.0	0.50	0.21	ug/L		09/06/13 18:41	1
3-Nitroaniline	0.50	U	2.0	0.50	0.28	ug/L		09/06/13 18:41	1
4-Nitroaniline	0.50	U	2.0	0.50	0.22	ug/L		09/06/13 18:41	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGDETMw-004C-0344-GW

Lab Sample ID: 240-28186-15

Date Collected: 08/20/13 17:10

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.50	U	2.0	0.50	0.28	ug/L		09/06/13 18:41	1
4-Nitrophenol	4.0	U	5.0	4.0	0.29	ug/L		09/06/13 18:41	1
N-Nitrosodi-n-propylamine	0.50	U	0.99	0.50	0.24	ug/L		09/06/13 18:41	1
N-Nitrosodiphenylamine	0.50	U	0.99	0.50	0.31	ug/L		09/06/13 18:41	1
2,2'-oxybis[1-chloropropane]	0.50	U	0.99	0.50	0.40	ug/L		09/06/13 18:41	1
Pentachlorophenol	0.99	U	5.0	0.99	0.27	ug/L		09/06/13 18:41	1
Phenanthrene	0.099	U	0.20	0.099	0.061	ug/L		09/06/13 18:41	1
Phenol	0.99	U	0.99	0.99	0.59	ug/L		09/06/13 18:41	1
Pyrene	0.099	U	0.20	0.099	0.042	ug/L		09/06/13 18:41	1
1,2,4-Trichlorobenzene	0.50	U	0.99	0.50	0.28	ug/L		09/06/13 18:41	1
2,4,5-Trichlorophenol	0.50	U	5.0	0.50	0.30	ug/L		09/06/13 18:41	1
2,4,6-Trichlorophenol	0.50	U	5.0	0.50	0.24	ug/L		09/06/13 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	81		50 - 110	08/23/13 09:12	09/06/13 18:41	1
2-Fluorophenol (Surr)	85		20 - 110	08/23/13 09:12	09/06/13 18:41	1
Nitrobenzene-d5 (Surr)	84		40 - 110	08/23/13 09:12	09/06/13 18:41	1
Phenol-d5 (Surr)	88		10 - 115	08/23/13 09:12	09/06/13 18:41	1
Terphenyl-d14 (Surr)	111		50 - 135	08/23/13 09:12	09/06/13 18:41	1
2,4,6-Tribromophenol (Surr)	87		40 - 125	08/23/13 09:12	09/06/13 18:41	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.051	0.020	0.0097	ug/L		08/30/13 00:53	1
4,4'-DDE	0.020	U	0.051	0.020	0.0098	ug/L		08/30/13 00:53	1
4,4'-DDT	0.020	U	0.051	0.020	0.016	ug/L		08/30/13 00:53	1
Aldrin	0.020	U	0.030	0.020	0.0083	ug/L		08/30/13 00:53	1
alpha-BHC	0.020	U	0.030	0.020	0.0071	ug/L		08/30/13 00:53	1
alpha-Chlordane	0.020	U	0.051	0.020	0.014	ug/L		08/30/13 00:53	1
beta-BHC	0.020	U	0.051	0.020	0.0085	ug/L		08/30/13 00:53	1
delta-BHC	0.020	U	0.051	0.020	0.0088	ug/L		08/30/13 00:53	1
Dieldrin	0.020	U	0.030	0.020	0.0076	ug/L		08/30/13 00:53	1
Endosulfan I	0.020	U	0.051	0.020	0.013	ug/L		08/30/13 00:53	1
Endosulfan II	0.020	U	0.051	0.020	0.012	ug/L		08/30/13 00:53	1
Endosulfan sulfate	0.020	U	0.051	0.020	0.011	ug/L		08/30/13 00:53	1
Endrin	0.020	U	0.051	0.020	0.011	ug/L		08/30/13 00:53	1
Endrin aldehyde	0.020	U	0.051	0.020	0.011	ug/L		08/30/13 00:53	1
Endrin ketone	0.020	U	0.051	0.020	0.0079	ug/L		08/30/13 00:53	1
gamma-BHC (Lindane)	0.020	U	0.051	0.020	0.0065	ug/L		08/30/13 00:53	1
gamma-Chlordane	0.020	U	0.051	0.020	0.012	ug/L		08/30/13 00:53	1
Heptachlor	0.020	U	0.030	0.020	0.0081	ug/L		08/30/13 00:53	1
Heptachlor epoxide	0.020	U	0.030	0.020	0.0072	ug/L		08/30/13 00:53	1
Methoxychlor	0.051	U	0.10	0.051	0.032	ug/L		08/30/13 00:53	1
Toxaphene	0.81	U	2.0	0.81	0.32	ug/L		08/30/13 00:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	63		30 - 135	08/23/13 09:00	08/30/13 00:53	1
DCB Decachlorobiphenyl	59		30 - 135	08/23/13 09:00	08/30/13 00:53	1
Tetrachloro-m-xylene	70		25 - 140	08/23/13 09:00	08/30/13 00:53	1
Tetrachloro-m-xylene	77		25 - 140	08/23/13 09:00	08/30/13 00:53	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGDETMw-004C-0344-GW

Lab Sample ID: 240-28186-15

Date Collected: 08/20/13 17:10

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.20	U	0.51	0.20	0.17	ug/L		08/28/13 21:57	1
Aroclor-1221	0.20	U	0.51	0.20	0.13	ug/L		08/28/13 21:57	1
Aroclor-1232	0.20	U	0.51	0.20	0.16	ug/L		08/28/13 21:57	1
Aroclor-1242	0.40	U	0.51	0.40	0.22	ug/L		08/28/13 21:57	1
Aroclor-1248	0.20	U	0.51	0.20	0.10	ug/L		08/28/13 21:57	1
Aroclor-1254	0.20	U	0.51	0.20	0.16	ug/L		08/28/13 21:57	1
Aroclor-1260	0.20	U	0.51	0.20	0.17	ug/L		08/28/13 21:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		40 - 140	08/23/13 09:07	08/28/13 21:57	1
Tetrachloro-m-xylene	67		40 - 140	08/23/13 09:07	08/28/13 21:57	1
DCB Decachlorobiphenyl	47		40 - 135	08/23/13 09:07	08/28/13 21:57	1
DCB Decachlorobiphenyl	41		40 - 135	08/23/13 09:07	08/28/13 21:57	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 16:36	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.058	U	0.17	0.058	0.036	ug/L		09/10/13 02:03	1
1,3-Dinitrobenzene	0.12	U	0.17	0.12	0.058	ug/L		09/10/13 02:03	1
2,4,6-Trinitrotoluene	0.12	U	0.17	0.12	0.058	ug/L		09/10/13 02:03	1
2,4-Dinitrotoluene	0.12	U	0.15	0.12	0.058	ug/L		09/10/13 02:03	1
2,6-Dinitrotoluene	0.12	U	0.15	0.12	0.058	ug/L		09/10/13 02:03	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.17	0.12	0.017	ug/L		09/10/13 02:03	1
2-Nitrotoluene	0.12	U M	0.58	0.12	0.10	ug/L		09/10/13 02:03	1
3-Nitrotoluene	0.12	U	0.58	0.12	0.066	ug/L		09/10/13 02:03	1
4-Nitrotoluene	0.12	U M	0.58	0.12	0.10	ug/L		09/10/13 02:03	1
4-Amino-2,6-dinitrotoluene	0.12	U M	0.17	0.12	0.058	ug/L		09/10/13 02:03	1
HMX	3.5		0.17	0.058	0.042	ug/L		09/10/13 02:03	1
RDX	2.3		0.17	0.058	0.042	ug/L		09/10/13 02:03	1
Nitrobenzene	0.12	U	0.17	0.12	0.058	ug/L		09/13/13 17:20	1
Tetryl	0.12	U	0.17	0.12	0.058	ug/L		09/10/13 02:03	1
Nitroglycerin	0.58	U	0.76	0.58	0.38	ug/L		09/10/13 02:03	1
PETN	0.58	U	0.76	0.58	0.35	ug/L		09/10/13 02:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	116	Q	79 - 111	08/27/13 07:26	09/10/13 02:03	1
3,4-Dinitrotoluene	79	M	79 - 111	08/27/13 07:26	09/13/13 17:20	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 13:58	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:19	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGDEtmw-004C-0344-GF**

**Lab Sample ID: 240-28186-16**

**Date Collected: 08/20/13 17:10**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:14	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:14	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:14	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:14	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:14	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:14	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:14	1
<b>Barium</b>	<b>80</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:14	1
<b>Calcium</b>	<b>160000</b>		5000	1000	630	ug/L		09/09/13 16:14	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:14	1
<b>Magnesium</b>	<b>31000</b>		5000	300	120	ug/L		09/09/13 16:14	1
<b>Manganese</b>	<b>5.7</b>	<b>J</b>	15	5.0	1.8	ug/L		09/09/13 16:14	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 16:14	1
<b>Potassium</b>	<b>1700</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:14	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 21:38	1
<b>Antimony</b>	<b>0.38</b>	<b>J</b>	2.0	1.0	0.33	ug/L		09/09/13 21:38	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 21:38	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 21:38	1
Iron	100	U	150	100	44	ug/L		09/09/13 21:38	1
<b>Sodium</b>	<b>2900</b>		1000	400	160	ug/L		09/09/13 21:38	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 21:38	1
Zinc	50	U	50	50	27	ug/L		09/09/13 21:38	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:00	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGNTAmw-119-0367-GW

Lab Sample ID: 240-28186-17

Date Collected: 08/21/13 09:22

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 01:45	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 01:45	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 01:45	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 01:45	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 01:45	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 01:45	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 01:45	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 01:45	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 01:45	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 01:45	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 01:45	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:45	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 01:45	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 01:45	1
Carbon disulfide	0.25	J	1.0	0.25	0.13	ug/L		08/30/13 01:45	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:45	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 01:45	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 01:45	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 01:45	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 01:45	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 01:45	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 01:45	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 01:45	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 01:45	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 01:45	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 01:45	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 01:45	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 01:45	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/30/13 01:45	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 01:45	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 01:45	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 01:45	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 01:45	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 01:45	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 01:45	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 01:45	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 01:45	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 01:45	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 01:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 120		08/30/13 01:45	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/30/13 01:45	1
Toluene-d8 (Surr)	93		85 - 120		08/30/13 01:45	1
Dibromofluoromethane (Surr)	98		85 - 115		08/30/13 01:45	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 23:11	1
Acenaphthylene	0.099	U	0.20	0.099	0.048	ug/L		09/06/13 23:11	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGNTAmw-119-0367-GW

Lab Sample ID: 240-28186-17

Date Collected: 08/21/13 09:22

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.099	U	0.20	0.099	0.087	ug/L		09/06/13 23:11	1
Benzo[a]anthracene	0.099	U	0.20	0.099	0.029	ug/L		09/06/13 23:11	1
Benzo[a]pyrene	0.099	U	0.20	0.099	0.051	ug/L		09/06/13 23:11	1
Benzo[b]fluoranthene	0.099	U	0.20	0.099	0.039	ug/L		09/06/13 23:11	1
Benzo[g,h,i]perylene	0.099	U	0.20	0.099	0.046	ug/L		09/06/13 23:11	1
Benzo[k]fluoranthene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 23:11	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.42</b>	<b>J</b>	2.0	0.50	0.22	ug/L		09/06/13 23:11	1
Butyl benzyl phthalate	0.50	U	2.0	0.50	0.26	ug/L		09/06/13 23:11	1
Chrysene	0.099	U	0.20	0.099	0.050	ug/L		09/06/13 23:11	1
Dibenz(a,h)anthracene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 23:11	1
Diethyl phthalate	0.99	U	2.0	0.99	0.59	ug/L		09/06/13 23:11	1
Dimethyl phthalate	0.50	U	2.0	0.50	0.29	ug/L		09/06/13 23:11	1
<b>Di-n-butyl phthalate</b>	<b>0.72</b>	<b>J</b>	2.0	0.99	0.66	ug/L		09/06/13 23:11	1
2,4-Dinitrotoluene	0.50	U	5.0	0.50	0.25	ug/L		09/06/13 23:11	1
2,6-Dinitrotoluene	0.50	U	5.0	0.50	0.79	ug/L		09/06/13 23:11	1
Di-n-octyl phthalate	0.50	U	2.0	0.50	0.23	ug/L		09/06/13 23:11	1
Fluoranthene	0.099	U	0.20	0.099	0.044	ug/L		09/06/13 23:11	1
Fluorene	0.099	U	0.20	0.099	0.040	ug/L		09/06/13 23:11	1
Indeno[1,2,3-cd]pyrene	0.099	U	0.20	0.099	0.043	ug/L		09/06/13 23:11	1
<b>Naphthalene</b>	<b>0.11</b>	<b>J</b>	0.20	0.099	0.062	ug/L		09/06/13 23:11	1
Nitrobenzene	0.099	U	0.99	0.099	0.040	ug/L		09/06/13 23:11	1
Phenanthrene	0.099	U	0.20	0.099	0.061	ug/L		09/06/13 23:11	1
Pyrene	0.099	U	0.20	0.099	0.042	ug/L		09/06/13 23:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	81		50 - 110	08/23/13 09:12	09/06/13 23:11	1
2-Fluorophenol (Surr)	84		20 - 110	08/23/13 09:12	09/06/13 23:11	1
Nitrobenzene-d5 (Surr)	85		40 - 110	08/23/13 09:12	09/06/13 23:11	1
Phenol-d5 (Surr)	86		10 - 115	08/23/13 09:12	09/06/13 23:11	1
Terphenyl-d14 (Surr)	96		50 - 135	08/23/13 09:12	09/06/13 23:11	1
2,4,6-Tribromophenol (Surr)	84		40 - 125	08/23/13 09:12	09/06/13 23:11	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 16:53	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/30/13 21:10	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:10	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:10	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 21:10	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 21:10	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/30/13 21:10	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/30/13 21:10	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/30/13 21:10	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/30/13 21:10	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:10	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/30/13 21:10	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/30/13 21:10	1

TestAmerica Canton



## Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGNTAmw-119-0367-GW**

**Lab Sample ID: 240-28186-17**

Date Collected: 08/21/13 09:22

Matrix: Water

Date Received: 08/22/13 07:00

### Method: 8330A - Nitroaromatics and Nitramines (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:10	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:10	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/30/13 21:10	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/30/13 21:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92		79 - 111	08/27/13 07:26	08/30/13 21:10	1

### General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.8	J	2.0	1.0	0.48	mg/L		09/11/13 16:21	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGNTAmw-119-0367-GF**

**Lab Sample ID: 240-28186-18**

**Date Collected: 08/21/13 09:22**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:20	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:20	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:20	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:20	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:20	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:20	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:20	1
<b>Barium</b>	<b>86</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:20	1
<b>Calcium</b>	<b>83000</b>		5000	1000	630	ug/L		09/09/13 16:20	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:20	1
<b>Magnesium</b>	<b>22000</b>		5000	300	120	ug/L		09/09/13 16:20	1
<b>Manganese</b>	<b>340</b>		15	5.0	1.8	ug/L		09/09/13 16:20	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 16:20	1
<b>Potassium</b>	<b>1300</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:20	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 21:46	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 21:46	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 21:46	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 21:46	1
<b>Iron</b>	<b>1500</b>		150	100	44	ug/L		09/09/13 21:46	1
<b>Sodium</b>	<b>7200</b>		1000	400	160	ug/L		09/09/13 21:46	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 21:46	1
Zinc	50	U	50	50	27	ug/L		09/09/13 21:46	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:04	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFWGmw-006-0318-GW

Lab Sample ID: 240-28186-19

Date Collected: 08/21/13 10:48

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:09	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:09	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 02:09	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:09	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:09	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:09	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 02:09	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:09	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 02:09	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:09	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 02:09	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:09	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 02:09	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 02:09	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:09	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:09	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:09	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:09	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 02:09	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 02:09	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:09	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 02:09	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:09	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:09	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 02:09	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 02:09	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 02:09	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 02:09	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/30/13 02:09	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 02:09	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 02:09	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:09	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:09	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:09	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:09	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:09	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:09	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 02:09	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 120		08/30/13 02:09	1
4-Bromofluorobenzene (Surr)	90		75 - 120		08/30/13 02:09	1
Toluene-d8 (Surr)	95		85 - 120		08/30/13 02:09	1
Dibromofluoromethane (Surr)	94		85 - 115		08/30/13 02:09	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFBQmw-174C-0345-GW

Lab Sample ID: 240-28186-20

Date Collected: 08/21/13 11:38

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.82</b>	<b>J</b>	2.0	0.51	0.22	ug/L		09/06/13 17:27	1
Butyl benzyl phthalate	0.51	U	2.0	0.51	0.27	ug/L		09/06/13 17:27	1
Diethyl phthalate	1.0	U	2.0	1.0	0.61	ug/L		09/06/13 17:27	1
Dimethyl phthalate	0.51	U	2.0	0.51	0.30	ug/L		09/06/13 17:27	1
<b>Di-n-butyl phthalate</b>	<b>1.1</b>	<b>J</b>	2.0	1.0	0.68	ug/L		09/06/13 17:27	1
Di-n-octyl phthalate	0.51	U	2.0	0.51	0.23	ug/L		09/06/13 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	79		50 - 110	08/23/13 09:12	09/06/13 17:27	1
2-Fluorophenol (Surr)	81		20 - 110	08/23/13 09:12	09/06/13 17:27	1
Nitrobenzene-d5 (Surr)	80		40 - 110	08/23/13 09:12	09/06/13 17:27	1
Phenol-d5 (Surr)	86		10 - 115	08/23/13 09:12	09/06/13 17:27	1
Terphenyl-d14 (Surr)	108		50 - 135	08/23/13 09:12	09/06/13 17:27	1
2,4,6-Tribromophenol (Surr)	96		40 - 125	08/23/13 09:12	09/06/13 17:27	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.051	0.020	0.0098	ug/L		08/30/13 01:13	1
4,4'-DDE	0.020	U	0.051	0.020	0.0099	ug/L		08/30/13 01:13	1
4,4'-DDT	0.020	U	0.051	0.020	0.016	ug/L		08/30/13 01:13	1
Aldrin	0.020	U	0.031	0.020	0.0084	ug/L		08/30/13 01:13	1
alpha-BHC	0.020	U	0.031	0.020	0.0071	ug/L		08/30/13 01:13	1
alpha-Chlordane	0.020	U	0.051	0.020	0.014	ug/L		08/30/13 01:13	1
beta-BHC	0.020	U	0.051	0.020	0.0086	ug/L		08/30/13 01:13	1
<b>delta-BHC</b>	<b>0.019</b>	<b>J</b>	0.051	0.020	0.0089	ug/L		08/30/13 01:13	1
Dieldrin	0.020	U	0.031	0.020	0.0077	ug/L		08/30/13 01:13	1
Endosulfan I	0.020	U	0.051	0.020	0.013	ug/L		08/30/13 01:13	1
Endosulfan II	0.020	U	0.051	0.020	0.012	ug/L		08/30/13 01:13	1
Endosulfan sulfate	0.020	U	0.051	0.020	0.011	ug/L		08/30/13 01:13	1
Endrin	0.020	U	0.051	0.020	0.011	ug/L		08/30/13 01:13	1
Endrin aldehyde	0.020	U	0.051	0.020	0.011	ug/L		08/30/13 01:13	1
Endrin ketone	0.020	U	0.051	0.020	0.0080	ug/L		08/30/13 01:13	1
gamma-BHC (Lindane)	0.020	U	0.051	0.020	0.0065	ug/L		08/30/13 01:13	1
<b>gamma-Chlordane</b>	<b>0.037</b>	<b>J</b>	0.051	0.020	0.012	ug/L		08/30/13 01:13	1
Heptachlor	0.020	U	0.031	0.020	0.0082	ug/L		08/30/13 01:13	1
Heptachlor epoxide	0.020	U	0.031	0.020	0.0072	ug/L		08/30/13 01:13	1
Methoxychlor	0.051	U	0.10	0.051	0.033	ug/L		08/30/13 01:13	1
Toxaphene	0.82	U	2.0	0.82	0.33	ug/L		08/30/13 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	31		30 - 135	08/23/13 09:00	08/30/13 01:13	1
DCB Decachlorobiphenyl	23	M Q	30 - 135	08/23/13 09:00	08/30/13 01:13	1
Tetrachloro-m-xylene	72		25 - 140	08/23/13 09:00	08/30/13 01:13	1
Tetrachloro-m-xylene	73		25 - 140	08/23/13 09:00	08/30/13 01:13	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 17:11	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFBQmw-174C-0345-GW

Lab Sample ID: 240-28186-20

Date Collected: 08/21/13 11:38

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.031	ug/L		08/30/13 21:53	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:53	1
<b>2,4,6-Trinitrotoluene</b>	<b>18</b>		0.15	0.10	0.051	ug/L		08/30/13 21:53	1
<b>2,4-Dinitrotoluene</b>	<b>0.45</b>		0.13	0.10	0.051	ug/L		08/30/13 21:53	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 21:53	1
<b>2-Amino-4,6-dinitrotoluene</b>	<b>16</b>		0.15	0.10	0.015	ug/L		08/30/13 21:53	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		09/10/13 04:14	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/30/13 21:53	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		09/10/13 04:14	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		09/10/13 04:14	1
<b>RDX</b>	<b>0.31</b>	<b>M</b>	0.15	0.051	0.037	ug/L		08/30/13 21:53	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:53	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 21:53	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/30/13 21:53	1
PETN	0.51	U	0.66	0.51	0.30	ug/L		08/30/13 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	117	M Q	79 - 111	08/27/13 07:26	08/30/13 21:53	1
3,4-Dinitrotoluene	97		79 - 111	08/27/13 07:26	09/10/13 04:14	1

## Method: 8330A - Nitroaromatics and Nitramines - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>4-Amino-2,6-dinitrotoluene</b>	<b>26</b>	<b>M</b>	0.30	0.20	0.10	ug/L		09/13/13 18:04	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	96		79 - 111	08/27/13 07:26	09/10/13 03:09	2
3,4-Dinitrotoluene	112	M Q	79 - 111	08/27/13 07:26	09/13/13 18:04	2

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:31	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGFBQmw-174C-0345-GF**

**Lab Sample ID: 240-28186-21**

Date Collected: 08/21/13 11:38

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:26	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:26	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:26	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:26	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:26	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:26	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:26	1
Barium	14	J	200	5.0	2.8	ug/L		09/09/13 16:26	1
Calcium	5700		5000	1000	630	ug/L		09/09/13 16:26	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:26	1
Magnesium	2000	J	5000	300	120	ug/L		09/09/13 16:26	1
Manganese	16		15	5.0	1.8	ug/L		09/09/13 16:26	1
Nickel	5.8	J	40	5.0	2.2	ug/L		09/09/13 16:26	1
Potassium	1000	J	5000	900	300	ug/L		09/09/13 16:26	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 21:53	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 21:53	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 21:53	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 21:53	1
Iron	100	U	150	100	44	ug/L		09/09/13 21:53	1
Sodium	810	J	1000	400	160	ug/L		09/09/13 21:53	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 21:53	1
Zinc	50	U	50	50	27	ug/L		09/09/13 21:53	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:06	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGTeam3-TRIP

Lab Sample ID: 240-28186-22

Date Collected: 08/21/13 08:00

Matrix: WQ

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:33	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:33	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 02:33	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:33	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:33	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:33	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 02:33	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:33	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 02:33	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:33	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 02:33	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:33	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 02:33	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 02:33	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:33	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:33	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:33	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:33	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 02:33	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 02:33	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:33	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 02:33	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:33	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:33	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 02:33	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 02:33	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 02:33	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 02:33	1
Methylene Chloride	0.77	J	1.0	0.50	0.33	ug/L		08/30/13 02:33	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 02:33	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 02:33	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:33	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:33	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:33	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:33	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:33	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:33	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 02:33	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 120		08/30/13 02:33	1
4-Bromofluorobenzene (Surr)	86		75 - 120		08/30/13 02:33	1
Toluene-d8 (Surr)	91		85 - 120		08/30/13 02:33	1
Dibromofluoromethane (Surr)	94		85 - 115		08/30/13 02:33	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-019-0329-GW

Lab Sample ID: 240-28186-23

Date Collected: 08/21/13 08:56

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:57	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:57	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/30/13 02:57	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:57	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:57	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:57	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/30/13 02:57	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:57	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/30/13 02:57	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:57	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/30/13 02:57	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:57	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/30/13 02:57	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/30/13 02:57	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:57	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:57	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:57	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:57	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/30/13 02:57	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/30/13 02:57	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:57	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 02:57	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/30/13 02:57	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:57	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/30/13 02:57	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/30/13 02:57	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/30/13 02:57	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/30/13 02:57	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/30/13 02:57	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/30/13 02:57	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/30/13 02:57	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/30/13 02:57	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/30/13 02:57	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:57	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/30/13 02:57	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/30/13 02:57	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/30/13 02:57	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/30/13 02:57	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/30/13 02:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 120		08/30/13 02:57	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/30/13 02:57	1
Toluene-d8 (Surr)	95		85 - 120		08/30/13 02:57	1
Dibromofluoromethane (Surr)	95		85 - 115		08/30/13 02:57	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 23:36	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/06/13 23:36	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-019-0329-GW

Lab Sample ID: 240-28186-23

Date Collected: 08/21/13 08:56

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/06/13 23:36	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/06/13 23:36	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/06/13 23:36	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/06/13 23:36	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/06/13 23:36	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/06/13 23:36	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/06/13 23:36	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/06/13 23:36	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 23:36	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/06/13 23:36	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.49</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 23:36	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 23:36	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 23:36	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 23:36	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 23:36	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 23:36	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/06/13 23:36	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 23:36	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/06/13 23:36	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/06/13 23:36	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 23:36	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/06/13 23:36	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 23:36	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/06/13 23:36	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/06/13 23:36	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/06/13 23:36	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/06/13 23:36	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 23:36	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/06/13 23:36	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 23:36	1
<b>Di-n-butyl phthalate</b>	<b>0.84</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 23:36	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/06/13 23:36	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/06/13 23:36	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 23:36	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 23:36	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/06/13 23:36	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/06/13 23:36	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 23:36	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/06/13 23:36	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/06/13 23:36	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/06/13 23:36	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 23:36	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/06/13 23:36	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/06/13 23:36	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/06/13 23:36	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/06/13 23:36	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 23:36	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 23:36	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 23:36	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-019-0329-GW

Lab Sample ID: 240-28186-23

Date Collected: 08/21/13 08:56

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 23:36	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/06/13 23:36	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/06/13 23:36	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 23:36	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/06/13 23:36	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/06/13 23:36	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/06/13 23:36	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/06/13 23:36	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/06/13 23:36	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 23:36	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/06/13 23:36	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/06/13 23:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		50 - 110	08/23/13 09:12	09/06/13 23:36	1
2-Fluorophenol (Surr)	88		20 - 110	08/23/13 09:12	09/06/13 23:36	1
Nitrobenzene-d5 (Surr)	87		40 - 110	08/23/13 09:12	09/06/13 23:36	1
Phenol-d5 (Surr)	88		10 - 115	08/23/13 09:12	09/06/13 23:36	1
Terphenyl-d14 (Surr)	109		50 - 135	08/23/13 09:12	09/06/13 23:36	1
2,4,6-Tribromophenol (Surr)	83		40 - 125	08/23/13 09:12	09/06/13 23:36	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/12/13 14:50	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/12/13 14:50	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/12/13 14:50	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/12/13 14:50	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/12/13 14:50	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/12/13 14:50	1
beta-BHC	0.011	J	0.048	0.019	0.0080	ug/L		09/12/13 14:50	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/12/13 14:50	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/12/13 14:50	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/12/13 14:50	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/12/13 14:50	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:50	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:50	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/12/13 14:50	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/12/13 14:50	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/12/13 14:50	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/12/13 14:50	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/12/13 14:50	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/12/13 14:50	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/12/13 14:50	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/12/13 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		30 - 135	08/23/13 09:00	09/12/13 14:50	1
DCB Decachlorobiphenyl	98		30 - 135	08/23/13 09:00	09/12/13 14:50	1
Tetrachloro-m-xylene	111		25 - 140	08/23/13 09:00	09/12/13 14:50	1
Tetrachloro-m-xylene	122		25 - 140	08/23/13 09:00	09/12/13 14:50	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-019-0329-GW

Lab Sample ID: 240-28186-23

Date Collected: 08/21/13 08:56

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:12	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/28/13 22:12	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:12	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/28/13 22:12	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/28/13 22:12	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:12	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		40 - 140	08/23/13 09:07	08/28/13 22:12	1
Tetrachloro-m-xylene	73		40 - 140	08/23/13 09:07	08/28/13 22:12	1
DCB Decachlorobiphenyl	56		40 - 135	08/23/13 09:07	08/28/13 22:12	1
DCB Decachlorobiphenyl	46		40 - 135	08/23/13 09:07	08/28/13 22:12	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 17:29	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.031	ug/L		08/30/13 22:37	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 22:37	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 22:37	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 22:37	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 22:37	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/30/13 22:37	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		08/30/13 22:37	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/30/13 22:37	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		08/30/13 22:37	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 22:37	1
HMX	0.051	U	0.15	0.051	0.036	ug/L		08/30/13 22:37	1
RDX	0.051	U	0.15	0.051	0.036	ug/L		08/30/13 22:37	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 22:37	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 22:37	1
Nitroglycerin	0.51	U	0.66	0.51	0.33	ug/L		08/30/13 22:37	1
PETN	0.51	U	0.66	0.51	0.30	ug/L		08/30/13 22:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	93		79 - 111	08/27/13 07:26	08/30/13 22:37	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 13:58	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:33	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-019-0329-GF**

**Lab Sample ID: 240-28186-24**

**Date Collected: 08/21/13 08:56**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:32	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:32	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:32	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:32	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:32	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:32	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:32	1
<b>Barium</b>	<b>62</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:32	1
<b>Calcium</b>	<b>77000</b>		5000	1000	630	ug/L		09/09/13 16:32	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:32	1
<b>Magnesium</b>	<b>22000</b>		5000	300	120	ug/L		09/09/13 16:32	1
<b>Manganese</b>	<b>250</b>		15	5.0	1.8	ug/L		09/09/13 16:32	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 16:32	1
<b>Potassium</b>	<b>1800</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:32	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 22:01	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 22:01	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 22:01	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 22:01	1
<b>Iron</b>	<b>430</b>		150	100	44	ug/L		09/09/13 22:01	1
<b>Sodium</b>	<b>8300</b>		1000	400	160	ug/L		09/09/13 22:01	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 22:01	1
Zinc	50	U	50	50	27	ug/L		09/09/13 22:01	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:08	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-018-0328-GW

Lab Sample ID: 240-28186-25

Date Collected: 08/21/13 10:03

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 09:55	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 09:55	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 09:55	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 09:55	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 09:55	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 09:55	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 09:55	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 09:55	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 09:55	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 09:55	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/31/13 09:55	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:55	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 09:55	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 09:55	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:55	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:55	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 09:55	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 09:55	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/31/13 09:55	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 09:55	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 09:55	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 09:55	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 09:55	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 09:55	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 09:55	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 09:55	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/31/13 09:55	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 09:55	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/31/13 09:55	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 09:55	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 09:55	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 09:55	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 09:55	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 09:55	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 09:55	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 09:55	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 09:55	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 09:55	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 09:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 120		08/31/13 09:55	1
4-Bromofluorobenzene (Surr)	83		75 - 120		08/31/13 09:55	1
Toluene-d8 (Surr)	89		85 - 120		08/31/13 09:55	1
Dibromofluoromethane (Surr)	102		85 - 115		08/31/13 09:55	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 21:08	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/06/13 21:08	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-018-0328-GW

Lab Sample ID: 240-28186-25

Date Collected: 08/21/13 10:03

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/06/13 21:08	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/06/13 21:08	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/06/13 21:08	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/06/13 21:08	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/06/13 21:08	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/06/13 21:08	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/06/13 21:08	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/06/13 21:08	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 21:08	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/06/13 21:08	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.31</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 21:08	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 21:08	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 21:08	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 21:08	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 21:08	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 21:08	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/06/13 21:08	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 21:08	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/06/13 21:08	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/06/13 21:08	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 21:08	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/06/13 21:08	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 21:08	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/06/13 21:08	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/06/13 21:08	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/06/13 21:08	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/06/13 21:08	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 21:08	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/06/13 21:08	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 21:08	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		09/06/13 21:08	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/06/13 21:08	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/06/13 21:08	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 21:08	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 21:08	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/06/13 21:08	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/06/13 21:08	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 21:08	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/06/13 21:08	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/06/13 21:08	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/06/13 21:08	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 21:08	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/06/13 21:08	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/06/13 21:08	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/06/13 21:08	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/06/13 21:08	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 21:08	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 21:08	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 21:08	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-018-0328-GW

Lab Sample ID: 240-28186-25

Date Collected: 08/21/13 10:03

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 21:08	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/06/13 21:08	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/06/13 21:08	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 21:08	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/06/13 21:08	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/06/13 21:08	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/06/13 21:08	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/06/13 21:08	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/06/13 21:08	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 21:08	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/06/13 21:08	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/06/13 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	84		50 - 110	08/23/13 09:12	09/06/13 21:08	1
2-Fluorophenol (Surr)	71		20 - 110	08/23/13 09:12	09/06/13 21:08	1
Nitrobenzene-d5 (Surr)	86		40 - 110	08/23/13 09:12	09/06/13 21:08	1
Phenol-d5 (Surr)	73		10 - 115	08/23/13 09:12	09/06/13 21:08	1
Terphenyl-d14 (Surr)	113		50 - 135	08/23/13 09:12	09/06/13 21:08	1
2,4,6-Tribromophenol (Surr)	87		40 - 125	08/23/13 09:12	09/06/13 21:08	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		09/10/13 18:54	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		09/10/13 18:54	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		09/10/13 18:54	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		09/10/13 18:54	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		09/10/13 18:54	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		09/10/13 18:54	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		09/10/13 18:54	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		09/10/13 18:54	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		09/10/13 18:54	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		09/10/13 18:54	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		09/10/13 18:54	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		09/10/13 18:54	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		09/10/13 18:54	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		09/10/13 18:54	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		09/10/13 18:54	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		09/10/13 18:54	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		09/10/13 18:54	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		09/10/13 18:54	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		09/10/13 18:54	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		09/10/13 18:54	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		09/10/13 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	73		30 - 135	08/23/13 09:00	09/10/13 18:54	1
DCB Decachlorobiphenyl	80		30 - 135	08/23/13 09:00	09/10/13 18:54	1
Tetrachloro-m-xylene	85		25 - 140	08/23/13 09:00	09/10/13 18:54	1
Tetrachloro-m-xylene	84		25 - 140	08/23/13 09:00	09/10/13 18:54	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-018-0328-GW

Lab Sample ID: 240-28186-25

Date Collected: 08/21/13 10:03

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:27	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/28/13 22:27	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:27	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/28/13 22:27	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/28/13 22:27	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:27	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	77		40 - 140	08/23/13 09:07	08/28/13 22:27	1
Tetrachloro-m-xylene	81		40 - 140	08/23/13 09:07	08/28/13 22:27	1
DCB Decachlorobiphenyl	79		40 - 135	08/23/13 09:07	08/28/13 22:27	1
DCB Decachlorobiphenyl	64		40 - 135	08/23/13 09:07	08/28/13 22:27	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 17:47	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/30/13 23:21	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 23:21	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 23:21	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 23:21	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/30/13 23:21	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/30/13 23:21	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/30/13 23:21	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/30/13 23:21	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/30/13 23:21	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 23:21	1
HMX	0.14	J M	0.15	0.051	0.037	ug/L		08/30/13 23:21	1
RDX	0.35	M	0.15	0.051	0.037	ug/L		08/30/13 23:21	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 23:21	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/30/13 23:21	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/30/13 23:21	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/30/13 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	96		79 - 111	08/27/13 07:26	08/30/13 23:21	1
3,4-Dinitrotoluene	93		79 - 111	08/27/13 07:26	09/10/13 05:20	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:35	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-018-0328-GF**

**Lab Sample ID: 240-28186-26**

**Date Collected: 08/21/13 10:03**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:38	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:38	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:38	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:38	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:38	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:38	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:38	1
<b>Barium</b>	<b>20</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:38	1
<b>Calcium</b>	<b>15000</b>		5000	1000	630	ug/L		09/09/13 16:38	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:38	1
<b>Magnesium</b>	<b>3400</b>	<b>J</b>	5000	300	120	ug/L		09/09/13 16:38	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 16:38	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 16:38	1
<b>Potassium</b>	<b>1100</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:38	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 22:08	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 22:08	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 22:08	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 22:08	1
Iron	100	U	150	100	44	ug/L		09/09/13 22:08	1
<b>Sodium</b>	<b>1800</b>		1000	400	160	ug/L		09/09/13 22:08	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 22:08	1
Zinc	50	U	50	50	27	ug/L		09/09/13 22:08	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:10	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-Dup4-0339-GW

Lab Sample ID: 240-28186-27

Date Collected: 08/21/13 11:03

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 10:18	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 10:18	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 10:18	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 10:18	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 10:18	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 10:18	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 10:18	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 10:18	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 10:18	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 10:18	1
Acetone	1.7	J	10	1.1	1.1	ug/L		08/31/13 10:18	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:18	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 10:18	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 10:18	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:18	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:18	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 10:18	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 10:18	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/31/13 10:18	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 10:18	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 10:18	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 10:18	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 10:18	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 10:18	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 10:18	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 10:18	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/31/13 10:18	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 10:18	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/31/13 10:18	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 10:18	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 10:18	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 10:18	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:18	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 10:18	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 10:18	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 10:18	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 10:18	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 10:18	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 10:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 120		08/31/13 10:18	1
4-Bromofluorobenzene (Surr)	84		75 - 120		08/31/13 10:18	1
Toluene-d8 (Surr)	88		85 - 120		08/31/13 10:18	1
Dibromofluoromethane (Surr)	103		85 - 115		08/31/13 10:18	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 21:33	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/06/13 21:33	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-Dup4-0339-GW

Lab Sample ID: 240-28186-27

Date Collected: 08/21/13 11:03

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/06/13 21:33	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/06/13 21:33	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/06/13 21:33	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/06/13 21:33	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/06/13 21:33	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/06/13 21:33	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/06/13 21:33	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/06/13 21:33	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 21:33	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/06/13 21:33	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.74</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 21:33	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 21:33	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 21:33	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 21:33	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 21:33	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 21:33	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/06/13 21:33	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 21:33	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/06/13 21:33	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/06/13 21:33	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 21:33	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/06/13 21:33	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 21:33	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/06/13 21:33	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/06/13 21:33	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/06/13 21:33	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/06/13 21:33	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 21:33	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/06/13 21:33	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 21:33	1
<b>Di-n-butyl phthalate</b>	<b>1.5</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 21:33	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/06/13 21:33	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/06/13 21:33	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 21:33	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 21:33	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/06/13 21:33	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/06/13 21:33	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 21:33	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/06/13 21:33	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/06/13 21:33	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/06/13 21:33	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 21:33	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/06/13 21:33	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/06/13 21:33	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/06/13 21:33	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/06/13 21:33	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 21:33	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 21:33	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 21:33	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-Dup4-0339-GW

Lab Sample ID: 240-28186-27

Date Collected: 08/21/13 11:03

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 21:33	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/06/13 21:33	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/06/13 21:33	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 21:33	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/06/13 21:33	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/06/13 21:33	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/06/13 21:33	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/06/13 21:33	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/06/13 21:33	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 21:33	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/06/13 21:33	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/06/13 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		50 - 110	08/23/13 09:12	09/06/13 21:33	1
2-Fluorophenol (Surr)	66		20 - 110	08/23/13 09:12	09/06/13 21:33	1
Nitrobenzene-d5 (Surr)	67		40 - 110	08/23/13 09:12	09/06/13 21:33	1
Phenol-d5 (Surr)	69		10 - 115	08/23/13 09:12	09/06/13 21:33	1
Terphenyl-d14 (Surr)	88		50 - 135	08/23/13 09:12	09/06/13 21:33	1
2,4,6-Tribromophenol (Surr)	66		40 - 125	08/23/13 09:12	09/06/13 21:33	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		08/30/13 02:15	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/30/13 02:15	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/30/13 02:15	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/30/13 02:15	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/30/13 02:15	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/30/13 02:15	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/30/13 02:15	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/30/13 02:15	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/30/13 02:15	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/30/13 02:15	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 02:15	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 02:15	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 02:15	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 02:15	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/30/13 02:15	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/30/13 02:15	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 02:15	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/30/13 02:15	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/30/13 02:15	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/30/13 02:15	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/30/13 02:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		30 - 135	08/23/13 09:00	08/30/13 02:15	1
DCB Decachlorobiphenyl	70		30 - 135	08/23/13 09:00	08/30/13 02:15	1
Tetrachloro-m-xylene	79		25 - 140	08/23/13 09:00	08/30/13 02:15	1
Tetrachloro-m-xylene	82		25 - 140	08/23/13 09:00	08/30/13 02:15	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-Dup4-0339-GW

Lab Sample ID: 240-28186-27

Date Collected: 08/21/13 11:03

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:42	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/28/13 22:42	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:42	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/28/13 22:42	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/28/13 22:42	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:42	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	73		40 - 140	08/23/13 09:07	08/28/13 22:42	1
Tetrachloro-m-xylene	79		40 - 140	08/23/13 09:07	08/28/13 22:42	1
DCB Decachlorobiphenyl	55		40 - 135	08/23/13 09:07	08/28/13 22:42	1
DCB Decachlorobiphenyl	48		40 - 135	08/23/13 09:07	08/28/13 22:42	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 18:04	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/31/13 00:04	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:04	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:04	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 00:04	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 00:04	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 00:04	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 00:04	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/31/13 00:04	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 00:04	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:04	1
HMX	0.13	J M	0.15	0.051	0.037	ug/L		08/31/13 00:04	1
RDX	0.36	M	0.15	0.051	0.037	ug/L		08/31/13 00:04	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:04	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:04	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/31/13 00:04	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/31/13 00:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	94		79 - 111	08/27/13 07:26	08/31/13 00:04	1
3,4-Dinitrotoluene	96		79 - 111	08/27/13 07:26	09/10/13 06:25	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:37	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-Dup4-0339-GF**

**Lab Sample ID: 240-28186-28**

**Date Collected: 08/21/13 11:03**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:44	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:44	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:44	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:44	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:44	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:44	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:44	1
<b>Barium</b>	<b>20</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 16:44	1
<b>Calcium</b>	<b>15000</b>		5000	1000	630	ug/L		09/09/13 16:44	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:44	1
<b>Magnesium</b>	<b>3400</b>	<b>J</b>	5000	300	120	ug/L		09/09/13 16:44	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 16:44	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 16:44	1
<b>Potassium</b>	<b>1100</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 16:44	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 22:16	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 22:16	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 22:16	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 22:16	1
Iron	100	U	150	100	44	ug/L		09/09/13 22:16	1
<b>Sodium</b>	<b>1800</b>		1000	400	160	ug/L		09/09/13 22:16	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 22:16	1
Zinc	50	U	50	50	27	ug/L		09/09/13 22:16	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:12	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL2mw-267C-0358-GW

Lab Sample ID: 240-28186-29

Date Collected: 08/21/13 12:18

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.62</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 18:16	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 18:16	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 18:16	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 18:16	1
<b>Di-n-butyl phthalate</b>	<b>0.81</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 18:16	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	79		50 - 110	08/23/13 09:12	09/06/13 18:16	1
2-Fluorophenol (Surr)	84		20 - 110	08/23/13 09:12	09/06/13 18:16	1
Nitrobenzene-d5 (Surr)	85		40 - 110	08/23/13 09:12	09/06/13 18:16	1
Phenol-d5 (Surr)	87		10 - 115	08/23/13 09:12	09/06/13 18:16	1
Terphenyl-d14 (Surr)	63		50 - 135	08/23/13 09:12	09/06/13 18:16	1
2,4,6-Tribromophenol (Surr)	91		40 - 125	08/23/13 09:12	09/06/13 18:16	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 18:22	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.031	ug/L		08/31/13 00:48	1
1,3-Dinitrobenzene	0.10	U M	0.15	0.10	0.051	ug/L		09/10/13 07:31	1
2,4,6-Trinitrotoluene	0.54	M	0.15	0.10	0.051	ug/L		08/31/13 00:48	1
2,4-Dinitrotoluene	0.30	M	0.13	0.10	0.051	ug/L		08/31/13 00:48	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 00:48	1
2-Amino-4,6-dinitrotoluene	1.8		0.15	0.10	0.015	ug/L		08/31/13 00:48	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		08/31/13 00:48	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/31/13 00:48	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.089	ug/L		08/31/13 00:48	1
4-Amino-2,6-dinitrotoluene	1.7	M	0.15	0.10	0.051	ug/L		08/31/13 00:48	1
HMX	0.051	U	0.15	0.051	0.036	ug/L		09/10/13 07:31	1
RDX	1.5	M	0.15	0.051	0.036	ug/L		08/31/13 00:48	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:48	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 00:48	1
Nitroglycerin	0.51	U	0.66	0.51	0.33	ug/L		08/31/13 00:48	1
PETN	0.51	U	0.66	0.51	0.30	ug/L		08/31/13 00:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	91	M	79 - 111				08/27/13 07:26	08/31/13 00:48	1
3,4-Dinitrotoluene	102		79 - 111				08/27/13 07:26	09/10/13 07:31	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:39	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL2mw-267C-0358-GF**

**Lab Sample ID: 240-28186-30**

**Date Collected: 08/21/13 12:18**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 16:50	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 16:50	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 16:50	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 16:50	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 16:50	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 16:50	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 16:50	1
Barium	11	J	200	5.0	2.8	ug/L		09/09/13 16:50	1
Calcium	32000		5000	1000	630	ug/L		09/09/13 16:50	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 16:50	1
Magnesium	17000		5000	300	120	ug/L		09/09/13 16:50	1
Manganese	490		15	5.0	1.8	ug/L		09/09/13 16:50	1
Nickel	3.7	J	40	5.0	2.2	ug/L		09/09/13 16:50	1
Potassium	670	J	5000	900	300	ug/L		09/09/13 16:50	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 22:23	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 22:23	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 22:23	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 22:23	1
Iron	360		150	100	44	ug/L		09/09/13 22:23	1
Sodium	19000		1000	400	160	ug/L		09/09/13 22:23	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 22:23	1
Zinc	50	U	50	50	27	ug/L		09/09/13 22:23	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:14	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL1mw-086-0320-GW**

**Lab Sample ID: 240-28186-31**

**Date Collected: 08/21/13 13:33**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
<b>Bis(2-ethylhexyl) phthalate</b>	<b>1.2</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 17:52	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 17:52	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 17:52	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 17:52	1
<b>Di-n-butyl phthalate</b>	<b>0.86</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 17:52	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	80		50 - 110	08/23/13 09:12	09/06/13 17:52	1
2-Fluorophenol (Surr)	85		20 - 110	08/23/13 09:12	09/06/13 17:52	1
Nitrobenzene-d5 (Surr)	84		40 - 110	08/23/13 09:12	09/06/13 17:52	1
Phenol-d5 (Surr)	90		10 - 115	08/23/13 09:12	09/06/13 17:52	1
Terphenyl-d14 (Surr)	102		50 - 135	08/23/13 09:12	09/06/13 17:52	1
2,4,6-Tribromophenol (Surr)	102		40 - 125	08/23/13 09:12	09/06/13 17:52	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		08/30/13 10:03	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/30/13 10:03	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/30/13 10:03	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/30/13 10:03	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/30/13 10:03	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/30/13 10:03	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/30/13 10:03	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/30/13 10:03	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/30/13 10:03	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/30/13 10:03	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 10:03	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 10:03	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 10:03	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 10:03	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/30/13 10:03	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/30/13 10:03	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 10:03	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/30/13 10:03	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/30/13 10:03	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/30/13 10:03	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/30/13 10:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	30		30 - 135	08/23/13 09:00	08/30/13 10:03	1
DCB Decachlorobiphenyl	27	Q	30 - 135	08/23/13 09:00	08/30/13 10:03	1
Tetrachloro-m-xylene	1813	Q	25 - 140	08/23/13 09:00	08/30/13 10:03	1
Tetrachloro-m-xylene	79		25 - 140	08/23/13 09:00	08/30/13 10:03	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 18:40	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-086-0320-GW

Lab Sample ID: 240-28186-31

Date Collected: 08/21/13 13:33

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/31/13 01:32	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		09/10/13 08:36	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 01:32	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 01:32	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 01:32	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 01:32	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 01:32	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		09/10/13 08:36	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 01:32	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 01:32	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		09/10/13 08:36	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/31/13 01:32	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 01:32	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 01:32	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/31/13 01:32	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/31/13 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92	M	79 - 111	08/27/13 07:26	08/31/13 01:32	1
3,4-Dinitrotoluene	100		79 - 111	08/27/13 07:26	09/10/13 08:36	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:41	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL1mw-086-0320-GF**

**Lab Sample ID: 240-28186-32**

**Date Collected: 08/21/13 13:33**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.7	J	10	10	3.3	ug/L		09/09/13 17:08	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 17:08	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 17:08	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 17:08	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 17:08	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 17:08	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 17:08	1
Barium	39	J	200	5.0	2.8	ug/L		09/09/13 17:08	1
Calcium	47000		5000	1000	630	ug/L		09/09/13 17:08	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 17:08	1
Magnesium	20000		5000	300	120	ug/L		09/09/13 17:08	1
Manganese	310		15	5.0	1.8	ug/L		09/09/13 17:08	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 17:08	1
Potassium	19000		5000	900	300	ug/L		09/09/13 17:08	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 22:31	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 22:31	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 22:31	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 22:31	1
Iron	600		150	100	44	ug/L		09/09/13 22:31	1
Sodium	16000		1000	400	160	ug/L		09/09/13 22:31	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 22:31	1
Zinc	50	U	50	50	27	ug/L		09/09/13 22:31	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:15	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-065C-0353-GW

Lab Sample ID: 240-28186-33

Date Collected: 08/21/13 14:43

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.50	J	1.9	0.49	0.21	ug/L		09/06/13 19:55	1
Butyl benzyl phthalate	0.49	U	1.9	0.49	0.25	ug/L		09/06/13 19:55	1
Diethyl phthalate	0.97	U	1.9	0.97	0.58	ug/L		09/06/13 19:55	1
Dimethyl phthalate	0.49	U	1.9	0.49	0.28	ug/L		09/06/13 19:55	1
Di-n-butyl phthalate	0.97	U	1.9	0.97	0.65	ug/L		09/06/13 19:55	1
Di-n-octyl phthalate	0.49	U	1.9	0.49	0.22	ug/L		09/06/13 19:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	77		50 - 110	08/23/13 09:12	09/06/13 19:55	1
2-Fluorophenol (Surr)	73		20 - 110	08/23/13 09:12	09/06/13 19:55	1
Nitrobenzene-d5 (Surr)	81		40 - 110	08/23/13 09:12	09/06/13 19:55	1
Phenol-d5 (Surr)	75		10 - 115	08/23/13 09:12	09/06/13 19:55	1
Terphenyl-d14 (Surr)	105		50 - 135	08/23/13 09:12	09/06/13 19:55	1
2,4,6-Tribromophenol (Surr)	72		40 - 125	08/23/13 09:12	09/06/13 19:55	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.049	0.020	0.0094	ug/L		08/30/13 07:20	1
4,4'-DDE	0.020	U	0.049	0.020	0.0095	ug/L		08/30/13 07:20	1
4,4'-DDT	0.020	U	0.049	0.020	0.016	ug/L		08/30/13 07:20	1
Aldrin	0.020	U	0.029	0.020	0.0080	ug/L		08/30/13 07:20	1
alpha-BHC	0.020	U	0.029	0.020	0.0069	ug/L		08/30/13 07:20	1
alpha-Chlordane	0.020	U	0.049	0.020	0.014	ug/L		08/30/13 07:20	1
beta-BHC	0.020	U	0.049	0.020	0.0082	ug/L		08/30/13 07:20	1
delta-BHC	0.020	U	0.049	0.020	0.0085	ug/L		08/30/13 07:20	1
Dieldrin	0.020	U	0.029	0.020	0.0074	ug/L		08/30/13 07:20	1
Endosulfan I	0.020	U	0.049	0.020	0.013	ug/L		08/30/13 07:20	1
Endosulfan II	0.020	U	0.049	0.020	0.012	ug/L		08/30/13 07:20	1
Endosulfan sulfate	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 07:20	1
Endrin	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 07:20	1
Endrin aldehyde	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 07:20	1
Endrin ketone	0.020	U	0.049	0.020	0.0076	ug/L		08/30/13 07:20	1
gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0063	ug/L		08/30/13 07:20	1
gamma-Chlordane	0.020	U	0.049	0.020	0.012	ug/L		08/30/13 07:20	1
Heptachlor	0.020	U	0.029	0.020	0.0078	ug/L		08/30/13 07:20	1
Heptachlor epoxide	0.020	U	0.029	0.020	0.0070	ug/L		08/30/13 07:20	1
Methoxychlor	0.049	U	0.098	0.049	0.031	ug/L		08/30/13 07:20	1
Toxaphene	0.78	U	2.0	0.78	0.31	ug/L		08/30/13 07:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	55		30 - 135	08/23/13 09:00	08/30/13 07:20	1
DCB Decachlorobiphenyl	52		30 - 135	08/23/13 09:00	08/30/13 07:20	1
Tetrachloro-m-xylene	78		25 - 140	08/23/13 09:00	08/30/13 07:20	1
Tetrachloro-m-xylene	79		25 - 140	08/23/13 09:00	08/30/13 07:20	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 18:58	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGLL1mw-065C-0353-GW

Lab Sample ID: 240-28186-33

Date Collected: 08/21/13 14:43

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/31/13 02:59	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 02:59	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 02:59	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 02:59	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 02:59	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 02:59	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 02:59	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/31/13 02:59	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 02:59	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 02:59	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/31/13 02:59	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/31/13 02:59	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 02:59	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 02:59	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/31/13 02:59	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/31/13 02:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90		79 - 111	08/27/13 07:26	08/31/13 02:59	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:43	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGLL1mw-065C-0353-GF**

**Lab Sample ID: 240-28186-34**

**Date Collected: 08/21/13 14:43**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 17:14	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 17:14	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 17:14	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 17:14	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 17:14	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 17:14	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 17:14	1
Barium	50	J	200	5.0	2.8	ug/L		09/09/13 17:14	1
Calcium	75000		5000	1000	630	ug/L		09/09/13 17:14	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 17:14	1
Magnesium	19000		5000	300	120	ug/L		09/09/13 17:14	1
Manganese	200		15	5.0	1.8	ug/L		09/09/13 17:14	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 17:14	1
Potassium	1000	J	5000	900	300	ug/L		09/09/13 17:14	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 22:38	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 22:38	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 22:38	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 22:38	1
Iron	170		150	100	44	ug/L		09/09/13 22:38	1
Sodium	12000		1000	400	160	ug/L		09/09/13 22:38	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 22:38	1
Zinc	50	U	50	50	27	ug/L		09/09/13 22:38	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:17	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGTEAM4-TRIP**

**Lab Sample ID: 240-28186-35**

**Date Collected: 08/21/13 08:00**

**Matrix: WQ**

**Date Received: 08/22/13 07:00**

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 10:40	1
1,1,1,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 10:40	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 10:40	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 10:40	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 10:40	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 10:40	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 10:40	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 10:40	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 10:40	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 10:40	1
<b>Acetone</b>	<b>1.4</b>	<b>J</b>	10	1.1	1.1	ug/L		08/31/13 10:40	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:40	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 10:40	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 10:40	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:40	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:40	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 10:40	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 10:40	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/31/13 10:40	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 10:40	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 10:40	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 10:40	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 10:40	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 10:40	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 10:40	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 10:40	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/31/13 10:40	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 10:40	1
<b>Methylene Chloride</b>	<b>0.85</b>	<b>J B</b>	1.0	0.50	0.33	ug/L		08/31/13 10:40	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 10:40	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 10:40	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 10:40	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 10:40	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 10:40	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 10:40	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 10:40	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 10:40	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 10:40	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 10:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 120		08/31/13 10:40	1
4-Bromofluorobenzene (Surr)	86		75 - 120		08/31/13 10:40	1
Toluene-d8 (Surr)	88		85 - 120		08/31/13 10:40	1
Dibromofluoromethane (Surr)	99		85 - 115		08/31/13 10:40	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-021-0331-GW

Lab Sample ID: 240-28186-36

Date Collected: 08/21/13 09:24

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 11:03	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 11:03	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 11:03	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 11:03	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 11:03	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 11:03	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 11:03	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 11:03	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 11:03	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 11:03	1
Acetone	1.1	U	10	1.1	1.1	ug/L		08/31/13 11:03	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:03	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 11:03	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 11:03	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:03	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:03	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 11:03	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 11:03	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/31/13 11:03	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 11:03	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 11:03	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 11:03	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 11:03	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 11:03	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 11:03	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 11:03	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/31/13 11:03	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 11:03	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/31/13 11:03	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 11:03	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 11:03	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 11:03	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:03	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 11:03	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 11:03	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 11:03	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 11:03	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 11:03	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 11:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 120		08/31/13 11:03	1
4-Bromofluorobenzene (Surr)	86		75 - 120		08/31/13 11:03	1
Toluene-d8 (Surr)	86		85 - 120		08/31/13 11:03	1
Dibromofluoromethane (Surr)	101		85 - 115		08/31/13 11:03	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 20:19	1
Acenaphthylene	0.095	U	0.19	0.095	0.046	ug/L		09/06/13 20:19	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-021-0331-GW

Lab Sample ID: 240-28186-36

Date Collected: 08/21/13 09:24

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.095	U	0.19	0.095	0.084	ug/L		09/06/13 20:19	1
Benzo[a]anthracene	0.095	U	0.19	0.095	0.028	ug/L		09/06/13 20:19	1
Benzo[a]pyrene	0.095	U	0.19	0.095	0.049	ug/L		09/06/13 20:19	1
Benzo[b]fluoranthene	0.095	U	0.19	0.095	0.038	ug/L		09/06/13 20:19	1
Benzo[g,h,i]perylene	0.095	U	0.19	0.095	0.044	ug/L		09/06/13 20:19	1
Benzoic acid	19	U	24	19	9.5	ug/L		09/06/13 20:19	1
Benzo[k]fluoranthene	0.095	U	0.19	0.095	0.043	ug/L		09/06/13 20:19	1
Benzyl alcohol	0.48	U	4.8	0.48	0.36	ug/L		09/06/13 20:19	1
Bis(2-chloroethoxy)methane	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 20:19	1
Bis(2-chloroethyl)ether	0.095	U	0.95	0.095	0.095	ug/L		09/06/13 20:19	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.65</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 20:19	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 20:19	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 20:19	1
Carbazole	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 20:19	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 20:19	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 20:19	1
2-Chloronaphthalene	0.48	U	0.95	0.48	0.095	ug/L		09/06/13 20:19	1
2-Chlorophenol	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 20:19	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/06/13 20:19	1
Chrysene	0.095	U	0.19	0.095	0.048	ug/L		09/06/13 20:19	1
Dibenz(a,h)anthracene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 20:19	1
Dibenzofuran	0.095	U	0.95	0.095	0.019	ug/L		09/06/13 20:19	1
1,2-Dichlorobenzene	0.48	U	0.95	0.48	0.28	ug/L		09/06/13 20:19	1
1,3-Dichlorobenzene	0.48	U	0.95	0.48	0.22	ug/L		09/06/13 20:19	1
1,4-Dichlorobenzene	0.48	U	0.95	0.48	0.32	ug/L		09/06/13 20:19	1
3,3'-Dichlorobenzidine	0.95	U	4.8	0.95	0.35	ug/L		09/06/13 20:19	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/06/13 20:19	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		09/06/13 20:19	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/06/13 20:19	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 20:19	1
<b>Di-n-butyl phthalate</b>	<b>0.68</b>	<b>J</b>	1.9	0.95	0.64	ug/L		09/06/13 20:19	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/06/13 20:19	1
2,4-Dinitrophenol	0.95	U	4.8	0.95	0.30	ug/L		09/06/13 20:19	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 20:19	1
Fluoranthene	0.095	U	0.19	0.095	0.042	ug/L		09/06/13 20:19	1
Fluorene	0.095	U	0.19	0.095	0.039	ug/L		09/06/13 20:19	1
Hexachlorobenzene	0.095	U	0.19	0.095	0.081	ug/L		09/06/13 20:19	1
Hexachlorobutadiene	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 20:19	1
Hexachlorocyclopentadiene	0.48	U	9.5	0.48	0.23	ug/L		09/06/13 20:19	1
Hexachloroethane	0.48	U	0.95	0.48	0.18	ug/L		09/06/13 20:19	1
Indeno[1,2,3-cd]pyrene	0.095	U	0.19	0.095	0.041	ug/L		09/06/13 20:19	1
Isophorone	0.48	U	0.95	0.48	0.26	ug/L		09/06/13 20:19	1
2-Methylnaphthalene	0.095	U	0.19	0.095	0.086	ug/L		09/06/13 20:19	1
2-Methylphenol	0.48	U	0.95	0.48	0.16	ug/L		09/06/13 20:19	1
3 & 4 Methylphenol	0.95	U	1.9	0.95	0.76	ug/L		09/06/13 20:19	1
Naphthalene	0.095	U	0.19	0.095	0.060	ug/L		09/06/13 20:19	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 20:19	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 20:19	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 20:19	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-021-0331-GW

Lab Sample ID: 240-28186-36

Date Collected: 08/21/13 09:24

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 20:19	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/06/13 20:19	1
N-Nitrosodi-n-propylamine	0.48	U	0.95	0.48	0.23	ug/L		09/06/13 20:19	1
N-Nitrosodiphenylamine	0.48	U	0.95	0.48	0.30	ug/L		09/06/13 20:19	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.95	0.48	0.38	ug/L		09/06/13 20:19	1
Pentachlorophenol	0.95	U	4.8	0.95	0.26	ug/L		09/06/13 20:19	1
Phenanthrene	0.095	U	0.19	0.095	0.059	ug/L		09/06/13 20:19	1
Phenol	0.95	U	0.95	0.95	0.57	ug/L		09/06/13 20:19	1
Pyrene	0.095	U	0.19	0.095	0.040	ug/L		09/06/13 20:19	1
1,2,4-Trichlorobenzene	0.48	U	0.95	0.48	0.27	ug/L		09/06/13 20:19	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/06/13 20:19	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/06/13 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	76		50 - 110	08/23/13 09:12	09/06/13 20:19	1
2-Fluorophenol (Surr)	77		20 - 110	08/23/13 09:12	09/06/13 20:19	1
Nitrobenzene-d5 (Surr)	79		40 - 110	08/23/13 09:12	09/06/13 20:19	1
Phenol-d5 (Surr)	78		10 - 115	08/23/13 09:12	09/06/13 20:19	1
Terphenyl-d14 (Surr)	107		50 - 135	08/23/13 09:12	09/06/13 20:19	1
2,4,6-Tribromophenol (Surr)	81		40 - 125	08/23/13 09:12	09/06/13 20:19	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0091	ug/L		08/30/13 07:40	1
4,4'-DDE	0.019	U	0.048	0.019	0.0092	ug/L		08/30/13 07:40	1
4,4'-DDT	0.019	U	0.048	0.019	0.015	ug/L		08/30/13 07:40	1
Aldrin	0.019	U	0.029	0.019	0.0078	ug/L		08/30/13 07:40	1
alpha-BHC	0.019	U	0.029	0.019	0.0067	ug/L		08/30/13 07:40	1
alpha-Chlordane	0.019	U	0.048	0.019	0.013	ug/L		08/30/13 07:40	1
beta-BHC	0.019	U	0.048	0.019	0.0080	ug/L		08/30/13 07:40	1
delta-BHC	0.019	U	0.048	0.019	0.0083	ug/L		08/30/13 07:40	1
Dieldrin	0.019	U	0.029	0.019	0.0071	ug/L		08/30/13 07:40	1
Endosulfan I	0.019	U	0.048	0.019	0.012	ug/L		08/30/13 07:40	1
Endosulfan II	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 07:40	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 07:40	1
Endrin	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 07:40	1
Endrin aldehyde	0.019	U	0.048	0.019	0.010	ug/L		08/30/13 07:40	1
Endrin ketone	0.019	U	0.048	0.019	0.0074	ug/L		08/30/13 07:40	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0061	ug/L		08/30/13 07:40	1
gamma-Chlordane	0.019	U	0.048	0.019	0.011	ug/L		08/30/13 07:40	1
Heptachlor	0.019	U	0.029	0.019	0.0076	ug/L		08/30/13 07:40	1
Heptachlor epoxide	0.019	U	0.029	0.019	0.0068	ug/L		08/30/13 07:40	1
Methoxychlor	0.048	U	0.095	0.048	0.030	ug/L		08/30/13 07:40	1
Toxaphene	0.76	U	1.9	0.76	0.30	ug/L		08/30/13 07:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	56		30 - 135	08/23/13 09:00	08/30/13 07:40	1
DCB Decachlorobiphenyl	56		30 - 135	08/23/13 09:00	08/30/13 07:40	1
Tetrachloro-m-xylene	67		25 - 140	08/23/13 09:00	08/30/13 07:40	1
Tetrachloro-m-xylene	68		25 - 140	08/23/13 09:00	08/30/13 07:40	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBgmw-021-0331-GW

Lab Sample ID: 240-28186-36

Date Collected: 08/21/13 09:24

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:56	1
Aroclor-1221	0.19	U	0.48	0.19	0.12	ug/L		08/28/13 22:56	1
Aroclor-1232	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:56	1
Aroclor-1242	0.38	U	0.48	0.38	0.21	ug/L		08/28/13 22:56	1
Aroclor-1248	0.19	U	0.48	0.19	0.095	ug/L		08/28/13 22:56	1
Aroclor-1254	0.19	U	0.48	0.19	0.15	ug/L		08/28/13 22:56	1
Aroclor-1260	0.19	U	0.48	0.19	0.16	ug/L		08/28/13 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		40 - 140	08/23/13 09:07	08/28/13 22:56	1
Tetrachloro-m-xylene	74		40 - 140	08/23/13 09:07	08/28/13 22:56	1
DCB Decachlorobiphenyl	49		40 - 135	08/23/13 09:07	08/28/13 22:56	1
DCB Decachlorobiphenyl	42		40 - 135	08/23/13 09:07	08/28/13 22:56	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 19:15	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.050	U	0.15	0.050	0.031	ug/L		08/31/13 03:43	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 03:43	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 03:43	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/31/13 03:43	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/31/13 03:43	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 03:43	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/31/13 03:43	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.058	ug/L		08/31/13 03:43	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/31/13 03:43	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 03:43	1
HMX	0.050	U	0.15	0.050	0.036	ug/L		08/31/13 03:43	1
RDX	0.050	U	0.15	0.050	0.036	ug/L		08/31/13 03:43	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 03:43	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 03:43	1
Nitroglycerin	0.50	U	0.66	0.50	0.33	ug/L		08/31/13 03:43	1
PETN	0.50	U	0.66	0.50	0.30	ug/L		08/31/13 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92	M	79 - 111	08/27/13 07:26	08/31/13 03:43	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:45	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-021-0331-GF**

**Lab Sample ID: 240-28186-37**

**Date Collected: 08/21/13 09:24**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	6.5	J	10	10	3.3	ug/L		09/09/13 17:20	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 17:20	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 17:20	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 17:20	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 17:20	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 17:20	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 17:20	1
Barium	62	J	200	5.0	2.8	ug/L		09/09/13 17:20	1
Calcium	74000		5000	1000	630	ug/L		09/09/13 17:20	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 17:20	1
Magnesium	19000		5000	300	120	ug/L		09/09/13 17:20	1
Manganese	240		15	5.0	1.8	ug/L		09/09/13 17:20	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 17:20	1
Potassium	1200	J	5000	900	300	ug/L		09/09/13 17:20	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 23:01	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 23:01	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 23:01	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 23:01	1
Iron	570		150	100	44	ug/L		09/09/13 23:01	1
Sodium	5100		1000	400	160	ug/L		09/09/13 23:01	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 23:01	1
Zinc	50	U	50	50	27	ug/L		09/09/13 23:01	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:18	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGWBGmw-006C-0373-GW

Lab Sample ID: 240-28186-38

Date Collected: 08/21/13 10:40

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.74	J	1.9	0.49	0.21	ug/L		09/06/13 19:05	1
Butyl benzyl phthalate	0.49	U	1.9	0.49	0.25	ug/L		09/06/13 19:05	1
Diethyl phthalate	0.97	U	1.9	0.97	0.58	ug/L		09/06/13 19:05	1
Dimethyl phthalate	0.49	U	1.9	0.49	0.28	ug/L		09/06/13 19:05	1
Di-n-butyl phthalate	0.97	U	1.9	0.97	0.65	ug/L		09/06/13 19:05	1
Di-n-octyl phthalate	0.49	U	1.9	0.49	0.22	ug/L		09/06/13 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		50 - 110	08/23/13 09:12	09/06/13 19:05	1
2-Fluorophenol (Surr)	58		20 - 110	08/23/13 09:12	09/06/13 19:05	1
Nitrobenzene-d5 (Surr)	66		40 - 110	08/23/13 09:12	09/06/13 19:05	1
Phenol-d5 (Surr)	61		10 - 115	08/23/13 09:12	09/06/13 19:05	1
Terphenyl-d14 (Surr)	96		50 - 135	08/23/13 09:12	09/06/13 19:05	1
2,4,6-Tribromophenol (Surr)	65		40 - 125	08/23/13 09:12	09/06/13 19:05	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 19:51	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/31/13 04:26	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 04:26	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 04:26	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 04:26	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 04:26	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 04:26	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 04:26	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.059	ug/L		08/31/13 04:26	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 04:26	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 04:26	1
HMX	5.6		0.15	0.051	0.037	ug/L		08/31/13 04:26	1
RDX	15		0.15	0.051	0.037	ug/L		08/31/13 04:26	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 04:26	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 04:26	1
Nitroglycerin	0.51	U	0.67	0.51	0.34	ug/L		08/31/13 04:26	1
PETN	0.51	U	0.67	0.51	0.31	ug/L		08/31/13 04:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	92		79 - 111	08/27/13 07:26	08/31/13 04:26	1
3,4-Dinitrotoluene	123	Q	79 - 111	08/27/13 07:26	09/10/13 09:42	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:47	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGWBGmw-006C-0373-GF**

**Lab Sample ID: 240-28186-39**

**Date Collected: 08/21/13 10:40**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 17:26	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 17:26	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 17:26	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 17:26	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 17:26	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 17:26	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 17:26	1
<b>Barium</b>	<b>23</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 17:26	1
<b>Calcium</b>	<b>71000</b>		5000	1000	630	ug/L		09/09/13 17:26	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 17:26	1
<b>Magnesium</b>	<b>24000</b>		5000	300	120	ug/L		09/09/13 17:26	1
<b>Manganese</b>	<b>65</b>		15	5.0	1.8	ug/L		09/09/13 17:26	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 17:26	1
<b>Potassium</b>	<b>820</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 17:26	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 23:08	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 23:08	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 23:08	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 23:08	1
Iron	100	U	150	100	44	ug/L		09/09/13 23:08	1
<b>Sodium</b>	<b>6300</b>		1000	400	160	ug/L		09/09/13 23:08	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 23:08	1
Zinc	50	U	50	50	27	ug/L		09/09/13 23:08	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:20	1



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFWGmw-009-0319-GW

Lab Sample ID: 240-28186-40

Date Collected: 08/21/13 12:20

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 11:25	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 11:25	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 11:25	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 11:25	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 11:25	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 11:25	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 11:25	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 11:25	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 11:25	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 11:25	1
Acetone	1.2	J	10	1.1	1.1	ug/L		08/31/13 11:25	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:25	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 11:25	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 11:25	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:25	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:25	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 11:25	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 11:25	1
Chloroform	0.25	U	1.0	0.25	0.16	ug/L		08/31/13 11:25	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 11:25	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 11:25	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 11:25	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 11:25	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 11:25	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 11:25	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 11:25	1
2-Butanone (MEK)	0.57	U	10	0.57	0.57	ug/L		08/31/13 11:25	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 11:25	1
Methylene Chloride	0.50	U	1.0	0.50	0.33	ug/L		08/31/13 11:25	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 11:25	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 11:25	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 11:25	1
Toluene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 11:25	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 11:25	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 11:25	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 11:25	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 11:25	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 11:25	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 11:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 120		08/31/13 11:25	1
4-Bromofluorobenzene (Surr)	85		75 - 120		08/31/13 11:25	1
Toluene-d8 (Surr)	88		85 - 120		08/31/13 11:25	1
Dibromofluoromethane (Surr)	100		85 - 115		08/31/13 11:25	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.097	U	0.19	0.097	0.043	ug/L		09/06/13 15:25	1
Acenaphthylene	0.097	U	0.19	0.097	0.047	ug/L		09/06/13 15:25	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFWGmw-009-0319-GW

Lab Sample ID: 240-28186-40

Date Collected: 08/21/13 12:20

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.097	U	0.19	0.097	0.085	ug/L		09/06/13 15:25	1
Benzo[a]anthracene	0.097	U	0.19	0.097	0.029	ug/L		09/06/13 15:25	1
Benzo[a]pyrene	0.097	U J	0.19	0.097	0.050	ug/L		09/06/13 15:25	1
Benzo[b]fluoranthene	0.097	U	0.19	0.097	0.038	ug/L		09/06/13 15:25	1
Benzo[g,h,i]perylene	0.097	U	0.19	0.097	0.045	ug/L		09/06/13 15:25	1
Benzoic acid	19	U	24	19	9.7	ug/L		09/06/13 15:25	1
Benzo[k]fluoranthene	0.097	U	0.19	0.097	0.043	ug/L		09/06/13 15:25	1
Benzyl alcohol	0.49	U	4.9	0.49	0.37	ug/L		09/06/13 15:25	1
Bis(2-chloroethoxy)methane	0.49	U	0.97	0.49	0.31	ug/L		09/06/13 15:25	1
Bis(2-chloroethyl)ether	0.097	U	0.97	0.097	0.097	ug/L		09/06/13 15:25	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.34</b>	<b>J</b>	1.9	0.49	0.21	ug/L		09/06/13 15:25	1
4-Bromophenyl phenyl ether	0.49	U	1.9	0.49	0.21	ug/L		09/06/13 15:25	1
Butyl benzyl phthalate	0.49	U	1.9	0.49	0.25	ug/L		09/06/13 15:25	1
Carbazole	0.49	U	0.97	0.49	0.27	ug/L		09/06/13 15:25	1
4-Chloroaniline	0.49	U	1.9	0.49	0.20	ug/L		09/06/13 15:25	1
4-Chloro-3-methylphenol	0.49	U	1.9	0.49	0.20	ug/L		09/06/13 15:25	1
2-Chloronaphthalene	0.49	U	0.97	0.49	0.097	ug/L		09/06/13 15:25	1
2-Chlorophenol	0.49	U	0.97	0.49	0.28	ug/L		09/06/13 15:25	1
4-Chlorophenyl phenyl ether	0.49	U	1.9	0.49	0.29	ug/L		09/06/13 15:25	1
Chrysene	0.097	U	0.19	0.097	0.049	ug/L		09/06/13 15:25	1
Dibenz(a,h)anthracene	0.097	U	0.19	0.097	0.043	ug/L		09/06/13 15:25	1
Dibenzofuran	0.097	U	0.97	0.097	0.019	ug/L		09/06/13 15:25	1
1,2-Dichlorobenzene	0.49	U	0.97	0.49	0.28	ug/L		09/06/13 15:25	1
1,3-Dichlorobenzene	0.49	U	0.97	0.49	0.22	ug/L		09/06/13 15:25	1
1,4-Dichlorobenzene	0.49	U	0.97	0.49	0.33	ug/L		09/06/13 15:25	1
3,3'-Dichlorobenzidine	0.97	U	4.9	0.97	0.36	ug/L		09/06/13 15:25	1
2,4-Dichlorophenol	0.49	U	1.9	0.49	0.18	ug/L		09/06/13 15:25	1
Diethyl phthalate	0.97	U	1.9	0.97	0.58	ug/L		09/06/13 15:25	1
2,4-Dimethylphenol	0.49	U	1.9	0.49	0.24	ug/L		09/06/13 15:25	1
Dimethyl phthalate	0.49	U	1.9	0.49	0.28	ug/L		09/06/13 15:25	1
Di-n-butyl phthalate	0.97	U	1.9	0.97	0.65	ug/L		09/06/13 15:25	1
4,6-Dinitro-2-methylphenol	3.9	U	4.9	3.9	2.3	ug/L		09/06/13 15:25	1
2,4-Dinitrophenol	0.97	U	4.9	0.97	0.31	ug/L		09/06/13 15:25	1
Di-n-octyl phthalate	0.49	U	1.9	0.49	0.22	ug/L		09/06/13 15:25	1
Fluoranthene	0.097	U	0.19	0.097	0.043	ug/L		09/06/13 15:25	1
Fluorene	0.097	U	0.19	0.097	0.039	ug/L		09/06/13 15:25	1
Hexachlorobenzene	0.097	U	0.19	0.097	0.083	ug/L		09/06/13 15:25	1
Hexachlorobutadiene	0.49	U	0.97	0.49	0.26	ug/L		09/06/13 15:25	1
Hexachlorocyclopentadiene	0.49	U	9.7	0.49	0.23	ug/L		09/06/13 15:25	1
Hexachloroethane	0.49	U	0.97	0.49	0.18	ug/L		09/06/13 15:25	1
Indeno[1,2,3-cd]pyrene	0.097	U	0.19	0.097	0.042	ug/L		09/06/13 15:25	1
Isophorone	0.49	U	0.97	0.49	0.26	ug/L		09/06/13 15:25	1
2-Methylnaphthalene	0.097	U	0.19	0.097	0.088	ug/L		09/06/13 15:25	1
2-Methylphenol	0.49	U	0.97	0.49	0.17	ug/L		09/06/13 15:25	1
3 & 4 Methylphenol	0.97	U	1.9	0.97	0.78	ug/L		09/06/13 15:25	1
Naphthalene	0.097	U	0.19	0.097	0.061	ug/L		09/06/13 15:25	1
2-Nitroaniline	0.49	U	1.9	0.49	0.20	ug/L		09/06/13 15:25	1
3-Nitroaniline	0.49	U	1.9	0.49	0.27	ug/L		09/06/13 15:25	1
4-Nitroaniline	0.49	U	1.9	0.49	0.21	ug/L		09/06/13 15:25	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFWGmw-009-0319-GW

Lab Sample ID: 240-28186-40

Date Collected: 08/21/13 12:20

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.49	U	1.9	0.49	0.27	ug/L		09/06/13 15:25	1
4-Nitrophenol	3.9	U	4.9	3.9	0.28	ug/L		09/06/13 15:25	1
N-Nitrosodi-n-propylamine	0.49	U	0.97	0.49	0.23	ug/L		09/06/13 15:25	1
N-Nitrosodiphenylamine	0.49	U	0.97	0.49	0.30	ug/L		09/06/13 15:25	1
2,2'-oxybis[1-chloropropane]	0.49	U	0.97	0.49	0.39	ug/L		09/06/13 15:25	1
Pentachlorophenol	0.97	U	4.9	0.97	0.26	ug/L		09/06/13 15:25	1
Phenanthrene	0.097	U	0.19	0.097	0.060	ug/L		09/06/13 15:25	1
Phenol	0.97	U	0.97	0.97	0.58	ug/L		09/06/13 15:25	1
Pyrene	0.097	U	0.19	0.097	0.041	ug/L		09/06/13 15:25	1
1,2,4-Trichlorobenzene	0.49	U	0.97	0.49	0.27	ug/L		09/06/13 15:25	1
2,4,5-Trichlorophenol	0.49	U	4.9	0.49	0.29	ug/L		09/06/13 15:25	1
2,4,6-Trichlorophenol	0.49	U	4.9	0.49	0.23	ug/L		09/06/13 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	79		50 - 110	08/23/13 09:12	09/06/13 15:25	1
2-Fluorophenol (Surr)	81		20 - 110	08/23/13 09:12	09/06/13 15:25	1
Nitrobenzene-d5 (Surr)	80		40 - 110	08/23/13 09:12	09/06/13 15:25	1
Phenol-d5 (Surr)	85		10 - 115	08/23/13 09:12	09/06/13 15:25	1
Terphenyl-d14 (Surr)	106		50 - 135	08/23/13 09:12	09/06/13 15:25	1
2,4,6-Tribromophenol (Surr)	81		40 - 125	08/23/13 09:12	09/06/13 15:25	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.049	0.020	0.0094	ug/L		08/30/13 08:01	1
4,4'-DDE	0.020	U	0.049	0.020	0.0095	ug/L		08/30/13 08:01	1
4,4'-DDT	0.020	U	0.049	0.020	0.016	ug/L		08/30/13 08:01	1
Aldrin	0.020	U	0.029	0.020	0.0080	ug/L		08/30/13 08:01	1
alpha-BHC	0.020	U	0.029	0.020	0.0069	ug/L		08/30/13 08:01	1
alpha-Chlordane	0.020	U	0.049	0.020	0.014	ug/L		08/30/13 08:01	1
beta-BHC	0.020	U	0.049	0.020	0.0082	ug/L		08/30/13 08:01	1
delta-BHC	0.020	U	0.049	0.020	0.0085	ug/L		08/30/13 08:01	1
Dieldrin	0.020	U	0.029	0.020	0.0074	ug/L		08/30/13 08:01	1
Endosulfan I	0.020	U	0.049	0.020	0.013	ug/L		08/30/13 08:01	1
Endosulfan II	0.020	U	0.049	0.020	0.012	ug/L		08/30/13 08:01	1
Endosulfan sulfate	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 08:01	1
Endrin	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 08:01	1
Endrin aldehyde	0.020	U	0.049	0.020	0.011	ug/L		08/30/13 08:01	1
Endrin ketone	0.020	U	0.049	0.020	0.0076	ug/L		08/30/13 08:01	1
gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0063	ug/L		08/30/13 08:01	1
gamma-Chlordane	0.020	U	0.049	0.020	0.012	ug/L		08/30/13 08:01	1
Heptachlor	0.020	U	0.029	0.020	0.0078	ug/L		08/30/13 08:01	1
Heptachlor epoxide	0.020	U	0.029	0.020	0.0070	ug/L		08/30/13 08:01	1
Methoxychlor	0.049	U	0.098	0.049	0.031	ug/L		08/30/13 08:01	1
Toxaphene	0.78	U	2.0	0.78	0.31	ug/L		08/30/13 08:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	65		30 - 135	08/23/13 09:00	08/30/13 08:01	1
DCB Decachlorobiphenyl	64		30 - 135	08/23/13 09:00	08/30/13 08:01	1
Tetrachloro-m-xylene	72		25 - 140	08/23/13 09:00	08/30/13 08:01	1
Tetrachloro-m-xylene	74		25 - 140	08/23/13 09:00	08/30/13 08:01	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFWGmw-009-0319-GW

Lab Sample ID: 240-28186-40

Date Collected: 08/21/13 12:20

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.20	U	0.49	0.20	0.17	ug/L		08/28/13 23:54	1
Aroclor-1221	0.20	U	0.49	0.20	0.13	ug/L		08/28/13 23:54	1
Aroclor-1232	0.20	U	0.49	0.20	0.16	ug/L		08/28/13 23:54	1
Aroclor-1242	0.39	U	0.49	0.39	0.22	ug/L		08/28/13 23:54	1
Aroclor-1248	0.20	U	0.49	0.20	0.098	ug/L		08/28/13 23:54	1
Aroclor-1254	0.20	U	0.49	0.20	0.16	ug/L		08/28/13 23:54	1
Aroclor-1260	0.20	U	0.49	0.20	0.17	ug/L		08/28/13 23:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		40 - 140	08/23/13 09:07	08/28/13 23:54	1
Tetrachloro-m-xylene	81		40 - 140	08/23/13 09:07	08/28/13 23:54	1
DCB Decachlorobiphenyl	57		40 - 135	08/23/13 09:07	08/28/13 23:54	1
DCB Decachlorobiphenyl	56		40 - 135	08/23/13 09:07	08/28/13 23:54	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 20:09	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.050	U	0.15	0.050	0.031	ug/L		08/31/13 05:10	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 05:10	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 05:10	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/31/13 05:10	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.050	ug/L		08/31/13 05:10	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 05:10	1
2-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/31/13 05:10	1
3-Nitrotoluene	0.10	U	0.50	0.10	0.057	ug/L		08/31/13 05:10	1
4-Nitrotoluene	0.10	U	0.50	0.10	0.089	ug/L		08/31/13 05:10	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 05:10	1
HMX	0.050	U	0.15	0.050	0.036	ug/L		08/31/13 05:10	1
RDX	0.050	U	0.15	0.050	0.036	ug/L		08/31/13 05:10	1
Nitrobenzene	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 05:10	1
Tetryl	0.10	U	0.15	0.10	0.050	ug/L		08/31/13 05:10	1
Nitroglycerin	0.50	U	0.65	0.50	0.33	ug/L		08/31/13 05:10	1
PETN	0.50	U	0.65	0.50	0.30	ug/L		08/31/13 05:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	90		79 - 111	08/27/13 07:26	08/31/13 05:10	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 13:58	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 16:49	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGFWGmw-009-0319-GF**

**Lab Sample ID: 240-28186-41**

Date Collected: 08/21/13 12:20

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/11/13 21:29	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	9.8	J	10	10	3.3	ug/L		09/09/13 14:56	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 14:56	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 14:56	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 14:56	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 14:56	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 14:56	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 14:56	1
Barium	56	J	200	5.0	2.8	ug/L		09/09/13 14:56	1
Calcium	89000		5000	1000	630	ug/L		09/09/13 14:56	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 14:56	1
Magnesium	24000		5000	300	120	ug/L		09/09/13 14:56	1
Manganese	180		15	5.0	1.8	ug/L		09/09/13 14:56	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 14:56	1
Potassium	1200	J	5000	900	300	ug/L		09/09/13 14:56	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 19:17	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 19:17	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 19:17	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 19:17	1
Iron	910		150	100	44	ug/L		09/09/13 19:17	1
Sodium	8500		1000	400	160	ug/L		09/09/13 19:17	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 19:17	1
Zinc	50	U	50	50	27	ug/L		09/09/13 19:17	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 16:42	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGFWGmw-007-0347-GW

Lab Sample ID: 240-28186-42

Date Collected: 08/21/13 15:04

Matrix: Water

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.48	J	1.9	0.48	0.21	ug/L		08/30/13 15:14	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		08/30/13 15:14	1
Diethyl phthalate	0.95	U	1.9	0.95	0.57	ug/L		08/30/13 15:14	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		08/30/13 15:14	1
Di-n-butyl phthalate	0.95	U	1.9	0.95	0.64	ug/L		08/30/13 15:14	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		08/30/13 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		50 - 110	08/26/13 08:43	08/30/13 15:14	1
2-Fluorophenol (Surr)	68		20 - 110	08/26/13 08:43	08/30/13 15:14	1
Nitrobenzene-d5 (Surr)	69		40 - 110	08/26/13 08:43	08/30/13 15:14	1
Phenol-d5 (Surr)	72		10 - 115	08/26/13 08:43	08/30/13 15:14	1
Terphenyl-d14 (Surr)	85		50 - 135	08/26/13 08:43	08/30/13 15:14	1
2,4,6-Tribromophenol (Surr)	81		40 - 125	08/26/13 08:43	08/30/13 15:14	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 21:02	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.051	U	0.15	0.051	0.032	ug/L		08/31/13 07:21	1
1,3-Dinitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 07:21	1
2,4,6-Trinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 07:21	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 07:21	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.051	ug/L		08/31/13 07:21	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.15	0.10	0.015	ug/L		08/31/13 07:21	1
2-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 07:21	1
3-Nitrotoluene	0.10	U	0.51	0.10	0.058	ug/L		08/31/13 07:21	1
4-Nitrotoluene	0.10	U	0.51	0.10	0.090	ug/L		08/31/13 07:21	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 07:21	1
HMX	0.051	U	0.15	0.051	0.037	ug/L		08/31/13 07:21	1
RDX	0.051	U	0.15	0.051	0.037	ug/L		08/31/13 07:21	1
Nitrobenzene	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 07:21	1
Tetryl	0.10	U	0.15	0.10	0.051	ug/L		08/31/13 07:21	1
Nitroglycerin	0.51	U	0.66	0.51	0.34	ug/L		08/31/13 07:21	1
PETN	0.51	U	0.66	0.51	0.31	ug/L		08/31/13 07:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	94		79 - 111	08/27/13 07:26	08/31/13 07:21	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 17:03	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

**Client Sample ID: FWGFWGmw-007-0347-GF**

**Lab Sample ID: 240-28186-43**

**Date Collected: 08/21/13 15:04**

**Matrix: Water**

**Date Received: 08/22/13 07:00**

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 17:32	1
<b>Chromium</b>	<b>1.4</b>	<b>J</b>	7.0	4.0	1.4	ug/L		09/09/13 17:32	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 17:32	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 17:32	1
Selenium	10	U	15	10	4.0	ug/L		09/09/13 17:32	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 17:32	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 17:32	1
<b>Barium</b>	<b>18</b>	<b>J</b>	200	5.0	2.8	ug/L		09/09/13 17:32	1
<b>Calcium</b>	<b>100000</b>		5000	1000	630	ug/L		09/09/13 17:32	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 17:32	1
<b>Magnesium</b>	<b>52000</b>		5000	300	120	ug/L		09/09/13 17:32	1
<b>Manganese</b>	<b>47</b>		15	5.0	1.8	ug/L		09/09/13 17:32	1
<b>Nickel</b>	<b>2.3</b>	<b>J</b>	40	5.0	2.2	ug/L		09/09/13 17:32	1
<b>Potassium</b>	<b>1800</b>	<b>J</b>	5000	900	300	ug/L		09/09/13 17:32	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 23:16	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 23:16	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 23:16	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 23:16	1
Iron	100	U	150	100	44	ug/L		09/09/13 23:16	1
<b>Sodium</b>	<b>7000</b>		1000	400	160	ug/L		09/09/13 23:16	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 23:16	1
Zinc	50	U	50	50	27	ug/L		09/09/13 23:16	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:24	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGEQUIPRINSE3-0342-GW

Lab Sample ID: 240-28186-44

Date Collected: 08/21/13 15:34

Matrix: WQ

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 12:33	1
1,1,2,2-Tetrachloroethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 12:33	1
1,1,2-Trichloroethane	0.50	U	1.0	0.50	0.27	ug/L		08/31/13 12:33	1
1,1-Dichloroethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 12:33	1
1,1-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 12:33	1
1,2-Dichloroethane	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 12:33	1
1,2-Dichloroethene, Total	0.25	U	2.0	0.25	0.17	ug/L		08/31/13 12:33	1
1,2-Dichloropropane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 12:33	1
2-Hexanone	0.50	U	10	0.50	0.41	ug/L		08/31/13 12:33	1
Bromochloromethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 12:33	1
Acetone	9.9	J	10	1.1	1.1	ug/L		08/31/13 12:33	1
Benzene	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 12:33	1
Bromoform	0.64	U	1.0	0.64	0.64	ug/L		08/31/13 12:33	1
Bromomethane	0.50	U	1.0	0.50	0.41	ug/L		08/31/13 12:33	1
Carbon disulfide	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 12:33	1
Carbon tetrachloride	0.25	U	1.0	0.25	0.13	ug/L		08/31/13 12:33	1
Chlorobenzene	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 12:33	1
Chloroethane	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 12:33	1
Chloroform	0.52	J	1.0	0.25	0.16	ug/L		08/31/13 12:33	1
Chloromethane	0.50	U	1.0	0.50	0.30	ug/L		08/31/13 12:33	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 12:33	1
cis-1,3-Dichloropropene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 12:33	1
Bromodichloromethane	0.25	U	1.0	0.25	0.15	ug/L		08/31/13 12:33	1
Ethylbenzene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 12:33	1
1,2-Dibromoethane	0.25	U	1.0	0.25	0.24	ug/L		08/31/13 12:33	1
m-Xylene & p-Xylene	0.50	U	2.0	0.50	0.24	ug/L		08/31/13 12:33	1
2-Butanone (MEK)	1.7	J	10	0.57	0.57	ug/L		08/31/13 12:33	1
4-Methyl-2-pentanone (MIBK)	0.50	U	10	0.50	0.32	ug/L		08/31/13 12:33	1
Methylene Chloride	0.81	J B	1.0	0.50	0.33	ug/L		08/31/13 12:33	1
o-Xylene	0.25	U	1.0	0.25	0.14	ug/L		08/31/13 12:33	1
Styrene	0.25	U	1.0	0.25	0.11	ug/L		08/31/13 12:33	1
Tetrachloroethene	0.50	U	1.0	0.50	0.29	ug/L		08/31/13 12:33	1
Toluene	0.18	J	1.0	0.25	0.13	ug/L		08/31/13 12:33	1
trans-1,2-Dichloroethene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 12:33	1
trans-1,3-Dichloropropene	0.25	U	1.0	0.25	0.19	ug/L		08/31/13 12:33	1
Trichloroethene	0.25	U	1.0	0.25	0.17	ug/L		08/31/13 12:33	1
Vinyl chloride	0.25	U	1.0	0.25	0.22	ug/L		08/31/13 12:33	1
Xylenes, Total	0.25	U	2.0	0.25	0.14	ug/L		08/31/13 12:33	1
Dibromochloromethane	0.25	U	1.0	0.25	0.18	ug/L		08/31/13 12:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 120		08/31/13 12:33	1
4-Bromofluorobenzene (Surr)	88		75 - 120		08/31/13 12:33	1
Toluene-d8 (Surr)	92		85 - 120		08/31/13 12:33	1
Dibromofluoromethane (Surr)	102		85 - 115		08/31/13 12:33	1

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.096	U	0.19	0.096	0.043	ug/L		09/06/13 20:44	1
Acenaphthylene	0.096	U	0.19	0.096	0.046	ug/L		09/06/13 20:44	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGEQUIPRINSE3-0342-GW

Lab Sample ID: 240-28186-44

Date Collected: 08/21/13 15:34

Matrix: WQ

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.096	U	0.19	0.096	0.085	ug/L		09/06/13 20:44	1
Benzo[a]anthracene	0.096	U	0.19	0.096	0.028	ug/L		09/06/13 20:44	1
Benzo[a]pyrene	0.096	U	0.19	0.096	0.049	ug/L		09/06/13 20:44	1
Benzo[b]fluoranthene	0.096	U	0.19	0.096	0.038	ug/L		09/06/13 20:44	1
Benzo[g,h,i]perylene	0.096	U	0.19	0.096	0.045	ug/L		09/06/13 20:44	1
Benzoic acid	19	U	24	19	9.6	ug/L		09/06/13 20:44	1
Benzo[k]fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		09/06/13 20:44	1
Benzyl alcohol	0.48	U	4.8	0.48	0.37	ug/L		09/06/13 20:44	1
Bis(2-chloroethoxy)methane	0.48	U	0.96	0.48	0.31	ug/L		09/06/13 20:44	1
Bis(2-chloroethyl)ether	0.096	U	0.96	0.096	0.096	ug/L		09/06/13 20:44	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.41</b>	<b>J</b>	1.9	0.48	0.21	ug/L		09/06/13 20:44	1
4-Bromophenyl phenyl ether	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 20:44	1
Butyl benzyl phthalate	0.48	U	1.9	0.48	0.25	ug/L		09/06/13 20:44	1
Carbazole	0.48	U	0.96	0.48	0.27	ug/L		09/06/13 20:44	1
4-Chloroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 20:44	1
4-Chloro-3-methylphenol	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 20:44	1
2-Chloronaphthalene	0.48	U	0.96	0.48	0.096	ug/L		09/06/13 20:44	1
2-Chlorophenol	0.48	U	0.96	0.48	0.28	ug/L		09/06/13 20:44	1
4-Chlorophenyl phenyl ether	0.48	U	1.9	0.48	0.29	ug/L		09/06/13 20:44	1
Chrysene	0.096	U	0.19	0.096	0.048	ug/L		09/06/13 20:44	1
Dibenz(a,h)anthracene	0.096	U	0.19	0.096	0.043	ug/L		09/06/13 20:44	1
Dibenzofuran	0.096	U	0.96	0.096	0.019	ug/L		09/06/13 20:44	1
1,2-Dichlorobenzene	0.48	U	0.96	0.48	0.28	ug/L		09/06/13 20:44	1
1,3-Dichlorobenzene	0.48	U	0.96	0.48	0.22	ug/L		09/06/13 20:44	1
1,4-Dichlorobenzene	0.48	U	0.96	0.48	0.33	ug/L		09/06/13 20:44	1
3,3'-Dichlorobenzidine	0.96	U	4.8	0.96	0.36	ug/L		09/06/13 20:44	1
2,4-Dichlorophenol	0.48	U	1.9	0.48	0.18	ug/L		09/06/13 20:44	1
Diethyl phthalate	0.96	U	1.9	0.96	0.58	ug/L		09/06/13 20:44	1
2,4-Dimethylphenol	0.48	U	1.9	0.48	0.24	ug/L		09/06/13 20:44	1
Dimethyl phthalate	0.48	U	1.9	0.48	0.28	ug/L		09/06/13 20:44	1
<b>Di-n-butyl phthalate</b>	<b>1.0</b>	<b>J</b>	1.9	0.96	0.64	ug/L		09/06/13 20:44	1
4,6-Dinitro-2-methylphenol	3.8	U	4.8	3.8	2.3	ug/L		09/06/13 20:44	1
2,4-Dinitrophenol	0.96	U	4.8	0.96	0.31	ug/L		09/06/13 20:44	1
Di-n-octyl phthalate	0.48	U	1.9	0.48	0.22	ug/L		09/06/13 20:44	1
Fluoranthene	0.096	U	0.19	0.096	0.043	ug/L		09/06/13 20:44	1
Fluorene	0.096	U	0.19	0.096	0.039	ug/L		09/06/13 20:44	1
Hexachlorobenzene	0.096	U	0.19	0.096	0.082	ug/L		09/06/13 20:44	1
Hexachlorobutadiene	0.48	U	0.96	0.48	0.26	ug/L		09/06/13 20:44	1
Hexachlorocyclopentadiene	0.48	U	9.6	0.48	0.23	ug/L		09/06/13 20:44	1
Hexachloroethane	0.48	U	0.96	0.48	0.18	ug/L		09/06/13 20:44	1
Indeno[1,2,3-cd]pyrene	0.096	U	0.19	0.096	0.042	ug/L		09/06/13 20:44	1
Isophorone	0.48	U	0.96	0.48	0.26	ug/L		09/06/13 20:44	1
2-Methylnaphthalene	0.096	U	0.19	0.096	0.087	ug/L		09/06/13 20:44	1
2-Methylphenol	0.48	U	0.96	0.48	0.16	ug/L		09/06/13 20:44	1
3 & 4 Methylphenol	0.96	U	1.9	0.96	0.77	ug/L		09/06/13 20:44	1
Naphthalene	0.096	U	0.19	0.096	0.060	ug/L		09/06/13 20:44	1
2-Nitroaniline	0.48	U	1.9	0.48	0.20	ug/L		09/06/13 20:44	1
3-Nitroaniline	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 20:44	1
4-Nitroaniline	0.48	U	1.9	0.48	0.21	ug/L		09/06/13 20:44	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGEQUIPRINSE3-0342-GW

Lab Sample ID: 240-28186-44

Date Collected: 08/21/13 15:34

Matrix: WQ

Date Received: 08/22/13 07:00

## Method: 8270C/DoD - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Nitrophenol	0.48	U	1.9	0.48	0.27	ug/L		09/06/13 20:44	1
4-Nitrophenol	3.8	U	4.8	3.8	0.28	ug/L		09/06/13 20:44	1
N-Nitrosodi-n-propylamine	0.48	U	0.96	0.48	0.23	ug/L		09/06/13 20:44	1
N-Nitrosodiphenylamine	0.48	U	0.96	0.48	0.30	ug/L		09/06/13 20:44	1
2,2'-oxybis[1-chloropropane]	0.48	U	0.96	0.48	0.38	ug/L		09/06/13 20:44	1
Pentachlorophenol	0.96	U	4.8	0.96	0.26	ug/L		09/06/13 20:44	1
Phenanthrene	0.096	U	0.19	0.096	0.060	ug/L		09/06/13 20:44	1
Phenol	0.96	U	0.96	0.96	0.58	ug/L		09/06/13 20:44	1
Pyrene	0.096	U	0.19	0.096	0.040	ug/L		09/06/13 20:44	1
1,2,4-Trichlorobenzene	0.48	U	0.96	0.48	0.27	ug/L		09/06/13 20:44	1
2,4,5-Trichlorophenol	0.48	U	4.8	0.48	0.29	ug/L		09/06/13 20:44	1
2,4,6-Trichlorophenol	0.48	U	4.8	0.48	0.23	ug/L		09/06/13 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	89		50 - 110	08/23/13 09:12	09/06/13 20:44	1
2-Fluorophenol (Surr)	95		20 - 110	08/23/13 09:12	09/06/13 20:44	1
Nitrobenzene-d5 (Surr)	93		40 - 110	08/23/13 09:12	09/06/13 20:44	1
Phenol-d5 (Surr)	99		10 - 115	08/23/13 09:12	09/06/13 20:44	1
Terphenyl-d14 (Surr)	124		50 - 135	08/23/13 09:12	09/06/13 20:44	1
2,4,6-Tribromophenol (Surr)	90		40 - 125	08/23/13 09:12	09/06/13 20:44	1

## Method: 8081/DOD - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.050	0.020	0.0096	ug/L		08/30/13 09:43	1
4,4'-DDE	0.020	U	0.050	0.020	0.0097	ug/L		08/30/13 09:43	1
4,4'-DDT	0.020	U	0.050	0.020	0.016	ug/L		08/30/13 09:43	1
Aldrin	0.020	U	0.030	0.020	0.0082	ug/L		08/30/13 09:43	1
alpha-BHC	0.020	U	0.030	0.020	0.0070	ug/L		08/30/13 09:43	1
alpha-Chlordane	0.020	U	0.050	0.020	0.014	ug/L		08/30/13 09:43	1
beta-BHC	0.020	U	0.050	0.020	0.0084	ug/L		08/30/13 09:43	1
delta-BHC	0.020	U	0.050	0.020	0.0087	ug/L		08/30/13 09:43	1
Dieldrin	0.020	U	0.030	0.020	0.0075	ug/L		08/30/13 09:43	1
Endosulfan I	0.020	U	0.050	0.020	0.013	ug/L		08/30/13 09:43	1
Endosulfan II	0.020	U	0.050	0.020	0.012	ug/L		08/30/13 09:43	1
Endosulfan sulfate	0.020	U	0.050	0.020	0.011	ug/L		08/30/13 09:43	1
Endrin	0.020	U	0.050	0.020	0.011	ug/L		08/30/13 09:43	1
Endrin aldehyde	0.020	U	0.050	0.020	0.011	ug/L		08/30/13 09:43	1
Endrin ketone	0.020	U	0.050	0.020	0.0078	ug/L		08/30/13 09:43	1
gamma-BHC (Lindane)	0.020	U	0.050	0.020	0.0064	ug/L		08/30/13 09:43	1
gamma-Chlordane	0.020	U	0.050	0.020	0.012	ug/L		08/30/13 09:43	1
Heptachlor	0.020	U	0.030	0.020	0.0080	ug/L		08/30/13 09:43	1
Heptachlor epoxide	0.020	U	0.030	0.020	0.0071	ug/L		08/30/13 09:43	1
Methoxychlor	0.050	U	0.10	0.050	0.032	ug/L		08/30/13 09:43	1
Toxaphene	0.80	U	2.0	0.80	0.32	ug/L		08/30/13 09:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		30 - 135	08/23/13 09:00	08/30/13 09:43	1
DCB Decachlorobiphenyl	68		30 - 135	08/23/13 09:00	08/30/13 09:43	1
Tetrachloro-m-xylene	72		25 - 140	08/23/13 09:00	08/30/13 09:43	1
Tetrachloro-m-xylene	73		25 - 140	08/23/13 09:00	08/30/13 09:43	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGEQUIPRINSE3-0342-GW

Lab Sample ID: 240-28186-44

Date Collected: 08/21/13 15:34

Matrix: WQ

Date Received: 08/22/13 07:00

## Method: 8082/DOD - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aroclor-1016	0.20	U	0.50	0.20	0.17	ug/L		08/29/13 00:39	1
Aroclor-1221	0.20	U	0.50	0.20	0.13	ug/L		08/29/13 00:39	1
Aroclor-1232	0.20	U	0.50	0.20	0.16	ug/L		08/29/13 00:39	1
Aroclor-1242	0.40	U	0.50	0.40	0.22	ug/L		08/29/13 00:39	1
Aroclor-1248	0.20	U	0.50	0.20	0.10	ug/L		08/29/13 00:39	1
Aroclor-1254	0.20	U	0.50	0.20	0.16	ug/L		08/29/13 00:39	1
Aroclor-1260	0.20	U	0.50	0.20	0.17	ug/L		08/29/13 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		40 - 140	08/23/13 09:07	08/29/13 00:39	1
Tetrachloro-m-xylene	77		40 - 140	08/23/13 09:07	08/29/13 00:39	1
DCB Decachlorobiphenyl	55		40 - 135	08/23/13 09:07	08/29/13 00:39	1
DCB Decachlorobiphenyl	48		40 - 135	08/23/13 09:07	08/29/13 00:39	1

## Method: 8330 Modified - Nitroguanidine (HPLC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitroguanidine	6.0	U	20	6.0	2.4	ug/L		08/27/13 21:20	1

## Method: 8330A - Nitroaromatics and Nitramines

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.052	U	0.16	0.052	0.032	ug/L		08/31/13 08:04	1
1,3-Dinitrobenzene	0.10	U	0.16	0.10	0.052	ug/L		08/31/13 08:04	1
2,4,6-Trinitrotoluene	0.10	U	0.16	0.10	0.052	ug/L		09/10/13 11:53	1
2,4-Dinitrotoluene	0.10	U	0.13	0.10	0.052	ug/L		08/31/13 08:04	1
2,6-Dinitrotoluene	0.10	U	0.13	0.10	0.052	ug/L		08/31/13 08:04	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.16	0.10	0.016	ug/L		08/31/13 08:04	1
2-Nitrotoluene	0.10	U	0.52	0.10	0.091	ug/L		08/31/13 08:04	1
3-Nitrotoluene	0.10	U	0.52	0.10	0.059	ug/L		08/31/13 08:04	1
4-Nitrotoluene	0.10	U	0.52	0.10	0.091	ug/L		08/31/13 08:04	1
4-Amino-2,6-dinitrotoluene	0.10	U	0.16	0.10	0.052	ug/L		08/31/13 08:04	1
HMX	0.052	U	0.16	0.052	0.037	ug/L		08/31/13 08:04	1
RDX	0.052	U	0.16	0.052	0.037	ug/L		08/31/13 08:04	1
Nitrobenzene	0.10	U	0.16	0.10	0.052	ug/L		09/10/13 11:53	1
Tetryl	0.10	U	0.16	0.10	0.052	ug/L		08/31/13 08:04	1
Nitroglycerin	0.52	U	0.67	0.52	0.34	ug/L		08/31/13 08:04	1
PETN	0.52	U	0.67	0.52	0.31	ug/L		08/31/13 08:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
3,4-Dinitrotoluene	96		79 - 111	08/27/13 07:26	08/31/13 08:04	1
3,4-Dinitrotoluene	104		79 - 111	08/27/13 07:26	09/10/13 11:53	1

## Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perchlorate	0.020	U	0.050	0.020	0.0088	ug/L		09/11/13 22:54	1

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	10	U	10	10	3.3	ug/L		09/09/13 17:38	1
Chromium	4.0	U	7.0	4.0	1.4	ug/L		09/09/13 17:38	1
Cobalt	4.0	U	7.0	4.0	1.5	ug/L		09/09/13 17:38	1
Lead	5.0	U	10	5.0	1.7	ug/L		09/09/13 17:38	1

TestAmerica Canton



# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP66 (OH)

TestAmerica Job ID: 240-28186-1

Client Sample ID: FWGEQUIPRINSE3-0342-GW

Lab Sample ID: 240-28186-44

Date Collected: 08/21/13 15:34

Matrix: WQ

Date Received: 08/22/13 07:00

## Method: 6010B/DOD - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Selenium	10	U	15	10	4.0	ug/L		09/09/13 17:38	1
Silver	5.0	U	7.0	5.0	1.7	ug/L		09/09/13 17:38	1
Vanadium	4.0	U	7.0	4.0	1.3	ug/L		09/09/13 17:38	1
Barium	5.0	U	200	5.0	2.8	ug/L		09/09/13 17:38	1
Calcium	1000	U	5000	1000	630	ug/L		09/09/13 17:38	1
Copper	10	U	25	10	4.4	ug/L		09/09/13 17:38	1
Magnesium	300	U	5000	300	120	ug/L		09/09/13 17:38	1
Manganese	5.0	U	15	5.0	1.8	ug/L		09/09/13 17:38	1
Nickel	5.0	U	40	5.0	2.2	ug/L		09/09/13 17:38	1
Potassium	900	U	5000	900	300	ug/L		09/09/13 17:38	1

## Method: 6020/DOD - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	60	U	60	60	20	ug/L		09/09/13 23:23	1
Antimony	1.0	U	2.0	1.0	0.33	ug/L		09/09/13 23:23	1
Beryllium	1.0	U Q	1.0	1.0	0.50	ug/L		09/09/13 23:23	1
Cadmium	1.0	U	2.0	1.0	0.40	ug/L		09/09/13 23:23	1
Iron	100	U	150	100	44	ug/L		09/09/13 23:23	1
Sodium	400	U	1000	400	160	ug/L		09/09/13 23:23	1
Thallium	1.5	U	2.0	1.5	0.79	ug/L		09/09/13 23:23	1
Zinc	50	U	50	50	27	ug/L		09/09/13 23:23	1

## Method: 7470A/DOD - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Hg	0.20	U	0.20	0.20	0.12	ug/L		08/27/13 17:27	1

## General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.010	0.0032	mg/L		08/26/13 14:03	1
Nitrocellulose	1.0	U	2.0	1.0	0.48	mg/L		09/11/13 17:05	1



## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
TestAmerica Laboratories, Inc.

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

<b>Client Contact</b>		<b>Project Manager:</b> John Miller		<b>Site Contact:</b> Erik Carbin		<b>Date:</b> 8/21/13		<b>SOC No:</b> SR8212013															
<b>Company Name:</b> EQM		<b>Tel/Fax:</b> 513 825 7500		<b>Lab Contact:</b> Mike Webb		<b>Carrier:</b> Lab Pickup		<b>COCs</b> 1 of 2 COCs															
<b>Address:</b> 1800 Carillon Blvd		<b>Analysis Turnaround Time</b>																					
<b>City/State/Zip:</b> Cincinnati, OH 45240		<input checked="" type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS																					
<b>Phone:</b> 513 825 7500		<b>TAT If different from Below</b> 21																					
<b>Fax:</b> 513 825 7495		<input type="checkbox"/> 2 weeks																					
<b>Project Name:</b> RVTAP100 (OH)		<input type="checkbox"/> 1 week																					
<b>Site:</b> 30174.001W.001.10.1		<input type="checkbox"/> 2 days																					
<b>P.O.#</b>		<input type="checkbox"/> 1 day																					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOC	SVOC	Explo	PCBs	PAHs	Methals	NAC	SVOC4	PEST	PCBS	EXP	Other	Sampler:	For Lab Use Only: Walk-in Client: Lab Sampling:	Job / SDG No.:	Cooler ID # Sample Specific Notes:
FWAWBGmw-009C-0374-GW	8/21/13	9:35	G	GW	5	NN	X	X	X														1
FWAWBGmw-009C-0374-GF	8/21/13	9:35	G	GW	1	YN																	1
FWGWBGMw-02D-0330-GW	8/21/13	10:31	G	GW	13	NW	X	X			X	X	X	X	X								0450
FWGWBGMw-02D-0330-GF	8/21/13	10:31	G	GW	1	YN																	0450
FWGWBGMw-02D-0330-GF	8/21/13																						
FWGLL2mw-205C-0321-GW	8/21/13	11:55	G	GW	8	NN	X	X	X														C99
FWGLL2mw-205C-0321-GF	8/21/13	11:55	G	GW	1	YN																	C99
FWGLL2mw-059C-0357-GW	8/21/13	12:51	G	GW	8	NN	X	X	X														E120
FWGLL2mw-059C-0357-GF	8/21/13	12:51	G	GW	1	YN																	E120
FWGTeam 1-Trip	8/21/13	8:00	A	GW	1	NN																	0450
FWGL1Lmw-084C-0355-GW	8/21/13	14:05	G	GW	7	NN	X	X	X														I4015
FWGL1Lmw-084C-0355-GF	8/21/13	14:05	G	GW	1	YN																	I4015
<b>Preservation Used:</b> 1=Ice 2=HCl 3=H2SO4 4=HN03 5=NaOH 6=Other																							
<b>Possible Hazard Identification:</b> Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months																	
<b>Special Instructions/QC Requirements &amp; Comments:</b> All metals, perchlorate samples are field filtered						Temps may not meet requirements if collected close to lab pickup time																	
<b>Custody/Seals Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Custody Seal No.:</b>		<b>Cooler Temp. (°C): Obs'd:</b>		<b>Corr'd:</b>		<b>Therm ID No.:</b>															
<b>Relinquished by:</b> [Signature]		<b>Company:</b> EQM		<b>Date/Time:</b> 8/21/13 1200		<b>Received by:</b> [Signature]		<b>Company:</b> TAL-NE		<b>Date/Time:</b> 8/21/13 - 1800													
<b>Relinquished by:</b> [Signature]		<b>Company:</b> TAL-NE		<b>Date/Time:</b> 8/21/13 1800		<b>Received by:</b> [Signature]		<b>Company:</b> TA		<b>Date/Time:</b> 8/22/13 0700													
<b>Relinquished by:</b>		<b>Company:</b>		<b>Date/Time:</b>		<b>Received in Laboratory by:</b>		<b>Company:</b>		<b>Date/Time:</b>													

All VOAs in cooler # 0450

240-28186 Chain of Custody





4101 Shuffel Street, N. W.

## Chain of Custody Record

North Canton, OH 44720

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Laboratories, Inc.**

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

[illegible]

All VofAs in CODier # 0450



# Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (04/08)

Client <b>EDM</b>		Project Manager <b>John Hill</b>		Date <b>8/20-21/13</b>	Chain of Custody Number <b>000475</b>
Address <b>1800 Cashion Blvd.</b>		Telephone Number (Area Code)/Fax Number <b>513 825 7500</b>		Lab Number <b>330-497-9396</b>	Page <b>1</b> of <b>1</b>

City <b>Cincinnati</b>	State <b>OH</b>	Zip Code <b>45240</b>	Site Contact <b>ELORBIN</b>	Lab Contact <b>M Loeb</b>	Analysis (Attach list if more space is needed)
---------------------------	--------------------	--------------------------	--------------------------------	------------------------------	------------------------------------------------

Project Name and Location (State) <b>RAAP 66 Ravenna Ohio</b>	Carrier/Waybill Number <b>Lab Henry</b>	Special Instructions/Conditions of Receipt
Contract/Purchase Order/Quote No. <b>30174.0016.01.10.1</b>		

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives										Analysis	Special Instructions/Conditions of Receipt
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2	NaOH	VOC	SVOC	PCB	PAH		
FWG Team 2 - Trip 082013	8/20/13	1708	X											2					AD7
FWG DETAIL - 004C-0344-GW	8/20/13	1710	X				6			3	1			3	1	1	1	2	1
FWG DETAIL - 004C-0344-GF	↓	↓	X						1									1	12
FWG NTAMW - 119-0367-GW	8/21/13	0922	X				5			3				3	2		1	2	AD7
FWG NTAMW - 119-0367-GF	↓	↓	X						1									1	AD7
FWG FBQ MW - 006-0318-GW	8/21/13	1048	X							3				3					AD7
FWG FBQ MW - 174C-0345-GW	8/21/13	1138	X				7									2	1	2	185
FWG FBQ MW - 174C-0345-GF	↓	↓	X						1									1	185

Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	

Turn Around Time Required	QC Requirements (Specify)
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days <input checked="" type="checkbox"/> Other <b>PERSON</b>	<b>ALL VOCs in AD7</b>

1. Relinquished By <b>David A. Spunkard</b>	Date <b>8/21/13</b>	Time <b>1800</b>	1. Received By <b>RE 1 (Boe)</b>	Date <b>8/21/13</b>	Time <b>1800</b>
2. Relinquished By <b>RE 1 (Boe)</b>	Date <b>8/21/13</b>	Time <b>1950</b>	2. Received By <b>Gerry Burns</b>	Date <b>8/22/13</b>	Time <b>0700</b>
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments <b>All metals field filtered</b>
----------------------------------------------

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy





## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

TestAmerica Laboratory location:

Regulatory program:

☐ DW☐ NPDES☐ RCRA☐ Other

Client Contact		Client Project Manager:		Site Contact:		Lab Contact:		COC No:	
Company Name: EQM		John Miller		E. Corbin		M. Laeb		56008	
Address: 1800 Carillon Blvd		Telephone: 513-825-7500		Telephone: 513-825-7500		Telephone:		1 of 2 COCs	
City/State/Zip: Cincinnati, Ohio 45240		Email: ecorbin@eqm.com		Analysis Turnaround Time (in BUS days)		Analyses		For lab use only	
Phone: 513-825-7500				TAI if different from below		<input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Walk-in client <input type="checkbox"/>	
Project Name: 030174-0016-100-10-1		Method of Shipment/Carrier:		Per SW		VOC 8240 SVOC 4 8270 SVOC 1 8270 Pest 6081 PCB 8082 Explo/Propellant Cyanide 9012 Metals 40019020 Metals 71-10		Lab pickup <input type="checkbox"/>	
Project Number: KVAAP 00 (OH)		Shipping/Tracking No:						Lab sampling <input type="checkbox"/>	
PO#								Job/SDG No:	
Sample Identification		Sample Date		Sample Time		Matrix		Containers & Preservatives	
						Air Aqueous Sediment Solid Other		H2SO4 HNO3 HCl NaOH ZnAc/NaOH Unpres Other	
FUG TEAM 3 - TRIP		08/21/13		0800		X		2 NG	
FUG WBGMW-019-032A-GW		0856		X		3 1 9		NG X X X X X X	
FUG WBGMW-019-032A-GF		↓		X		1		YG X X X X X X	
FUG WBGMW-018-0328-GW		1003		X		3 1 9		NG X X X X X X	
FUG WBGMW-018-0328-GF		1003		X		1		YG X X X X X X	
FUG WBGMW-Dup 4-0339-GW		1103		X		3 1 9		NG X X X X X X	
FUG WBGMW-Dup 4-0339-GF		1103		X		1		YG X X X X X X	
FUG LL2MW-207C-0358-GW		1218		X		5		NG X X X X X X	
FUG LL2MW-207C-0358-GF		1218		X		1		YG X X X X X X	
Possible Hazard Identification		Non-Hazard <input type="checkbox"/>		Flammable <input type="checkbox"/>		Skin Irritant <input type="checkbox"/>		Poison B <input type="checkbox"/>	
		Unknown <input checked="" type="checkbox"/>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return to Client <input type="checkbox"/>		Disposal By Lab <input checked="" type="checkbox"/>	
		Archive For _____ Months		Special Instructions/OC Requirements & Comments:		All TRIP Blanks in coolen soil - Metals field filtered - Samples collected near pickup may not meet temp requirements			
Relinquished by:		Company:		Date/Time:		Received by:		Company:	
Relinquished by:		Company:		Date/Time:		Received by:		Company:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:	







## Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: <u>JOHN MILLER</u>		Site Contact: <u>ERIK CORBIN</u>		Date: <u>08-21-13</u>		COC No: <u>RDR 082113</u>		
Company Name: <u>ERM</u>		Tel/Fax: <u>same</u>		Lab Contact: <u>MARK LOEB</u>		Carrier: <u>Lab Pickup</u>		1 of 1 COCs		
Address: <u>1800 CARILLON BLVD.</u>		Analysis Turnaround Time		Filtered Sample (Y/N) Perform MS / MSD (Y/N) 10C 8260 SVOC 4 8270 PEST 8081 PCB 8082 EXFLO 8330 PREPALLANTS CYANIDE 9012 METALS 8001/8002 SVOC 1 8270 PERCHLORATES		Sampler:		For Lab Use Only:		
City/State/Zip: <u>CINCINNATI, OH 45240</u>		<input checked="" type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <u>PCR</u> <input type="checkbox"/> 2 days <u>SOW</u> <input type="checkbox"/> 1 day				Walk-in Client:		Lab Sampling:		
Phone: <u>(513) 825-7500</u>						Job / SDG No.:				
Fax: <u>(513) 825-7495</u>										
Project Name: <u>RUAAP 66 (OH)</u>										
Site: <u>030174.0016.001.10.1</u>										
P O #										
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	COOLER ID#			
							Sample Specific Notes:			
FW6 TEAM 4-TRAP		08-21-13	08:00	6	AQ	2	13			
FW6 WB6 MW-021-0331-6W		08-21-13	09:24	6	AQ	13	13			
FW6 WB6 MW-021-0331-6F		08-21-13	09:24	6	AQ	1	13			
FW6 WB6 MW-006C-0373-6W		08-21-13	10:40	6	AQ	5	E115			
FW6 WB6 MW-006C-0373-6F		08-21-13	10:40	6	AQ	1	E115			
FW6 FW6 MW-009-0319-6W		08-21-13	12:20	6	AQ	41	MSMSD GCRRR, ECA, 465			
FW6 FW6 MW-009-0319-6F		08-21-13	12:20	6	AQ	6	MSMSD GCRRR, ECA, 465			
FW6 FW6 MW-007-0347-6W		08-21-13	15:04	6	AQ	5	C111			
FW6 FW6 MW-007-0347-6F		08-21-13	15:04	6	AQ	1	C111			
FIX EQUIPMENT 3-0342-6W		08/21/13	1534	G	AQ	15	4PR			
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other <u>UNPRES</u>										
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months				
Special Instructions/QC Requirements & Comments: <u>ALL METALS, PERCHLORATE SAMPLES ARE FIELD FILTERED</u> <u>ALL VOA'S IN COOLER 13</u>										
<u>TEMPS MAY NOT MEET REQUIREMENTS IF SAMPLE COLLECTION IS CLOSE TO LAB PICKUP TIME</u>										
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp (°C): Obs'd: _____		Corr'd: _____		Therm ID No.:		
Relinquished by: <u>[Signature]</u>		Company: <u>ERM</u>		Date/Time: <u>08/21/13 18:00</u>		Received by: <u>KE [Signature]</u>		Company: <u>TAI-XC</u>		
Relinquished by: <u>TE [Signature]</u>		Company: <u>IAZ-XC</u>		Date/Time: <u>8-21-13 1950</u>		Received by: <u>Gerry Burns</u>		Company: <u>TA</u>		
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:		



TestAmerica Canton Sample Receipt Form/Narrative  
Canton Facility

Login #: 28186

Client <u>EQM</u>	Site Name <u>RVAAP</u>	Cooler unpacked by: <u>Gerry Burns</u>
Cooler Received on <u>8/22/13</u>	Opened on <u>8/22/13</u>	
FedEx: 1 <sup>st</sup> Grd Exp	UPS FAS Stetson	Client Drop Off <u>TestAmerica Courier</u> Other _____
TestAmerica Cooler # _____	Foam Box _____	Client Cooler Box _____ Other <u>Multiple</u>
Packing material used: <u>Bubble Wrap</u>	Foam Plastic Bag _____	None Other _____
COOLANT: <u>Wet Ice</u>	Blue Ice _____	Dry Ice _____ Water <u>None</u>

- Cooler temperature upon receipt
 

IR GUN# A (CF -1 °C) Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
<u>IR GUN# 4</u> (CF 0 °C) Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
IR GUN# 5 (CF +1 °C) Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
IR GUN# 8 (CF -0 °C) Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
- Were custody seals on the outside of the cooler(s)? If Yes Quantity Each Yes No
 

-Were custody seals on the outside of the cooler(s) signed & dated?	<u>Yes</u> No NA
-Were custody seals on the bottle(s)?	Yes <u>No</u>
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC376062
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? Yes No NA
- Was a trip blank present in the cooler(s)? Yes No

Contacted PM MJL Date 8/22/13 by TB via Verbal Voice Mail Other \_\_\_\_\_  
Concerning #14

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

TS + LH

FWGTEAM3-TRIP (2x40) VOC test

not X'd on COC - will log for VOC

15. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.  
Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_



TestAmerica Multiple Cooler Receipt Form/Narrative  
Canton Facility

Login #: 28186

[illegible]



## **Appendix I**



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28186 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1,
3. Were holding times met?	X				QAPP Table 5-1, J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1,
5. Were all QAPP addendum-specified target analytes reported?	X				QAPP Table 4-5
6. Was the GC/MS system tuned with bromofluorobenzene (BFB) during each 12 hour shift (prior to ICAL and Cal Ver.)?	X				QSM Table F-4
7. Calibration					
7a. Did the initial calibration curve consist of 5 concentration levels?	X			Instrument A3UX15-8/22/13, A3UX9 8/28/13	QSM Table F-4 R
7b. Did the Calibration Check Compounds (CCCs) (see Table 1 below) relative standard deviations (%RSD) $\leq$ 30%?	X				QSM Table F-4 R
7c. Were the minimum response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) met?	X				QSM Table F-4
7d. Did target analytes with an average calibration type have an RSD $\leq$ 15%?	X				QSM Table F-4 15% <RSD< 20% = J/UJ
7e. IF the RSD was >15% was a different calibration option used?	X				
7f. If a linear regression curve was used, was the correlation coefficient $r>0.995$ ?	X			A3UX15-Acetone and methylene chloride used a linear fit with $r>0.995$ . A3UX9-Acetone, 2-butanone and methylene chloride used a linear fit with $r>0.995$ .	QSM Table F-4 R<0.99=-J/R



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28186 Rev1

**Analysis:** SW846 8260B

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>Qual/Criteria</b>
7g. If a non-linear regression was used, was the COD $r \geq 0.99$ , with a minimum of 6 points for second order and 7 points for third order?			<b>X</b>		QSM Table F-4 $R < 0.99 = J/R$
8. Was a LOD Level Verification performed quarterly for each reported analyte with detected results?	<b>X</b>				QSM Table F-4 and section D.1.2.1
9. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours?	<b>X</b>				
10. Were the QC/MRL recoveries 70-130%	<b>X</b>			<p>The opening MRL analyzed 8/31/13 @ 0824 recovered above control limits of 70-130% for bromomethane at 157%, chloroethane at 139%, chloromethane at 149%, methylene chloride at 254% and vinyl chloride at 143%. The closing MRL analyzed 8/31/13 @ 1255 recovered above control limits of 70-130% for cis-1,3-dichloropropene at 135% and methylene chloride at 183%. The methylene chloride results for samples FWGTeam4-Trip and FWGEQUIPRINSE3-0342-GW were qualified as estimated, "J". No additional qualifications were made for the other MRL outliers, as there were no detected bromomethane, chloroethane, chloromethane, cis-1,3-dichloropropene or vinyl chloride concentrations reported for the bracketed field samples.</p> <p>The opening MRL analyzed 8/29/13 @ 1836 recovered above control limits of 70-130% for toluene at 142% and trichloroethene at 143%. No qualifications were required as there were no detected toluene or trichloroethene concentrations reported for the bracketed field samples.</p>	Louisville Supplement to the DOD QSM
11. Was a second source verification (ICV) analyzed? Were results 80-120%?	<b>X</b>			A3UX15-8/22/13@ 2329, A3UX9 8/28/13 @2034	QSM Table F-4 $J = < 80\% \text{ and } > 120\%$
12. Was a CCV run daily prior to analysis and every 12 hours of analysis time?	<b>X</b>			A3UX15-8/31/13@ 0717 A3UX9 8/29/13 @1723	QSM Table F-4



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28186 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
12a. Were the average response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) met?	X				QSM Table F-4
12b. Were all target analytes $\leq 20\%D$ ?	X			The CCV analyzed 8/31/13 @ 0717 had a %D above control limits of 20% for methylene chloride at 20.5%, carbon tetrachloride at 21.2% and trans-1,3-dichloropropene at 21.6%. The methylene chloride results for samples FWGTeam4-Trip and FWGEQUIPRINSE3-0342-GW were qualified as estimated, "J". No qualifications were made for the carbon tetrachloride or trans-1,3-dichloropropene outliers as there were no detected carbon tetrachloride or trans-1,3-dichloropropene concentrations reported for the bracketed field samples.	QSM Table F-4 %D $< 20\% = J/UJ$
13. Were the internal standards added to every sample?	X				QSM Table F-4
13a. Was the EICP area between -50% and +100% of the ICAL mid-point standard?	X				QSM Table F-4 R
13b. Were the retention times for all IS compounds within $\pm 30$ seconds from the RT of the mid-point standard in the ICAL?	X				QSM Table F-4 J/UJ
14. Were the retention times for target analytes within $\pm 0.06$ RRT units from the RT of the mid-point standard in the ICAL or the most recently updated RRT for all samples?	X				QSM Table F-4 J
15. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-4
15a. Were target analytes detected in the method blank $> 1/2$ the MRL $> RL$ for common contaminants?	X			Checked by ADR. Toluene was detected at 0.164 $\mu$ g/L in the method blank from batch 240-99628 and methylene chloride was detected in the method blank from batch 240-99810 at 0.893 $\mu$ g/L. The methylene chloride results for samples FWGEQUIPRINSE3-0342-GW and FWGTEAM4-TRIP were qualified, "B". No qualifications were required for the toluene contamination as there were no detected toluene concentrations reported for the associated field samples.	QSM Table F-4 $< 5/10X = B$
16. Was a field blank (equipment and/or trip) collected and analyzed?	X				



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28186 Rev1

**Analysis:** SW846 8260B

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
16a. Were target analytes detected in the field blanks?	X			Checked by ADR. Methylene chloride was detected in FWGTEAM1-TRIP at 0.47µg/L, in FWGTEAM2-TRIP at 0.69µg/L and in FWGTEAM3-TRIP at 0.77µg/L. FWGTeam4-Trip had acetone detected at 1.4µg/L and methylene chloride at 0.85µg/L. FWGEQUIPRINSE3-0342-GW had acetone detected at 9.9µg/L, chloroform at 0.52µg/L, 2-butanone at 1.7µg/L, toluene at 0.18µg/L and methylene chloride at 0.81µg/L. The methylene chloride results for samples FWGEQUIPRINSE3-0342-GW and the acetone results for samples FWGFWGmw-009-0319-GW, FWGLL2mw-059C-0357-GW and FWGWBGmw-DUP4-0339-GW were qualified, "B" as the detected concentrations were <10x blank contamination. There were no detected 2-butanone, chloroform or toluene results reported for the associated field samples, so no qualifications were made for the -butanone, chloroform or toluene contamination.	QSM Table F-4 <5/10X =B
17. Was a LCS prepared and analyzed with each batch?	X				QSM Table F-4
17a. Were the LCS recoveries within limits specified in Table G-5 of the DoD QSM?	X			ADR checked section;	QSM Table F-4, Table G-5, J/UJ
18. Was a MS/MSD prepared with each batch?	X			FWGFWGmw-009-0319-GW	QSM Table F-4
18a. Were the MS/MSD recoveries within limits specified in Table G-4 of the DoD QSM with an RPD <30%?	X			ADR checked section;	QSM Table F-4, Table G-5 J/UJ Parent sample only
19. Was a field duplicate analyzed?	X			A field duplicate was collected and analyzed on sample FWGWBGmw-018-0328-GW.	QSM Table F-4,
19a. Were the field duplicates RPDs within ±30%?	X			Checked by ADR. The field duplicate RPD was above control limits for acetone at 200%, no qualification was made as acetone was not detected in the parent sample, FWGWBGmw-018-0328-GW.	QSM Table F-4, RPD >30=J Parent sample only
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% - 50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				



## Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/December 9, 2013

**SDG:** 240-28186 Rev1

**Analysis:** SW846 8260B

### *References:*

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

### Additional Comments:

Table1- CCCs

Analyte
1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

Table 2- SPCCs

Analyte	Minimum RF
Chloromethane	0.10
1,1-Dichlorethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1,
3. Were holding times met?	X				QAPP Table 5-1, J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1,
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-6
6. Was the GC/MS system tuned each 12 hour shift (prior to ICAL and Cal Ver.)?	X				QSM Table F-4
7. Initial Calibration					
7a. Did the initial calibration curve consist of 5 concentration levels?	X			Instrument A4HP9–8/26/13, A4HP7–9/5/13	QSM Table F-4 R
7b. Did the Calibration Check Compounds (CCCs) (see Table 1 below) relative standard deviations (%RSD) $\leq 30\%$ ?	X				QSM Table F-4 R
7c. Were the minimum response factors (RFs) for the System Performance Check Compounds (SPCCs) (see Table 2 below) $\leq 0.050$ ?	X				QSM Table F-4
7d. Were all other target analytes reported with an avg response have an RSD $\leq 15\%$ ?	X				QSM Table F-4 15% <RSD< 20% = J/UJ
7e. IF the RSD was >15% was a different calibration option used?	X				
7f. If a linear regression curve was used, was the correlation coefficient $r > 0.995$ ?	X				QSM Table F-4 R<0.99=J/R
7g. If a non-linear regression was used, was the COD $r \geq 0.99$ , with a minimum of 6 points for second order and 7 points for third order?	X			A4HP9 (8/26/13) - Benzoic acid, 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol used a linear fit. A4HP7(9/5/13) – 1,3-dinitrobenze, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol and di-n-octylphthalate used a linear fit.	QSM Table F-4 R<0.99=J/R
8. Was a LOD Level Verification performed quarterly for each reported analyte?	X				QSM Table F-4 and section D.1.2.1



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
9 Was a breakdown check run at the beginning of every 12 hours with DDT degradation <20% and tailing factors of benzidine and pentachlorophenol ≤2?	X				QSM Table F-4 R
10. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours with recoveries within 70-130%?	X			A4HP9 8/30/13@0909,1838 and A4HP7 9/6/13@1411, 9/7/13@ 0000 The closing MRL check analyzed 9/7/13 recovered below control limits of 70-130% for 2,4-nitrophenol at 58%. An check standard was analyzed with detected results, so the 2,4-dinitrophenol results for samples FWGFWGmw-009-0319-GW, FWGDEtmw-004C-0344-GW, FWGWBGmw-021-0331-GW, FWGEQUIPRINSE3-0342-GW, FWGWBGmw-018-0328-GW, FWGWBGmw-DUP4-0328-GW, FWGWBGmw-020-0330-GW and FWGWBGmw-019-0329-GW were qualified as estimated, " UJ" .	Louisville Supplement to the DOD QSM
11. Was a second source verification (ICV) analyzed? Were results 80-120%?	X			A4HP9 8/26/13 @ 1509, A4HP7 9/5/13 @ 1936 The ICV analyzed 9/5/13 @ 1936 had 2,4-dimethylphenol with a %D above control limits of 20% at 25.4%. No qualifications were made as there were no detected concentrations of 2,4-dimethylphenol reported for the associated field samples.	QSM Table F-4 J=<80% and >120%
12. Was a CCV run daily prior to analysis and every 12 hours of analysis time?	X			A4HP9 8/30/13 @0817 and A4HP7 9/6/13 @1345	QSM Table F-4
12a. Were the average response factors (RFs) for the System Performance Check Compounds (SPCCs) ≥0.050?	X				QSM Table F-4
12b. Were all target analytes ≤ 20%D?		X		The CCV analyzed 8/30/13 @1101 had 4-nitroaniline with a %D above control limits of 20% D at 22.1% No qualifications were made as there were no detected concentrations of 4-nitroaniline reported for the associated field samples.	QSM Table F-4 %D <20% = J/UJ
13. Were the internal standards added to every sample?	X				QSM Table F-4
13a. Was the EICP area between -50% and +100% of the ICAL mid-point standard?	X				QSM Table F-4 R
13b. Were the retention times for all IS compounds within ±30 seconds from the RT of the mid-point standard in the ICAL?	X				QSM Table F-4 J/UJ
14. Were the retention times for target analytes within ±0.06 RRT units from the RT of the mid-point standard in the ICAL or the most recently updated	X				QSM Table F-4 J



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
RRT for all samples?					
15. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-4
15a. Were target analytes detected in the method blank >1/2 the MRL, >RL for common contaminants?	X			Checked by ADR. bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98675 at 0.425µg/L and di-n-butyl phthalate at 0.720µg/L. bis (2-Ethylhexyl)phthalate was detected in the method blank from batch 240-98883 at 0.25µg/L. The bis (2-ethylhexyl) phthalate and di-n-butyl phthalate results for samples FWGLL1mw-084C-0355-GW, FWGLL1mw-083C-0354-GW, FWGFBQmw-174C-0345-GW, FWGLL1mw-086-0320-GW, FWGLL2mw-267C-0358-GW, FWGDETmw-004C-0344-GW, FWGWBGMw-006C-0373-GW, FWGWBGMw-009C-0374-GW, FWGLL1mw-065C-0353-GW, FWGWBGMw-021-0331-GW, FWGEQUIPRINSE3-0342-GW, FWGWBGMw-DUP4-0328-GW, FWGLL2mw-265c-0321-GW, FWGLL2mw-059c-0357-GW, FWGWBGMw-020-0330-GW, FWGNTAmw-119-0367-GW and FWGWBGMw-019-0329-GW were qualified, "B". The bis (2-ethylhexyl) phthalate results for samples FWGFWGMw-009-0319-GW, FWGWBGMw-018-0328-GW, FWGLL1mw-065C-0353-GW, FWGWBGMw-006C-0373-GW and FWGFWGMw-007-0347-GW were qualified, "B"	QSM Table F-4 <5/10X =B
16. Was a field blank (equipment and/or trip) collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	
16a. Were target analytes detected in the field blank?	X			Checked by ADR. bis (2-Ethylhexyl)phthalate was detected at 0.41µg/L and di-n-butyl phthalate at 1µg/L in sample FWGEQUIPRINSE3-0342-GW. The bis (2-ethylhexyl) phthalate and di-n-butyl phthalate results for samples FWGLL1mw-084C-0355-GW, FWGLL1mw-083C-0354-GW, FWGFBQmw-174C-0345-GW, FWGLL1mw-086-0320-GW, FWGLL2mw-267C-0358-GW, FWGDETmw-004C-0344-GW, FWGWBGMw-006C-0373-GW, FWGWBGMw-009C-0374-GW, FWGLL1mw-065C-0353-GW, FWGWBGMw-021-0331-GW, FWGWBGMw-DUP4-0328-GW, FWGLL2mw-265c-0321-GW, FWGLL2mw-059c-0357-GW, FWGWBGMw-020-0330-GW, FWGNTAmw-119-0367-GW and FWGWBGMw-019-0329-GW were qualified, "B". The bis (2-ethylhexyl) phthalate results for samples FWGFWGMw-009-0319-GW, FWGWBGMw-018-0328-GW, FWGLL1mw-065C-0353-GW, FWGWBGMw-006C-0373-GW and FWGFWGMw-007-0347-GW were qualified, "B"	QSM Table F-4 <5/10X =B



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8270

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
17. Was a LCS prepared and analyzed with each batch?	X				QSM Table F-4
17a. Were the LCS recoveries within limits specified in Table G-6 of the DoD QSM?	X			ADR checked section;	QSM Table F-4, Table G-6 J/UJ
18. Was a MS/MSD prepared with each batch?	X			A matrix spike was performed on sample FWGFWGmw-009-0319-GW.	
18a. Were the MS/MSD recoveries within limits specified in Table G-6 of the DoD QSM with an RPD <30%?		X		The benzo(a) pyrene matrix spike recovered below control limits of 55-110% at 53%. The benzo(a) pyrene result for sample FWGFWGmw-009-0319-GW was qualified as estimated, "UJ"	QSM Table F-4, Table G-6 J/UJ Parent sample only
19. Was a field duplicate analyzed?	X			A field duplicate was analyzed on sample FWGWBGmw-018-0328-GW	
19a. Were the field duplicates RPDs within $\pm 50\%$ ?	X			Checked by ADR. The field duplicate analyzed on sample FWGWBGmw-018-0328-GW had an RPD above control limits of 50% for bis (2-ethylhexyl) phthalate at 82% and di-n-butyl phthalate at 200%. No qualification was made for the di-n-butyl phthalate RPD outlier as the parent sample result was no detected above the LOQ. However; the bis (2-ethylhexyl) phthalate result for sample FWGWBGmw-018-0328-GW was qualified as estimated, "J".	QSM Table F-4, RPD >50%=J Parent sample only detected above LOQ
20. Were surrogate recoveries within control limits specified in the DOD QSM?	X				QSM Tables F-4 & G-3 >150%=J; 10% -50%=J/UJ; <10%=J/R
21. Were reported sample concentrations within calibration range?	X				

## References:

- DoD Quality Systems Manual (QSM), version 4.1, October 2010
- Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007
- Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012
- Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8270

Table 1: CCCs (All analytes if CCCs not included in standard)

Base / Neutral Compounds	Acid Compounds
Acenaphthalene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
N-Nitrosodiphenylamine	Phenol
Di-n-octylphthalate	Pentachlorophenol
Fluoroanthene	2,4,6-Trichlorophenol
Benzo(a)pyrene	

Table 2: SPCCs -

N-Nitroso-di-n-propylamine	0.050
Hexachlorocyclopentadiene	0.050
2,4-Dinitrophenol	0.050
4-Nitrophenol	0.050



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a DDT standard analyzed every 12 hours? Was the DDT %breakdown <15%?	X				QSM Table F-2 >15%=J/R
7. Was an endrin standard analyzed every 12 hours? Was the endrin %breakdown <15%?	X				QSM Table F-2 >15%=J/R
8. Initial Calibration					
8a. Does the initial calibration curve consist of 5 concentration levels?	X			Instrument A2HP3 8/29/13, 9/10/13 A2HP9 9/11/13,	QSM Table F-2 R
8a. Were the %RSDs for each analyte $\leq 20\%$ ? OR was the average %RSD $\geq 20\%$ with the $r^2 > 0.990$ ?	X			CLP-2 (8/29/13) Delta-BHC used a linear fit. CLP-2 (9/10/13) 4,4'-DDD used a quadratic fit.	QSM Table F-2 RSD>20% or $r < 0.99 = J/R$
9. Was a LOD Level Verification performed once per quarter with all target analytes detected?	X				QSM Table F-2 R
10. Was a MRL Verification performed at the beginning and end of the sequence or every 12 hours with results within limits of 70-130%?	X			<ul style="list-style-type: none"> <li>The MRL analyzed on 8/29/13@ 2251 recovered above control limits of 70-130% at 143% on CLP-2 for delta-BHC.</li> <li>The MRL analyzed on 8/30/13@ 0337 recovered above control limits of 70-130% at 149% on CLP-2 for delta-BHC.</li> <li>The MRL analyzed on 8/30/13@ 1254 recovered above control limits of 70-130% at 139% on CLP-2 for delta-BHC.</li> <li>The MRL analyzed on 9/10/13@ 1711 recovered above control limits of 70-130% at 233% on CLP-2 for 4,4'-DDD and at 139% for methoxychlor.</li> <li>The MRL analyzed on 9/10/13@ 2015 recovered above control limits of 70-130% at 260% on CLP-2 for 4,4'-DDD and at 161% for methoxychlor.</li> </ul> <p>No qualifications were required as there were no detected concentrations reported for delta-BHC, 4,4'-DDD or aldrin in the bracketed field samples from CLP-2.</p>	QSM Table F-2, G-14 >UL=J; <LL=J/UJ/R



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta / October 3, 2013

SDG: 240-28186-1 R0

Analysis: SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
11. Was a second source (ICV) verification analyzed after the ICAL? Were results 80-120%?		X		<p>8/29/13 @ 1825, 2028, 9/10/13 @ 1213, 1448 (tox), 9/11/13 @1351, 1554(tox)</p> <p>The ICV analyzed 8/29/13 at 1825 had a %D above control limits of 20% for methoxychlor at 22% on CLP-1. No qualification was required as there were no detected concentrations of methoxychlor reported for the associated field samples.</p> <p>The ICV analyzed 8/29/13 at 2028 had a %D below control limits of 20% for toxaphene at -26% on CLP-2. The ICV analyzed 9/10/13 at 1448 had a %D of -30.8% for toxaphene on CLP-2. No toxaphene qualifications were required as CLP-2 used for confirmation only and there were no detected concentrations of toxaphene reported for the associated field samples from the primary column.</p>	QSM Table F-2 >120%=J;<80%=J/UJ
12. Was a CCV run every 12 hours or at the beginning and end of the analytical run with the %D for all target analytes ≤20%?		X		<p>A2HP3 8/29/13 @2230, 8/30/13 @ 0235 (tox), 0316, 1044, 1134 (tox), 1155, 9/10/13 @ 1914(tox), 1955 and 9/12/13 @ 1034 (tox), 1054, 1510 (tox), 1531</p> <p>The CCV analyzed 8/30/13 @ 0316 (CLP-1) had a %D above control limits of 20% for endrin at 20.6% No qualifications were required as there were no detected endrin concentrations reported for the bracketed field samples.</p> <p>The CCV analyzed 8/30/13 @ 0316 (CLP-2) had a %D above control limits of 20% for 4,4'-DDD at 23% and for methoxychlor at 23.%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples and CLP-2 was used for confirmation only.</p> <p>The CCV analyzed 8/30/13 @ 1044 (CLP-1) had a %D above control limits of 20% for gamma-BHC at 24.3%, beta-BHC at 21.9%, heptachlor epoxide at 22.7%, gamma-chlordane at 24.4%, dieldrin at 25.9%, endrin at 34.9%, 4,4'-DDD at 42.3%, endosulfan II at 31.4%, endosulfan sulfate at 26.4 % and endrin ketone at 25% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-BHC at 21.6%, heptachlor epoxide at 20.7%, gamma-chlordane at 23.2%, dieldrin at 23.9%, endrin at 36.5%, 4,4'-DDD at 36%, endosulfan II at 21.9%, endosulfan sulfate at 30.2 %, endrin ketone at 29% and methoxychlor at 20.8%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.</p>	QSM Table F-2 >120%=J; <80%=J/UJ



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta / October 3, 2013

SDG: 240-28186-1 R0

Analysis: SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
				<p>The CCV analyzed 8/30/13 @ 1155 had a %D above control limits of 20% for alpha-BHC at 22.4%, gamma-BHC at 30.9%, beta-BHC at 28.3%, delta-BHC at 22.5%, heptachlor epoxide at 27.3%, gamma-chlordane at 30.9, alpha-chlordane at 26.3%, 4,4'-DDE at 23.7%, dieldrin at 31.7%, endrin at 28.1%, 4,4'-DDD at 35.8%, endosulfan II at 27.3%, endosulfan sulfate at 24.3 % and endrin ketone at 24.2% (CLP-1). CLP-2 had a %D above control limits of 20% for gamma-chlordane at 21%, 4,4'-DDD at 22.6%, endosulfan sulfate at 21 % and endrin ketone at 20.9%. No qualifications were required as there were no detected concentrations reported for the bracketed field samples.</p> <p>The CCV analyzed 9/10/13 @ 1955 had a %D above control limits of 20% for 4,4'-DDD at 25.7% (CLP-1). CLP-2 had a %D above control limits for 4,4'-DDD at 31.6% and methoxychlor at 26.6% (CLP-2). No qualifications were required as there were no detected concentrations reported for the bracketed field samples.</p> <p>The CCV analyzed 9/12/13 @ 1531 had a %D above control limits of 20% for alpha-BHC at 24.3%, gamma-BHC at 21.4%, delta-BHC at 21.4%, heptachlor at 20.5%, aldrin at 26.9%, 4,4'-DDE at 26.3%, endrin at 23.5%, 4,4'-DDD at 21% and below limits for endrin ketone at 20.9%(CLP-1). CLP-2 had a %D above control limits of 20% for alpha-BHC at 29.2%, gamma-BHC at 26%, beta-BHC at 24.3%, delta-BHC at 26%, heptachlor at 23.6%, aldrin at 30.7%, heptachlor epoxide at 23.9%, gamma-chlordane at 22.4%, alpha-chlordane at 23.7%, endosulfan I at 21.1%, 4,4'-DDE at 30.6%, dieldrin at 23.5%, endrin at 27.6% , 4,4'-DDD at 26.1%, endosulfan II at 20.9%, 4,4'-DDT at 21.9%, methoxychlor at 23% and endosulfan sulfate at 21.1%. No qualifications were required as FWGWBGmw-019-0329 had no detected concentrations reported for the outlier target analytes on CLP-1 and CLP-2 was used for confirmation only.</p>	
13. Was a method blank prepared and analyzed with each batch?	X				QSM Table F-2
14. Were target analytes detected > ½ the RL?		X			QSM Table F-2 <5x=B
15. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	
16. Were target analytes detected in the field blank analyses >1/2 the MRL?		X			QSM Table F-2 <5x=B



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta / October 3, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8081A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
17. Was an LCS prepared and analyzed with each batch?	X				QSM Table F-2
18. Were the LCS recoveries within limits specified in QSM Table G-14?	X			Checked by ADR	QSM Table G-14 >UL=J; <LL=J/UJ/R
19. Was a MS/MSD pair prepared with each batch?	X				QSM Table F-2
20. Was the MS/MSD parent a Ravenna sample?	X			FWGFWGmw-009-0319-GW	
21. Were MS/MSD recoveries and RPD within limits specified in QSM Table G-14?		X		The matrix spike recovery for toxaphene was below control limits of 70-130% in the MS at 61%. The toxaphene result for sample FWGFWGmw-009-0319-GW was qualified as estimated, "UJ".	QSM Table F-2 Pj with >UL=J; <LL=J/UJ/R
22. Were surrogate recoveries as specified in QSM table G-3?		X		The surrogate DCB recovered below control limits of 30-135 in sample FWGFBQmw-174C-0345-GW at 23% and at 27% for sample FWGLL1mw-086-0320-GW on CLP-2. TCMX recovered above control limits of 25-140% in sample FWGLL1mw-086-0320-GW at 1813% (CLP-1). The results for sample FWGLL1mw-086-0320-GW were qualified as estimated, "UJ".	QSM Table F-2 >LL=J; <LL=UJ/J/R
23. Was a field duplicate analyzed? Were the RPDs ≤50%?	X			Checked by ADR.	RPD >50=J parent sample only
24. Were all positive results verified by a second column confirmation? Were the RPD's ≤ 40?			X	No detected concentrations were reported above the LOQ in any of the field samples, so no confirmation was required.	QSM Table F-2 >40 RPD=J

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1

**Analysis:** SW846 8082

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Calibration					
6a. Does the initial calibration curve consist of 5 concentration levels of Aroclors 1016 and 1260?	X			Instrument A2HP12 8/27/13 Stds = 0.05, 0.1, 0.2, 0.5, 1.0, 2.0	QSM Table F-2 R
6b. Was the % RSD $\leq$ 20%? or Were the $r^2$ s $>0.990$ ?	X				QSM Table F-2 RSD $>20\%$ or $r<0.99=$ J/R
7. Was a LOD Verification performed once per quarter? Were all target analytes detected?	X				QSM Table F-2 R
8. Was an MRL Level Verification performed at the beginning and end of the sequence or every 12 hours? Were recoveries 70-130%?	X				LCG Table 3 >UCL=J; <LCL=J/UJ/R;
9. Was a second source (ICV) verification performed after the ICAL? Were the avg of all peaks for each aroclor 80-120%?		X		8/28/13	QSM Table F-2 >120%=J; <80%=J/ UJ/R
10. Were single standards of the other five Aroclors run to aid in pattern recognition and to determine a single point calibration factor?		X		All aroclors had a multi-point calibration.	Method 8082 Section 5.6.2
11. Was a CCV run every 12 hours?	X			8/28/13 @ 1804, 2100, 2340, 8/29/13 @0221	QSM Table F-2
12. Was the % D $\leq$ 20 % for each analyte?	X				QSM Table F-2 D $>20\%$ (neg)=J/R D $>20\%$ (pos) =J
13. Was a method blank prepared and analyzed with each batch?	X			Section checked by ADR	QSM Table F-2



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1

**Analysis:** SW846 8082

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>Qual/Criteria</b>
14. Were target analytes <1/2 the MRL?	X				QSM Table F-2 <5x = B
15. Was an equipment blank collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	
16. Were target analytes in the field blank analyses (equipment) <1/2 the MRL?	X			Section checked by ADR	QSM Table F-2 <5x = B
17. Was an LCS prepared and analyzed with each batch?	X				QSM Table F-2
18. Were the LCS recoveries within limits specified in LCG Appendix C?	X			Section checked by ADR	QSM Table F-2, Table G-16, >UL=J; <LCL%=J/R/UJ;
19. Was a MS/MSD pair prepared with each batch?	X				LCG Table 3
20. Was the MS/MSD parent a Ravenna sample?	X			FWGFWGmw-009-0319-GW	
21. Were MS/MSD recoveries and RPD within limits specified in the DOD QSM Table G-16?	X			Checked by ADR	QSM Table F-2, Table G-16, >UL=J; <LCL%=J/R/UJ;
22. Was the surrogate spiked into all samples?	X				
23. Were surrogate recoveries As specified in table G-3 of the DoD QSM?	X			Checked by ADR.	QSM Table F-2, Table G-3 >UCL=J; <LCL=J/UJ/R
24. Was a field duplicate analyzed? Were the RPDs <50%?	X			Checked by ADR.	QSM Table F-2, RPD >50=J
25. Were all positive results verified by a second dissimilar column confirmation? Was the RPD ≤ 40?			X	No detected concentrations were reported for the reported field samples.	QSM Table F-2, RPD>40=J

## **References:**

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1

**Analysis:** SW846 9012

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Does the initial calibration curve consist of at least 6 standards and one blank, with the correlation coefficient $R \geq 0.995$ ?	X				DoD QSM Table F-10 R
7. Were a high and low standard distilled and analyzed with results within $\pm 15\%$ ?	X				DoD QSM Table F-10 R
8. Was an LOD Verification performed at least once per quarter with all target analytes detected?	X				LCG Table 10 R
9. Was a MRL Level Verification performed at the beginning and end of the daily sequence? Were results within 70-130%?		X		No closing MRL check was analyzed on 8/23/13 or 8/26/13. Opening MRL checks recovered within control limits. The cyanide results for samples FWGFWGmw-009c-0319-GW, FWGDEtmw-004c-0344-GW, FWGWBGmw-019-0329-GW, FWGWBGmw-018-0328-GW, FWGWBGmw-DUP4-0339-GW, FWGWBGmw-020-0330-GW, FWGWBGmw-021-0331-GW and FWGEQUIPRINSE3-0342-GW were qualified as estimated, "J/UJ"	LCG Table 10, LS >130%=J; 65-70%=J/UJ; <65%=J/R
10. Was a second source verification (ICV) analyzed after the ICAL and all analytes 85-115%?	X				DoD QSM Table F-10 >115%=J; 80-85%=J/UJ; <80%=J/R
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-10
12. Were target analytes detected in the method blank >1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-10 <5x=B
13. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	
14. Were target analytes in the field blank analyses <1/2 the MRL?	X				DoD QSM Table F-10 <5x=B
15. Was a field duplicate analyzed? Were the RPDs $\leq 20\%$ ?	X			Checked by ADR.	>30% = J



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1

**Analysis:** SW846 9012

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
16. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-10
17. Were the LCS recoveries 80-118%?	X			Checked by ADR.	DoD QSM Table F-10 Lab Limits >118%=J; 50-79%=J/UJ; <50%=R
18. Was a MS and duplicate (sample or matrix) prepared once per every 10 samples?	X				DoD QSM Table F-10
19. Was the MS parent a Ravenna sample?	X			FWGFWGmw-009c-0319-GW, FWGWBGmw-020-0330-GW and FWGEQUIPRINSE3-0342-GW	
20. Were matrix spike recoveries 42-140%?	X			Checked by ADR.	DoD QSM Table F-10 >140%=J; <42%=J/UJ/R

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Was a LOD Verification performed once per quarter with all target analytes detected?	X				DoD QSM Table F-8
7. Tuning (ICP MS Only)					
7a. Was a tune performed daily prior to calibration	X				DoD QSM Table F-8 R
7b. Mass Calibration <0.1 amu from true value	X				
7c. Resolution <0.9 amu full width at 10 % peak height	X				
7d. RSD <5% for a minimum of four replicate analyses	X				
8. Calibration					
8a. Was the ICAL performed daily with at least One high standard and a blank for ICP & ICPMS	X				DoD QSM Tables F-8 and F-7
Five standards and a blank for Hg	X				
8b. Was the correlation coefficient $r \geq 0.995$ for each Hg?	X				DoD QSM Tables F-8 and F-7 $r < 0.995 = J/R$
8c. Was the ICV (second source verification) analyzed after the ICAL with results 90-110% of the true value?	X				DoD QSM Tables F-8 and F-7
8d. Was the ICB analyzed after the ICV with detected results <1/2 the MRL?	X			ICP The ICB analyzed 9/9/13 @ 0749 had magnesium detected at 100µg/L. No qualifications were required as the detected magnesium results for the associated field samples were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 < 5x = U



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angela Dragotta/ October 4, 2013

SDG: 240-28186-1 R0

Analysis: SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
Sample Analysis					
9. Was a MRL Level Verification performed at the beginning of the daily sequence and end of the analytical sequence bracketing samples? Were results 70-130%?	X				LS to the DoD QSM DoD QSM Table G-18 >130%=J; 70-80%=J/UJ; <70%=J/UJ <65%=R, unless DL check with detected results
10. Were CCVs analyzed every 10 samples and at the end of the analytical sequence with results 90-110% of the true value?		X		ICPMS The beryllium CCVs analyzed 9/9/13 from 1902-2246 recovered above control limits of 90-110% at 114% (1902), 117% (2031), 116% (2116) and at 121% (2246). No qualifications were required as there were no detected beryllium concentrations reported for the bracketed field samples.	DoD QSM Tables F-8 and F-7 >110%=J, <85%=J/R 90-85%=J/UJ;
11. Were the CCBs run every 10 samples and at the end of the analytical sequence? Were results <1/2 the MRL?	X			ICP The CCBs analyzed 9/9/13 had magnesium detected from 101 µg/L to 104µg/L. No qualifications were required as the detected magnesium results for the bracketed field samples were greater than 5x blank contamination. ICPMS- The CCBs analyzed 9/9/13 had beryllium detected from 0.061µg/L to 0.103µg/L, cadmium from 0.043µg/L to 0.252µg/L, iron from 12.7 µg/L to 16.4µg/L, sodium from 6.45µg/L to 17.1µg/L and thallium at 0.0609µg/L (9/9/13 at 1311). The iron result for sample FWGLL1mw-084c-0355-GF was qualified, "U". No additional qualifications were required as the detected cadmium and sodium results for the bracketed field samples were greater than 5x blank contamination.	DoD QSM Tables F-8 and F-7 <5x = U
12. Was an Interelement Check Standard run at the beginning of the analytical sequence and every 12 hours with the ICS recovery within 80 to 120% of true value for each element of interest (ICP and ICPMS only)?	X				DoD QSM Tables F-8 and F-7 >120%=J; 50-79%=J/UJ; <50%=Pj/R
13. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Tables F-8 and F-7
14. Were target analytes detected >1/2 the MRL in the method blank?	X			Checked by ADR. ICP- Manganese was detected in the method blank from batch 240-98698 at 2.16µg/L. The manganese result for sample FWGDETmw-004c-0344-GF was qualified, "B" as the detected results was < 5x blank contamination. ICPMS- Aluminum was detected in the method blank from batch 240-98698 at 107µg/L. The aluminum result for sample FWGWBGmw-009c-0374-GF was qualified, "B" as the detected aluminum result was < 5x blank contamination.	DoD QSM Tables F-8 and F-7 <5x = B
15. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
16. Were target analytes reported in the field blank analyses >1/2 the MRL?		X		ADR checked section.	DoD QSM Tables F-8 and F-7
17. Was a LCS prepared and analyzed with each batch?	X				DoD QSM Tables F-8 and F-7
18. Were the LCS recoveries within limits specified in LCG Appendix C?		X		Checked by ADR. <u>ICPMS</u> -Beryllium recovered above control limits of 80-120% in the LCS from batch 240-98698 at 124%. No qualification was made to the associated data as there were no detected beryllium concentrations reported for the associated field samples.	DoD QSM Tables G-18, F-8 and F-7 >120%=J; 70-79%=J/UJ; <70%=J/R
19. Was a matrix spike (MS) and lab duplicate sample prepared with each batch?	X				DoD QSM Tables F-8 and F-7
20. Was the MS and Lab Duplicate parent a Ravenna sample?	X			A matrix spike analysis was performed on sample FWGFWGmw-009-0319-GF.	
21. Were the MS recoveries within 80-120%?	X				DoD QSM Tables G-18, F-8 and F-7, >120%=J; 70-79%=J/UJ; <70%=J/R All samples in batch
22. Was the lab sample duplicate RPD ≤ 20%?	X				DoD QSM Tables F-8 and F-7 >20% = J All samples in batch
23. Was a serial dilution performed, with the five fold dilution within ± 10% of the original result?	X				DoD QSM Tables F-8 and F-7 >20% = J All samples in batch
24. Was a Post Digestion Spike analyzed as needed? Were results within 75-125%?	X				LCG Table 7 >125%=J; 30-75%=J/UJ; <30%=R
25. Was a field duplicate analyzed? Were the RPDs ≤50% for sample results detected above the LOQ?				Checked by ADR-	>30% = J parent sample Evaluate results above the LOQ only



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 6010/6020/7470A

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
26. Were internal standards added to all ICPMS samples with intensity within 30-120% of the intensity of the ICAL internal standard?	X				DoD QSM Table F-8 >120%=J/R <20%=J

## References:

- *DoD Quality Systems Manual (QSM), version 4.1, October 2010*
- *Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*
- *Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*
- *Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 4, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a LOD Verification analyzed once per quarter with all target analytes detected?	X				DoD QSM Table F-3 R
7. Calibration					
7a. Does the initial calibration curve consist of 5 concentration levels? (6 stds for quadratic curves)	X			LC10 7/24/13 LC12 8/14/13, 2-nitrotoluene coelutes with 4-nitrotoluene, LC12 not used as primary reporting column of 2-nitrotoluene and 4-nitrotoluene	DoD QSM Table F-3 R
7b. Did all target analytes using avg response have an RSD $\leq$ 15% ?	X				
7c. If a linear regression curve was used, was the correlation coefficient $r \geq 0.995$ ? (0.990 for a quadratic curve).			X		
8. Was a second source verification (ICV) analyzed after the ICAL and all analytes 80-120%?	X			LC10 7/24/13 @1750 LC12 8/15/13 @ 0118	DoD QSM Table F-3 >120%=J; <80%= J/UJ;
Sample Analysis					
9. Was a CCV run at the beginning of the analytical sequence, every 10 samples and at the end of the analytical run with targets and surrogates recovering 80-120% of the true value?	X			LC10- 8/30/13 @ 1016, 8/31/13 @ 0215, 0848, 9/3/13 @ 1253, 2009, 2303, 9/13/13 @ 1637, 1847 LC12 9/9/13 @ 1257, 2246 9/10/13 @ 1047, 1942	DoD QSM Table F-3 J/UJ
10. Was a MRL Level verification run at the beginning and end of every daily? Was the %D < 30%?		X		LC10- 8/30/13 @ 1816, 8/31/13 @ 0932, 9/3/13 @ 1209, 2347 9/13/13 @ 1553, 1931 LC12 9/9/13 @ 1151, 9/10/13 @ 2037	LCG Table 5 >30%=J
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-3
12. Were target analytes detected in the method blank <1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x = B
13. Was a field blank collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	
14. Were target analytes detected in the field blank analyses > 1/2 the MRL?		X		Checked by ADR	DoD QSM Table F-3 <5x=B



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 4, 2013

**SDG:** 240-28186-1 R0

**Analysis:** SW846 8330 Explosives

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
15. Was a field duplicate analyzed? Were the RPDs $\leq 30\%$ ?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs $\leq 40\%$ ?		X		<p>The second column confirmation analysis for sample FWGLL2mw-059c-0357-GW had an RPD above control limits of 40% for 1,3,5-trinitrobenzene at 101%. The 1,3,5-trinitrobenzene result for sample FWGLL2mw-059c-0357-GW was qualified as estimated, "J".</p> <p>The second column confirmation analysis for sample FWGLL1mw-084c-0355-GW had an RPD above control limits of 40% for HMX at 80%. The HMX result for sample FWGLL1mw-084c-0355-GW was qualified as estimated, "J".</p>	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within limits specified in table G-12 of the DoD QSM?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J;30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X			A matrix spike analysis was performed on sample FWGFWGmw-009-0319-GW.	DoD QSM Table F-3
20. Were MS/MSD recoveries within limits specified in table G-12 of the DoD QSM with an RPD $\leq 30\%$ ?	X				DoD QSM Table F-3 Pj
21. Were surrogate recoveries within laboratory limits (79-111%)?		X		Checked by ADR. The surrogate 3,4-dinitrobenzene recovered above control limits of 79-111% for samples FWGLL1mw-083c-0354-GW at 162% and FWGLL1mw-084c-0355-GW at 432%. The detected results for samples, FWGLL1mw-083c-0354-GW or FWGLL1mw-084c-0355-GW were qualified as estimated, "J".	QSM Tables F-2 >UL=J; <LL =J/UJ

*References: DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*



**Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 4, 2013

**SDG:** 240-28186-1

**Analysis:** SW846 8330M Nitroguanidine

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-3
6. Was a LOD Verification analyzed once per quarter with all target analytes detected?	X				DoD QSM Table F-3 R
7. Calibration					
7a. Does the initial calibration curve consist of 5 concentration levels? (6 stds for quadratic curves)	X			PDA-1 8/20/13	DoD QSM Table F-3 R
7b. Did all target analytes using avg response have an $RSD \leq 15\%$ ?	X				
7c. If a linear regression curve was used, was the correlation coefficient $r \geq 0.995$ ? (0.990 for Quadratic curve).			X		
7d. Did reanalysis of the low level standard after calibration, recover within 15%?	X				
8. Was a second source verification (ICV) analyzed after the ICAL and all analytes 80-120%?	X			8/20/13 @1843	DoD QSM Table F-3 >120%=J; <80%= J/UJ;
Sample Analysis					
9. Was a CCV run at the beginning of the analytical sequence, every 10 samples and at the end of the analytical run with targets and surrogates recovering 80-120% of the true value?	X			8/27/13 @ 1321, 1618, 1933, 2137	DoD QSM Table F-3 J/UJ
10. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours? Was the %D < 30%?	X				LCG Table 5 >30%=J
11. Was a method blank prepared and analyzed with each batch?	X				DoD QSM Table F-3



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/October 4, 2013

**SDG:** 240-28186-1

**Analysis:** SW846 8330M Nitroguanidine

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
12. Were target analytes detected in the method blank <1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x = B
13. Was a field blank collected and analyzed?	X				
14. Were target analytes detected in the field blank analyses < 1/2 the MRL?		X		Checked by ADR.	DoD QSM Table F-3 <5x=B
15. Was a field duplicate analyzed? Were the RPDs ≤30%?	X				RPD >30=J
16. Were all positive results confirmed with a second column confirmation? Were the RPDs ≤ 40%?			X	No detected concentrations were reported.	DoD QSM Table F-3 RPD>40%=J
17. Was an LCS prepared and analyzed with each batch?	X				DoD QSM Table F-3
18. Were the LCS recoveries within laboratory limits of 79%-119%?	X			Checked by ADR.	DoD QSM Table F-3 <UL=J; 30-LL=J/UJ; <30%=J/R
19. Was a MS/MSD or MS and sample duplicate prepared with each batch?	X			FWGFWGmw-009-0319-GW was the parent sample used for the matrix spike analyses	DoD QSM Table F-3
20. Were MS/MSD recoveries within laboratory limits of 40%-150% with an RPD ≤20%?	X				DoD QSM Table F-3 Pj

## References:

*DoD Quality Systems Manual (QSM), version 4.1, October 2010*

*Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007*

*Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012*

*Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011*

## Additional Comments:



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1

**Analysis:** TAL SOP WS-WC-0050

Review Questions:	Yes	No	N/A	Comments	Qualifier
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				QAPP Table 5-1, NELAC
3. Were holding times met?	X				QAPP Table 5-1 J/UJ/R
4. Were sample storage requirements met?	X				QAPP Table 5-1
5. Were all QAPP-specified target analytes reported?	X				QAPP Table 4-1
6. Does the initial calibration curve consist of 5 concentration levels with the low standard near but > DL?	X				STL SOP Section 10.2 R
7. Was the correlation coefficient >0.995?	X				STL SOP Section 10.2
8. Was a MRL Level Verification run at the beginning and end of every daily sequence or every 12 hours? Was the %D <30%?	X				LCG Table 5 >30%=J
9. Was a second source verification (ICV) analyzed after the ICAL? Were all analytes 90-110%?	X				STL SOP Section 9.8, 10.3, LCG >110%=J; 90-85%=J/UJ; <85%=J/R
10. Was the ICB analyzed after the ICV with results <1/2 the MRL?	X				STL SOP Section 9.8, LCG , < 5x = U
11. Was a CCV run every 10 samples and at the end of the analytical run?	X				STL SOP Section 10.4
12. Was the ICV and CCV a mid-level standard from the initial calibration curve?	X				STL SOP Section 10.3.1
13. Were all CCV calibration analytes within 90-110%?	X				STL SOP Section 10.4, >110%=J; 85-90%=J/UJ; <85%=J/R
14. Was the ICB analyzed after the ICV with results <1/2 the MRL?	X				STL SOP Section 10.4, QSM, < 5x = U
15. Was the Nitrocellulose assay available and/or analyzed to be within 10%?	X				STL SOP Section 7.14.1, R
16. Was a method blank prepared and analyzed with each batch?	X				
17. Were target analytes detected in the method blank <1/2 the MRL?		X		ADR checked section.	STL SOP Section 9.4, LCG, <5x=B



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angela Dragotta/ October 4, 2013

**SDG:** 240-28186-1

**Analysis:** TAL SOP WS-WC-0050

Review Questions:	Yes	No	N/A	Comments	Qualifier
18. Was a field blank collected and analyzed?	X				
19. Were target analytes detected in the field blank analyses <1/2 the MRL?		X			<5x=B
20. Was a field duplicate analyzed? Were the RPDs ≤30%?	X			ADR checked section	QAPP Table 3-2 RPD > 30% = J
21. Was an LCS prepared and analyzed with each batch? Was the LCS recovery within lab's in-house limits% (26-144%)?	X				>UL%=J; <50%=J/R 50-LL%=J/UJ;
22. Was a MS/MSD pair prepared with each batch?	X				
23. Was the MS/MSD parent a Ravenna sample?	X				
24. Were MS/MSD recoveries 26-144% and RPD ≤20?	X			ADR checked section.	Method EPA 353.2 Section 9.4.2 >UL%=J; <LL%=J/UJ; RPD>20%=J/UJ

## References:

STL SOP SAC-WC-0050 "Preparation and Analysis of Nitrocellulose in Aqueous and Soil/Sediment Samples by Colorimetric Autoanalyzer", Jan 2007, rev. 2.0

DoD Quality Systems Manual (QSM), version 4.1, October 2010

Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007

Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012

Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

## Additional Comments:



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angye Dragotta/October 4, 2013

SDG: 240-28186-1

Analysis: SW846 6860/ Perchlorate

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	X				
2. Were samples preserved properly and received in good condition?	X				
3. Were holding times met (28 days)?	X				UJ/J/R
4. Were sample storage requirements met?	X				
5. Was the DOD specified PQLs of 0.5ug/L achieved?	X				
6. Were all QAPP-specified target analytes reported?	X				
7. Did the initial calibration curve consist of 5 concentration levels?	X			LC_LCMS1 9/11/13 Standards(ng/L): 20, 50, 100, 200, 500, 1000	R
8. Was the correlation coefficient $r \geq 0.995$ ?	X				$R < 0.995 = -J/R$
9. Was a second source verification (SSCV) analyzed after the ICAL? Were results 90-110%?	X				LCG Table 1 $>120\% = J$ ; $60-80\% = J/UJ$ ; $<60\% = J/R$
10. Was an ICV analyzed after the ICAL and daily before sample analysis?	X			9/11/13 @1907	R
11. Was the %Difference $\leq 15\%$ ?	X				R
12. Was a CCV analyzed after every 10 samples?	X			09/11/2013 @ 2322	
13. Was the %Difference $\leq 15\%$ ?	X				$\%D > 15\% = UJ/J$
14. Was a Limit of Detection Verification (LODV) analyzed before and after every batch?	X				
15. Was the LODV recovery within 70-130%?	X				$>130\% = J$ ; $<60\% = J/R$ $70-60\% = J/UJ$ ;
16. Was an Interference Check Sample extracted and analyzed with every batch?	X				
17. Was the ICS recovery within 70 to 130%?	X				$>120\% = J$ ; $<50\% = Pj/R$ $50-79\% = J/UJ$ ;
18. Was a method blank prepared and analyzed with each batch?	X				
19. Were target analytes detected in the method blank at $>1/2$ the MRL?		X		Checked by ADR.	$<5X = B$



# Ravenna, OH Data Review Checklist

Project Number: 030174.0016

Sample Event: August 2013

Data Reviewer/Date: Angye Dragotta/October 4, 2013

SDG: 240-28186-1

Analysis: SW846 6860/ Perchlorate

Review Questions:	Yes	No	N/A	Comments	Qual/Criteria
20. Was a field blank (equipment) collected and analyzed?	X			FWGEQUIPRINSE3-0342-GW	
21. Were target analytes detected in the field blank analyses >1/2 the MRL?		X		Checked by ADR.	<5X =B
22. Were target analytes detected in the calibration blank analyses >1/2 the MRL?		X			<5X =U
23. Was a LCS prepared and analyzed with each batch, with recoveries within 85-115%?	X			Checked by ADR.	>115%=J; 50%-85%=J/UJ; <50%=J/R
24. Was a MS/MSD prepared with each batch?	X			FWGFWGmw-009-0319-GF	
25. Were MS/MSD recoveries 75-125% and RPD values ≤20%?	X				>125% = J 30% - 75% = J/UJ <30% = J/R
26. Was a Laboratory Reagent Blank (LRB) analyzed prior to calibration and after high concentration samples?	X				
27. Were target analytes detected in the LRB at >1/2 the MRL?		X			<5X =B
28. Was a MRL Verification run with every ICAL?	X				
29. Were the MRL recoveries 70-130%?	X				R
30. Were the internal standards added to every sample?	X				
31. Did the IS recover within 50% to 150% of the ICAL mid-point standard?	X				R
32. Was a field duplicate analyzed? Were the RPDs within ±30%?		X		No field duplicate was collected or analyzed.	RPD >30=J
33. Was the Isotope ratio between 101 and 85 monitored and fell between 2.3 and 3.08?	X				J/UJ
34. Were reported sample concentrations within calibration range?	X				

## References:

DOD Perchlorate Handbook, March 2006; Section G "Selecting Analytical Methods and Services"

## Additional Comments:



## **Appendix II**



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
6010B	FWGDETMw-004C-0344-GF	AQ	N	MANGANESE	5.0	5.7J		B	ug/L	Mb
6010B	FWGFWGmw-007-0347-GF	AQ	N	CHROMIUM	4.0	1.4J		J	ug/L	RI
				NICKEL	5.0	2.3J		J	ug/L	RI
6010B	FWGFWGmw-009-0319-GF	AQ	N	ARSENIC	10	9.8J		J	ug/L	RI
6010B	FWGLL1mw-084C-0355-GF	AQ	N	COPPER	10	9.1J		J	ug/L	RI
				SELENIUM	10	4.9J		J	ug/L	RI
6010B	FWGLL1mw-086-0320-GF	AQ	N	ARSENIC	10	3.7J		J	ug/L	RI
6010B	FWGLL2mw-059C-0357-GF	AQ	N	ARSENIC	10	7.3J		J	ug/L	RI
				POTASSIUM	900	860J		J	ug/L	RI
6010B	FWGLL2mw-265C-0321-GF	AQ	N	POTASSIUM	900	710J		J	ug/L	RI
6010B	FWGLL2mw-267C-0358-GF	AQ	N	NICKEL	5.0	3.7J		J	ug/L	RI
				POTASSIUM	900	670J		J	ug/L	RI
6010B	FWGWBGmw-006C-0373-GF	AQ	N	POTASSIUM	900	820J		J	ug/L	RI
6010B	FWGWBGmw-009C-0374-GF	AQ	N	POTASSIUM	900	370J		J	ug/L	RI

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
6010B	FWGWBGmw-020-0330-GF	AQ	N	NICKEL	5.0	3.6J		J	ug/L	RI
				POTASSIUM	900	590J		J	ug/L	RI
6010B	FWGWBGmw-021-0331-GF	AQ	N	ARSENIC	10	6.5J		J	ug/L	RI
6020	FWGDETmw-004C-0344-GF	AQ	N	ANTIMONY	1.0	0.38J		J	ug/L	RI
6020	FWGFWGmw-009-0319-GF	AQ	N	ALUMINUM	60	60U		B	ug/L	
6020	FWGLL1mw-083C-0354-GF	AQ	N	CADMIUM	1.0	0.51J		J	ug/L	RI
				ZINC	50	39J		J	ug/L	RI
6020	FWGLL1mw-084C-0355-GF	AQ	N	IRON	100	50J		U	ug/L	Cb
6020	FWGWBGmw-009C-0374-GF	AQ	N	ALUMINUM	60	23J B		U	ug/L	Mb
				THALLIUM	1.5	1.0J		J	ug/L	RI
8081A	FWGFBQmw-174C-0345-GW	AQ	N	DELTA-BHC	0.020	0.019J		J	ug/L	RI
8081A	FWGFWGmw-009-0319-GW	AQ	N	TOXAPHENE	0.78	0.78U		UJ	ug/L	Ms
8081A	FWGLL1mw-083C-0354-GW	AQ	N	ENDOSULFAN II	0.019	0.014J		J	ug/L	RI

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
8081A	FWGWBgmw-019-0329-GW	AQ	N	BETA-BHC	0.019	0.011J		J	ug/L	RI
8260B	FWGEQUIPRINSE3-0342-GW	AQ	EB	ACETONE	1.1	9.9J		B	ug/L	Tb
				METHYLENE CHLORIDE	0.50	0.81J B		JB	ug/L	Mb, Tb, Cc
				TOLUENE	0.25	0.18J		J	ug/L	RI
8260B	FWGFWGmw-009-0319-GW	AQ	N	ACETONE	1.1	1.2J		B	ug/L	Tb, Eb
8260B	FWGLL2mw-059C-0357-GW	AQ	N	ACETONE	1.1	1.4J		B	ug/L	Eb
8260B	FWGTeam1-Trip	AQ	TB	METHYLENE CHLORIDE	0.50	0.47J		J	ug/L	RI, Ccv
8260B	FWGTeam2-Trip082013	AQ	TB	METHYLENE CHLORIDE	0.50	0.69J		J	ug/L	Ccv
8260B	FWGTeam3-TRIP	AQ	TB	METHYLENE CHLORIDE	0.50	0.77J		J	ug/L	Ccv
8260B	FWGTEAM4-TRIP	AQ	TB	METHYLENE CHLORIDE	0.50	0.85J B		JB	ug/L	Mb, Ccv, P
8260B	FWGWBgmw-Dup4-0339-GW	AQ	FD	ACETONE	1.1	1.7J		B	ug/L	Eb
8270C - SVOC 1&3	FWGNTAmw-119-0367-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.50	0.42J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.99	0.72J		B	ug/L	Mb, Eb

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
8270C -SVOC1	FWGFBQmw-174C-0345-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.51	0.82J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	1.0	1.1J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGFWGmw-007-0347-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.48J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL1mw-065C-0353-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.49	0.50J		B	ug/L	Mb
8270C -SVOC1	FWGLL1mw-083C-0354-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	1.1J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	1.6J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL1mw-084C-0355-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.49	1.8J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.98	1.1J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL1mw-086-0320-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	1.2J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.86J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL2mw-059C-0357-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.50	1.4J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.99	1.5J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL2mw-265C-0321-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.49	1.5J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.97	1.4J		B	ug/L	Mb, Eb
8270C -SVOC1	FWGLL2mw-267C-0358-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.62J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.81J		B	ug/L	Mb, Eb

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
8270C -SVOC1	FWGWBGmw-006C-0373-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.49	0.74J		B	ug/L	Mb
8270C -SVOC1	FWGWBGmw-009C-0374-GW	AQ	N	BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.64J		B	ug/L	Mb
				DI-N-BUTYL PHTHALATE	0.95	0.75J		B	ug/L	Mb
8270C-SVOC4	FWGDETMw-004C-0344-GW	AQ	N	2,4-DINITROPHENOL	0.99	0.99U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.50	1.4J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.99	0.85J		B	ug/L	Mb, Eb
8270C-SVOC4	FWGEQUIPRINSE3-0342-GW	AQ	EB	2,4-DINITROPHENOL	0.96	0.96U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.41J		B	ug/L	Mb
				DI-N-BUTYL PHTHALATE	0.96	1.0J		B	ug/L	Mb
8270C-SVOC4	FWGFWGmw-009-0319-GW	AQ	N	2,4-DINITROPHENOL	0.97	0.97U		UJ	ug/L	ProfJudg
				BENZO(A)PYRENE	0.097	0.097U J		UJ	ug/L	Ms
				BIS(2-ETHYLHEXYL)PHTHALATE	0.49	0.34J		B	ug/L	Mb, Eb
8270C-SVOC4	FWGWBGmw-018-0328-GW	AQ	N	2,4-DINITROPHENOL	0.95	0.95U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.31J		JB	ug/L	Mb, Eb, Fd
8270C-SVOC4	FWGWBGmw-019-0329-GW	AQ	N	2,4-DINITROPHENOL	0.95	0.95U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.49J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.84J		B	ug/L	Mb, Eb

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
8270C-SVOC4	FWGWBGmw-020-0330-GW	AQ	N	2,4-DINITROPHENOL	0.98	0.98U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.49	0.54J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.98	0.76J		B	ug/L	Mb, Eb
8270C-SVOC4	FWGWBGmw-021-0331-GW	AQ	N	2,4-DINITROPHENOL	0.95	0.95U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.65J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	0.68J		B	ug/L	Mb, Eb
8270C-SVOC4	FWGWBGmw-Dup4-0339-GW	AQ	FD	2,4-DINITROPHENOL	0.95	0.95U		UJ	ug/L	ProfJudg
				BIS(2-ETHYLHEXYL)PHTHALATE	0.48	0.74J		B	ug/L	Mb, Eb
				DI-N-BUTYL PHTHALATE	0.95	1.5J		B	ug/L	Mb, Eb
8330	FWGLL1mw-083C-0354-GW	AQ	N	1,3,5-TRINITROBENZENE	0.051	6.5		J	ug/L	Surr
				1,3-DINITROBENZENE	0.10	0.28		J	ug/L	Surr
				2,4,6-TRINITROTOLUENE	0.10	4.5		J	ug/L	Surr
				2,4-DINITROTOLUENE	0.10	2.9		J	ug/L	Surr
				2,6-DINITROTOLUENE	0.10	1.5		J	ug/L	Surr
				2-AMINO-4,6-DINITROTOLUENE	0.10	14		J	ug/L	Surr

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
8330	FWGLL1mw-084C-0355-GW	AQ	N							
				1,3,5-TRINITROBENZENE	0.052	2.4		J	ug/L	Surr
				1,3-DINITROBENZENE	0.10	0.35		J	ug/L	Surr
				2,4,6-TRINITROTOLUENE	0.10	12		J	ug/L	Surr
				2,4-DINITROTOLUENE	0.10	1.4		J	ug/L	Surr
				2,6-DINITROTOLUENE	0.10	0.95		J	ug/L	Surr
				2-AMINO-4,6-DINITROTOLUENE	0.10	13		J	ug/L	Surr
				Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.052	2.1		J	ug/L	Surr
				Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.052	0.97		J	ug/L	Surr, ProfJ
8330	FWGLL2mw-059C-0357-GW	AQ	N							
				1,3,5-TRINITROBENZENE	0.050	0.28		J	ug/L	ProfJudg
9012A	FWGDETMw-004C-0344-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGEQUIPRINSE3-0342-GW	AQ	EB							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGFWGmw-009-0319-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGWBGmw-018-0328-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGWBGmw-019-0329-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGWBGmw-020-0330-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg

N = Normal Sample    TB = Trip Blank  
 FD = Field Duplicate    FB = Field Blank



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b>SDG: 240-28186-1</b>										
9012A	FWGWBGmw-021-0331-GW	AQ	N							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg
9012A	FWGWBGmw-Dup4-0339-GW	AQ	FD							
				CYANIDE	0.010	0.010U		UJ	mg/L	ProfJudg



# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: GENCHEM

Method: 9012A

Matrix: AQ

Sample ID:FWGDETMw-004C-0344-GW

Collected: 8/20/2013 5:10:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGEQUIPRINSE3-0342-GW

Collected: 8/21/2013 3:34:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGFWGmw-009-0319-GW

Collected: 8/21/2013 12:20:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGWBGmw-018-0328-GW

Collected: 8/21/2013 10:03:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGWBGmw-019-0329-GW

Collected: 8/21/2013 8:56:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGWBGmw-020-0330-GW

Collected: 8/21/2013 10:31:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGWBGmw-021-0331-GW

Collected: 8/21/2013 9:24:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

Sample ID:FWGWBGmw-Dup4-0339-GW

Collected: 8/21/2013 11:03:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.010	U	0.0032	MDL	0.010	LOD	mg/L	UJ	ProfJdg

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

10/7/2013 8:21:29 AM

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

**Method Category:** GENCHEM

**Method:** 9012A

**Matrix:** AQ

**Method Category:** METALS

**Method:** 6010B

**Matrix:** AQ

Sample ID:FWGDETMW-004C-0344-GF			Collected: 8/20/2013 5:10:00		Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MANGANESE	5.7	J	1.8	MDL	5.0	LOD	ug/L	U	Mb

Sample ID:FWGFWGmw-007-0347-GF			Collected: 8/21/2013 3:04:00		Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHROMIUM	1.4	J	1.4	MDL	4.0	LOD	ug/L	J	RI
NICKEL	2.3	J	2.2	MDL	5.0	LOD	ug/L	J	RI

Sample ID: FWGFWGmw-009-0319-GF			Collected: 8/21/2013 12:20:00		Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ARSENIC	9.8	J	3.3	MDL	10	LOD	ug/L	J	RI

Sample ID: FWGLL1mw-084C-0355-GF			Collected: 8/21/2013 2:05:00		Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COPPER	9.1	J	4.4	MDL	10	LOD	ug/L	J	RI
SELENIUM	4.9	J	4.0	MDL	10	LOD	ug/L	J	RI

Sample ID:FWGLL1mw-086-0320-GF			Collected: 8/21/2013 1:33:00		Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ARSENIC	3.7	J	3.3	MDL	10	LOD	ug/L	J	RI

Sample ID: FWGLL2mw-059C-0357-GF			Collected: 8/21/2013 12:51:00		Analysis Type: RES/TOT			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ARSENIC	7.3	J	3.3	MDL	10	LOD	ug/L	J	RI
POTASSIUM	860	J	300	MDL	900	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

10/7/2013 8:21:29 AM

ADR version 1.7.0.207

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6010B

Matrix: AQ

Sample ID: FWGLL2mw-265C-0321-GF

Collected: 8/21/2013 11:55:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	710	J	300	MDL	900	LOD	ug/L	J	RI

Sample ID: FWGLL2mw-267C-0358-GF

Collected: 8/21/2013 12:18:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NICKEL	3.7	J	2.2	MDL	5.0	LOD	ug/L	J	RI
POTASSIUM	670	J	300	MDL	900	LOD	ug/L	J	RI

Sample ID: FWGWBGmw-006C-0373-GF

Collected: 8/21/2013 10:40:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	820	J	300	MDL	900	LOD	ug/L	J	RI

Sample ID: FWGWBGmw-009C-0374-GF

Collected: 8/21/2013 9:35:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	370	J	300	MDL	900	LOD	ug/L	J	RI

Sample ID: FWGWBGmw-020-0330-GF

Collected: 8/21/2013 10:31:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NICKEL	3.6	J	2.2	MDL	5.0	LOD	ug/L	J	RI
POTASSIUM	590	J	300	MDL	900	LOD	ug/L	J	RI

Sample ID: FWGWBGmw-021-0331-GF

Collected: 8/21/2013 9:24:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ARSENIC	6.5	J	3.3	MDL	10	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

10/7/2013 8:21:29 AM

ADR version 1.7.0.207

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: METALS

Method: 6020

Matrix: AQ

Sample ID: FWGDETMw-004C-0344-GF

Collected: 8/20/2013 5:10:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.38	J	0.33	MDL	1.0	LOD	ug/L	J	RI

Sample ID: FWGLL1mw-083C-0354-GF

Collected: 8/21/2013 3:15:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CADMIUM	0.51	J	0.40	MDL	1.0	LOD	ug/L	J	RI
ZINC	39	J	27	MDL	50	LOD	ug/L	J	RI

Sample ID: FWGLL1mw-084C-0355-GF

Collected: 8/21/2013 2:05:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
IRON	50	J	44	MDL	100	LOD	ug/L	U	Cb

Sample ID: FWGWBGmw-009C-0374-GF

Collected: 8/21/2013 9:35:00

Analysis Type: RES/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	23	J B	20	MDL	60	LOD	ug/L	U	Mb
THALLIUM	1.0	J	0.79	MDL	1.5	LOD	ug/L	J	RI

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGFBQmw-174C-0345-GW

Collected: 8/21/2013 11:38:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DELTA-BHC	0.019	J	0.0089	MDL	0.020	LOD	ug/L	J	RI

Sample ID: FWGFWGmw-009-0319-GW

Collected: 8/21/2013 12:20:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TOXAPHENE	0.78	U	0.31	MDL	0.78	LOD	ug/L	UJ	Ms

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8081A

Matrix: AQ

Sample ID: FWGLL1mw-083C-0354-GW

Collected: 8/21/2013 3:15:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ENDOSULFAN II	0.014	J	0.011	MDL	0.019	LOD	ug/L	J	RI

Sample ID: FWGWBGmw-019-0329-GW

Collected: 8/21/2013 8:56:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BETA-BHC	0.011	J	0.0080	MDL	0.019	LOD	ug/L	J	RI

Method Category: SVOA

Method: 8270C - SVOC 1&3

Matrix: AQ

Sample ID: FWGNTAmw-119-0367-GW

Collected: 8/21/2013 9:22:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.42	J	0.22	MDL	0.50	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHthalate	0.72	J	0.66	MDL	0.99	LOD	ug/L	U	Mb, Eb

Method Category: SVOA

Method: 8270C -SVOC1

Matrix: AQ

Sample ID: FWGFBQmw-174C-0345-GW

Collected: 8/21/2013 11:38:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.82	J	0.22	MDL	0.51	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHthalate	1.1	J	0.68	MDL	1.0	LOD	ug/L	U	Mb, Eb

Sample ID: FWGFWGmw-007-0347-GW

Collected: 8/21/2013 3:04:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.48	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb

Sample ID: FWGLL1mw-065C-0353-GW

Collected: 8/21/2013 2:43:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.50	J	0.21	MDL	0.49	LOD	ug/L	U	Mb

\* denotes a non-reportable result

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8270C -SVOC1

Matrix: AQ

Sample ID: FWGLL1mw-083C-0354-GW Collected: 8/21/2013 3:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	1.1	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	1.6	J	0.64	MDL	0.95	LOD	ug/L	U	Mb, Eb

Sample ID: FWGLL1mw-084C-0355-GW Collected: 8/21/2013 2:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	1.8	J	0.22	MDL	0.49	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	1.1	J	0.66	MDL	0.98	LOD	ug/L	U	Mb, Eb

Sample ID: FWGLL1mw-086-0320-GW Collected: 8/21/2013 1:33:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	1.2	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.86	J	0.64	MDL	0.95	LOD	ug/L	U	Mb, Eb

Sample ID: FWGLL2mw-059C-0357-GW Collected: 8/21/2013 12:51:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	1.4	J	0.22	MDL	0.50	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	1.5	J	0.66	MDL	0.99	LOD	ug/L	U	Mb, Eb

Sample ID: FWGLL2mw-265C-0321-GW Collected: 8/21/2013 11:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	1.5	J	0.21	MDL	0.49	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	1.4	J	0.65	MDL	0.97	LOD	ug/L	U	Mb, Eb

Sample ID: FWGLL2mw-267C-0358-GW Collected: 8/21/2013 12:18:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.62	J	0.21	MDL	0.48	LOD	ug/L	U	Mb, Eb
DI-N-BUTYL PHTHALATE	0.81	J	0.64	MDL	0.95	LOD	ug/L	U	Mb, Eb

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8270C -SVOC1

Matrix: AQ

Sample ID:FWGWBGmw-006C-0373-GW

Collected: 8/21/2013 10:40:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.74	J	0.21	MDL	0.49	LOD	ug/L	U	Mb

Sample ID:FWGWBGmw-009C-0374-GW

Collected: 8/21/2013 9:35:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHthalate	0.64	J	0.21	MDL	0.48	LOD	ug/L	U	Mb
DI-N-BUTYL PHthalate	0.75	J	0.64	MDL	0.95	LOD	ug/L	U	Mb

Method Category: SVOA

Method: 8270C-SVOC4

Matrix: AQ

Sample ID:FWGDEtmw-004C-0344-GW

Collected: 8/20/2013 5:10:00

Analysis Type: RES-ACID Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.99	U	0.32	MDL	0.99	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHthalate	1.4	J	0.22	MDL	0.50	LOD	ug/L	U	Eb, Mb
DI-N-BUTYL PHthalate	0.85	J	0.66	MDL	0.99	LOD	ug/L	U	Eb, Mb

Sample ID:FWGEQUIPRINSE3-0342-GW

Collected: 8/21/2013 3:34:00

Analysis Type: RES-ACID Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.96	U	0.31	MDL	0.96	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHthalate	0.41	J	0.21	MDL	0.48	LOD	ug/L	U	Mb
DI-N-BUTYL PHthalate	1.0	J	0.64	MDL	0.96	LOD	ug/L	U	Mb

Sample ID:FWGFWGmw-009-0319-GW

Collected: 8/21/2013 12:20:00

Analysis Type: RES-ACID Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.97	U	0.31	MDL	0.97	LOD	ug/L	UJ	ProfJudg
BENZO(A)PYRENE	0.097	U J	0.050	MDL	0.097	LOD	ug/L	UJ	Ms
BIS(2-ETHYLHEXYL)PHthalate	0.34	J	0.21	MDL	0.49	LOD	ug/L	U	Eb, Mb

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8270C-SVOC4

Matrix: AQ

Sample ID: FWGWBGmw-018-0328-GW

Collected: 8/21/2013 10:03:00

Analysis Type: RES-ACID

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.95	U	0.30	MDL	0.95	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHTHALATE	0.31	J	0.21	MDL	0.48	LOD	ug/L	UJ	Eb, Mb, Fd

Sample ID: FWGWBGmw-019-0329-GW

Collected: 8/21/2013 8:56:00

Analysis Type: RES-ACID

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.95	U	0.30	MDL	0.95	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHTHALATE	0.49	J	0.21	MDL	0.48	LOD	ug/L	U	Eb, Mb
DI-N-BUTYL PHTHALATE	0.84	J	0.64	MDL	0.95	LOD	ug/L	U	Eb, Mb

Sample ID: FWGWBGmw-020-0330-GW

Collected: 8/21/2013 10:31:00

Analysis Type: RES-ACID

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.98	U	0.31	MDL	0.98	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHTHALATE	0.54	J	0.22	MDL	0.49	LOD	ug/L	U	Eb, Mb
DI-N-BUTYL PHTHALATE	0.76	J	0.66	MDL	0.98	LOD	ug/L	U	Eb, Mb

Sample ID: FWGWBGmw-021-0331-GW

Collected: 8/21/2013 9:24:00

Analysis Type: RES-ACID

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.95	U	0.30	MDL	0.95	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHTHALATE	0.65	J	0.21	MDL	0.48	LOD	ug/L	U	Eb, Mb
DI-N-BUTYL PHTHALATE	0.68	J	0.64	MDL	0.95	LOD	ug/L	U	Eb, Mb

Sample ID: FWGWBGmw-Dup4-0339-GW

Collected: 8/21/2013 11:03:00

Analysis Type: RES-ACID

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROPHENOL	0.95	U	0.30	MDL	0.95	LOD	ug/L	UJ	ProfJudg
BIS(2-ETHYLHEXYL)PHTHALATE	0.74	J	0.21	MDL	0.48	LOD	ug/L	U	Eb, Mb
DI-N-BUTYL PHTHALATE	1.5	J	0.64	MDL	0.95	LOD	ug/L	U	Eb, Mb

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: SVOA

Method: 8330

Matrix: AQ

Sample ID: FWGLL1mw-083C-0354-GW

Collected: 8/21/2013 3:15:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	6.5		0.032	MDL	0.051	LOD	ug/L	J	Surr
1,3-DINITROBENZENE	0.28		0.051	MDL	0.10	LOD	ug/L	J	Surr
2,4,6-TRINITROTOLUENE	4.5		0.051	MDL	0.10	LOD	ug/L	J	Surr
2,4-DINITROTOLUENE	2.9		0.051	MDL	0.10	LOD	ug/L	J	Surr
2,6-DINITROTOLUENE	1.5		0.051	MDL	0.10	LOD	ug/L	J	Surr
2-AMINO-4,6-DINITROTOLUENE	14		0.015	MDL	0.10	LOD	ug/L	J	Surr

Sample ID: FWGLL1mw-084C-0355-GW

Collected: 8/21/2013 2:05:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	2.4		0.032	MDL	0.052	LOD	ug/L	J	Surr
1,3-DINITROBENZENE	0.35		0.052	MDL	0.10	LOD	ug/L	J	Surr
2,4,6-TRINITROTOLUENE	12		0.052	MDL	0.10	LOD	ug/L	J	Surr
2,4-DINITROTOLUENE	1.4		0.052	MDL	0.10	LOD	ug/L	J	Surr
2,6-DINITROTOLUENE	0.95		0.052	MDL	0.10	LOD	ug/L	J	Surr
2-AMINO-4,6-DINITROTOLUENE	13		0.016	MDL	0.10	LOD	ug/L	J	Surr
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.1		0.037	MDL	0.052	LOD	ug/L	J	Surr
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.97		0.037	MDL	0.052	LOD	ug/L	J	Surr, ProfJudg

Sample ID: FWGLL2mw-059C-0357-GW

Collected: 8/21/2013 12:51:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.28		0.031	MDL	0.050	LOD	ug/L	J	ProfJudg

Method Category: VOA

Method: 8260B

Matrix: AQ

Sample ID: FWGEQUIPRINSE3-0342-GW

Collected: 8/21/2013 3:34:00

Analysis Type: RES

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	9.9	J	1.1	MDL	1.1	LOD	ug/L	U	Tb
METHYLENE CHLORIDE	0.81	J B	0.33	MDL	0.50	LOD	ug/L	UJ	Mb, Tb, ProfJudg, Ccv
TOLUENE	0.18	J	0.13	MDL	0.25	LOD	ug/L	J	RI

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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# Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

Method Category: VOA

Method: 8260B

Matrix: AQ

Sample ID:FWGFWGmw-009-0319-GW			Collected: 8/21/2013 12:20:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
ACETONE	1.2	J	1.1	MDL	1.1	LOD	ug/L	U	Eb, Tb	
Sample ID:FWGLL2mw-059C-0357-GW			Collected: 8/21/2013 12:51:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
ACETONE	1.4	J	1.1	MDL	1.1	LOD	ug/L	U	Eb	
Sample ID:FWGTeam1-Trip			Collected: 8/21/2013 8:00:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
METHYLENE CHLORIDE	0.47	J	0.33	MDL	0.50	LOD	ug/L	J	RI, Ccv	
Sample ID:FWGTeam2-Trip082013			Collected: 8/20/2013 5:08:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
METHYLENE CHLORIDE	0.69	J	0.33	MDL	0.50	LOD	ug/L	J	Ccv	
Sample ID:FWGTeam3-TRIP			Collected: 8/21/2013 8:00:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
METHYLENE CHLORIDE	0.77	J	0.33	MDL	0.50	LOD	ug/L	J	Ccv	
Sample ID:FWGTEAM4-TRIP			Collected: 8/21/2013 8:00:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
METHYLENE CHLORIDE	0.85	J B	0.33	MDL	0.50	LOD	ug/L	UJ	Mb, ProfJudg, Ccv	
Sample ID:FWGWBGmw-Dup4-0339-GW			Collected: 8/21/2013 11:03:00			Analysis Type: RES			Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
ACETONE	1.7	J	1.1	MDL	1.1	LOD	ug/L	U	Eb	

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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## Data Qualifier Summary

Lab Reporting Batch ID: 240-28186-1

Laboratory: TA CAN

EDD Filename: Prep240-28186-1

eQAPP Name: RVAAP 66-rev July 2012

### Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Eb	Equipment Blank Contamination
Fd	Field Duplicate Precision
Lcs	Laboratory Control Spike Upper Estimation
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Upper Estimation
Tb	Trip Blank Contamination

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.1 - RVAAP66 (OH)

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## Data Verification Summary

**Site: Ravenna Army Ammunition Plant**

**Sampling Event: August 2013**

**Workorder: R1306055**

**Date: October 2, 2013**

**Revision: 0**

Data Reviewer: Angye Dragotta /Environmental Quality Management, Inc. (EQM, Inc.)

### QA/QC Summary

On August 20, 2013 the following samples were collected from groundwater-monitoring wells at Ravenna Army Ammunition Plant and analyzed as part of work order R1306055. The hexavalent chromium analysis was performed by ALS Laboratories (formerly Columbia Analytical Services), Rochester, New York by method EPA 218.6.

FWGLL3mw-244-0323-GF

FWGLL12mw-247-0366-GF

FWGSCFmw-002-0327-GF

FWGLL12mw-DUP3-0338-GF

FWGEQUIPRinse2-0341-GW

The data presented in this report were evaluated according to the *Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January, 2012*. The following documents were used as needed to supplement the project documentation: The United States Department of Defense (DoD) Quality Services Manual (QSM) for Environmental Laboratories, Version 4.1, and the United States Army Corps of Engineers (USACE), Louisville District Quality Systems Manual Supplement (LS), *EPA National Functional Guidelines (NFG) for Organic Data Review, EPA-540/R-08-01, June 2008, NFG for Inorganic Data Review, EPA-540/R-04-004, October 2004*, Analytical Methods, and Laboratory Standard Operating Procedures. The QC criteria provided in the reference documents represent accuracy and precision performance goals for each analytical method. QC criteria reviewed for each method are listed below, along with any outliers.

All analytical results have been verified against compliance requirements specified in the project QAPP, QSM, LS, associated analytical methods and/or SOPs, as appropriate, and reported by the laboratory as directed by the DoD QSM.

Checklists used in review of the data have been presented in Appendix 1. Outliers have been noted below and results requiring qualification, as a result of this verification process, have been summarized in Appendix 2.

The completeness objective for the project was 90%. The completeness objective was met for this SDG, 100%. Limitations, if any, on the data are indicated with qualifiers detailed below.

### Hexavalent Chromium – 218.6

The following QC criteria were reviewed and determined to be acceptable, except as noted below:

- Holding times, preservation, sample handling
- Initial Calibration Criteria including SPCC and CCC compounds
- ICV/CCV criteria
- Retention times
- MRL verification criteria
- Method and Field blank Criteria
- Field duplicate RPD criteria
- Laboratory Control Sample criteria
- Matrix Spike Recovery Criteria and RPD

### Matrix Spike Analysis

The matrix spike and spike duplicate analyzed on sample FWGSCFmw-002-0327-GF recovered above laboratory control limits of 90-110% at 111% for the matrix spike and at 114% for the matrix spike duplicate. The hexavalent chromium results for samples FWGLL3mw-244-0323-GF and FWGEQUIPRINSE2-0341-GW were qualified as estimated, "J".

### Blanks



## **Data Verification Summary**

**Site:** Ravenna Army Ammunition Plant

**Sampling Event:** August 2013

**Workorder:** R1306055

**Date:** October 2, 2013

**Revision:** 0

Hexavalent chromium was detected in FWGEQUIPRinse2-0341-GW at 0.043µg/L. No qualification of the data was required as the detected hexavalent chromium concentrations were greater than 5x blank contamination.



### ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: 30174.0016.001.10.01	Batch Complete: Yes	Date Revised:
Submission: R1306055	Diskette Requested: Yes	Date Due: 9/4/13
Client: Environmental Quality Managemen	Date: 10/14/13	Protocol: MCAWW
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: RVAAP-66	Chain of Custody: Present/Absent:	SDG #: FWGLL3mw-244-0323-GF

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1306055-001	FWGLL3mw-244-0323-GF	Water	218.6 LL	8/20/13	8/21/13			
R1306055-002	FWGLL12mw-247-0366-GF	Water	218.6 LL	8/20/13	8/21/13			
R1306055-003QC	FWGSCFmw-002-0327-GF	Water	218.6 LL	8/20/13	8/21/13			
R1306055-004	FWGLL12mw-DUP3-0338-GF	Water	218.6 LL	8/20/13	8/21/13			
R1306055-005	FWGEQUIPRinse2-0341-GW	Water	218.6 LL	8/20/13	8/21/13			

Folder Comments: Need MRL check & ADR.net checker, DoD report





## SDG NARRATIVE

**ALS Environmental - Rochester, NY**  
1565 Jefferson Rd, Bldg. 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



## CASE NARRATIVE

**Client:** EQM  
**Project:** RVAAP - 66  
**Sample Matrix:** Water

**Service Request:** R1306055  
**Project Number:**  
**Date Received:** 08/21/13

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV deliverables. When appropriate to the method, method blank and LCS results have been reported with each analytical test.

### Sample Receipt

Samples were collected on 08/20/13 and received at ALS on 08/21/13 at a cooler temperature of 2.1 C in good condition except as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. All Dissolved parameters were filtered in the field except as noted on the chain of custody.

### Inorganic Analysis

Samples were analyzed for Hexavalent Chromium by method 218.6 Low Level.

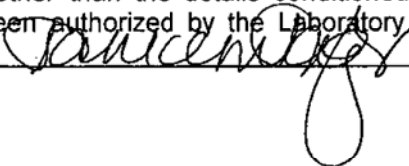
All initial and continuing calibration criteria were acceptable.

Site specific QC was performed on FWGSCFmw-002-0327-GF as requested. All Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries were outside limits and have been flagged with an "\*\*". All Laboratory Control Sample (LCS) recoveries and RPD's were acceptable.

The Method Blanks associated with these analyses were free of contamination.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the details conditioned above. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature. \_\_\_\_\_





ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Environmental Quality Management  
 Project: RVAAP-66/30174.0016.001.10.01  
 Sample Matrix: Water  
 Sample Name: FWGLL3mw-244-0323-GF  
 Lab Code: R1306055-001

Service Request: R1306055  
 Date Collected: 8/20/13 1229  
 Date Received: 8/21/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chromium, Hexavalent, Dissolved	218.6 LL	0.361	µg/L	0.020	0.010	1	NA	9/17/13 16:44	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Environmental Quality Management  
 Project: RVAAP-66/30174.0016.001.10.01  
 Sample Matrix: Water  
 Sample Name: FWGLL12mw-247-0366-GF  
 Lab Code: R1306055-002

Service Request: R1306055  
 Date Collected: 8/20/13 1301  
 Date Received: 8/21/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chromium, Hexavalent, Dissolved	218.6 LL	0.020	U	µg/L	0.020	0.010	1	NA	9/17/13 16:52	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Environmental Quality Management  
 Project: RVAAP-66/30174.0016.001.10.01  
 Sample Matrix: Water  
 Sample Name: FWGSCFmw-002-0327-GF  
 Lab Code: R1306055-003

Service Request: R1306055  
 Date Collected: 8/20/13 1208  
 Date Received: 8/21/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chromium, Hexavalent, Dissolved	218.6 LL	0.020	U	µg/L	0.020	0.010	1	NA	9/17/13 17:00	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Environmental Quality Management  
 Project: RVAAP-66/30174.0016.001.10.01  
 Sample Matrix: Water  
 Sample Name: FWGLL12mw-DUP3-0338-GF  
 Lab Code: R1306055-004

Service Request: R1306055  
 Date Collected: 8/20/13 1341  
 Date Received: 8/21/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chromium, Hexavalent, Dissolved	218.6 LL	0.020 U	µg/L	0.020	0.010	1	NA	9/17/13 17:09	



# ALS Group USA, Corp. dba ALS Environmental

## Analytical Report

**Client:** Environmental Quality Management  
**Project:** RVAAP-66/30174.0016.001.10.01  
**Sample Matrix:** Water  
**Sample Name:** FWGEQUIPRinse2-0341-GW  
**Lab Code:** R1306055-005

**Service Request:** R1306055  
**Date Collected:** 8/20/13 1342  
**Date Received:** 8/21/13

**Basis:** NA

## General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chromium, Hexavalent, Dissolved	218.6 LL	0.043	µg/L	0.020	0.010	1	NA	9/17/13 17:17	



*FEDERAL EXPRESS # 962788121086*

Project Name <b>RVAAP-106</b>		Project Number <b>30174.0016.001.10.01</b>		ANALYSIS REQUESTED (Include Method Number and Container Preservative)															
Project Manager <b>JOHN MILLER</b>		Report CC		PRESERVATIVE															
Company/Address <b>EDM C/O CETA</b>		Email <b>adragotta@egm.com</b>		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">NUMBER OF CONTAINERS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC/MS VOCs • 8260 • 824 • CLP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC/MS SVOCs • 8270 • 825</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC VOCs • 8021 • 601/602</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PESTICIDES • 8081 • 608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PCBs • 8082 • 608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS, TOTAL (List in comments below)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS, DISSOLVED (List in comments below)</div> </div>															
1800 CARLTON BLVD																			
CINCINNATI OH 45240																			
Phone # <b>513 742 71256</b>		Sampler's Signature <i>[Signature]</i>		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC/MS VOCs • 8260 • 824 • CLP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC/MS SVOCs • 8270 • 825</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC VOCs • 8021 • 601/602</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PESTICIDES • 8081 • 608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PCBs • 8082 • 608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS, TOTAL (List in comments below)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS, DISSOLVED (List in comments below)</div> </div>															
Sampler's Printed Name <b>Colleen A. Lear</b>				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC/MS VOCs • 8260 • 824 • CLP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC/MS SVOCs • 8270 • 825</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GC VOCs • 8021 • 601/602</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PESTICIDES • 8081 • 608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PCBs • 8082 • 608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS, TOTAL (List in comments below)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS, DISSOLVED (List in comments below)</div> </div>															
FOR OFFICE USE ONLY LAB ID		SAMPLING DATE		SAMPLING TIME		MATRIX		PRESERVATIVE KEY											
								0. NONE 1. HCL 2. HNO <sub>3</sub> 3. H <sub>2</sub> SO <sub>4</sub> 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO <sub>4</sub> 8. Other <i>Buffer Soln</i>											
CLIENT SAMPLE ID		DATE		TIME		MATRIX		REMARKS/ALTERNATE DESCRIPTION											
FWGL3mw-244-0323-GF		8/20/13		1209		GW		XXXX											
FWGL12mw-247-03106-GF		8/20/13		1306		GW		XXXX											
FWGLSCmw-002-0321-GF		8/20/13		1208		GW		XXXX											
FWGL12mw-DUP3-0338-GF		8/20/13		1341		GW		XXXX											
FWGLDUP1mw-2-034-GW		8/20/13		1342		GW		XXXX											
								MS/MSD											
								NOT FILTERED											
<i>APR 28/20/15</i>																			
SPECIAL INSTRUCTIONS/COMMENTS Metals <b>SHORT HOLD</b>  <b>FIELD FILTERED except Rinse.</b>								TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY)  1 day 2 day 3 day 4 day 5 day <b>Standard</b> REQUESTED REPORT DATE				REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data <input checked="" type="checkbox"/>				INVOICE INFORMATION PO # BILL TO:			
See QAPP <input type="checkbox"/>												<b>R1306055</b> Environmental Quality Management RVAAP-66 <b>5</b>							
STATE WHERE SAMPLES WERE COLLECTED <b>OHIO</b>																			
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED		RECEIVED		RELINQUISHED		RECEIVED					
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>					
Printed Name <b>John Miller</b>		Printed Name <b>FED EXP</b>		Printed Name <b>John Miller</b>		Printed Name <b>John Miller</b>		Printed Name <b>John Miller</b>		Printed Name <b>John Miller</b>		Printed Name <b>John Miller</b>		Printed Name <b>John Miller</b>					
Firm <b>EDM</b>		Firm <b>FED EXP</b>		Firm <b>EDM</b>		Firm <b>EDM</b>		Firm <b>EDM</b>		Firm <b>EDM</b>		Firm <b>EDM</b>		Firm <b>EDM</b>					
Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>		Date/Time <b>8/20/13</b>					





# Cooler Receipt and Preservation Check Form

Project/Client EQM Folder Number R13-6055

Cooler received on 8/21 by: JES COURIER: ALS UPS PEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 5.1

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 8/21/13 0800

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Room by JES on 8/21 at 0800  
5035 samples placed in storage location by on at

PC Secondary Review: 8/21/13

Cooler Breakdown: Date: 8/21/13 Time: 175L by: dn

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH									
≤2	HNO <sub>3</sub>									
≤2	H <sub>2</sub> SO <sub>4</sub>									
<4	NaHSO <sub>4</sub>									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						No = Samples were preserved at lab as listed
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-							PM OK to Adjust:
	Zn Aceta	-	-							
	HCl	*	*							

\*Not to be tested before analysis -- pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: Client label  
Other Comments: Cr6t: m112189H exp: 12/13

PC Secondary Review: 8/22/13 significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



# **Appendix I**



# Ravenna, OH Data Review Checklist

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/October 2, 2013

**SDG:** R1306055

**Analysis:** EPA 218.6

Review Questions:	Yes	No	N/A	Comments	QUAL/Criteria
1. Did Chain-of-Custody information agree with laboratory report?	✓				
2. Were samples preserved properly and received in good condition?	✓				pH verified to be with 9.3-9.7 with 24 hours of sampling, 4°C
3. Were holding times met?	✓				J/UJ/R
4. Were sample storage requirements met?	✓				
5. Does the initial calibration curve consist of at least 3 standards and one blank?	✓				
6. Was a MRL Level Verification performed at the beginning of every daily sequence? Were results within 70-130%?	✓				>130%=J; 65-70%=J/UJ; <65%=J/R
7. Was the ICB analyzed after the ICV with results <1/2 the MRL?	✓				< 5x = U
8. Was a CCV run at the beginning and end of the analytical sequence?	✓				
9. Were the CCV results 95-105%?	✓				>110%=J; <90%=J/UJ;
10. Was a method blank prepared and analyzed with each batch?	✓				
11. Were target analytes detected in the method blank?		✓		Checked by ADR.	LCG Table 10 <5x=B
12. Was a field blank collected and analyzed?	✓			Hexavalent chromium was detected in FWGEQUIPRinse2-0341-GW at 0.043µg/L. No qualification of the data was required as the detected hexavalent chromium concentrations were greater than 5x blank contamination.	
13. Were target analytes in the field blank analyses <1/2 the MRL?	✓				<5x=B
14. Was a field duplicate analyzed? Were the RPDs ≤30%?	✓			Checked by ADR.	>30% = J
15. Was an LCS prepared and analyzed with each batch?	✓				
16. Were the LCS recoveries within lab limits%?	✓			Checked by ADR.	>UL=J; <LL=J/UJ;



# **Ravenna, OH Data Review Checklist**

**Project Number:** 030174.0016

**Sample Event:** August 2013

**Data Reviewer/Date:** Angye Dragotta/October 2, 2013

**SDG:** R1306055

**Analysis:** EPA 218.6

<b>Review Questions:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>	<b>QUAL/Criteria</b>
17. Was a MS prepared once per every 10 samples?	✓				LCG Table 10
18. Was the MS parent a Ravenna sample?	✓				
19. Were MS/MSD recoveries within lab limits%?		✓		The matrix spike and spike duplicate analyzed on sample FWGSCFmw-002-0327-GF recovered above laboratory control limits of 90-110% at 111% for the matrix spike and at 114% for the matrix spike duplicate. The hexavalent chromium results for samples FWGLL3mw-244-0323-GF and FWGEQUIPRINSE2-0341-GW were qualified as estimated, "J".	>UL=J; <LL=J/UJ;
20. Were reported sample concentrations within calibration range?	✓				

References:

DoD Quality Systems Manual (QSM), version 4.1, October 2010

Louisville DoD Quality Systems Manual Supplement (LS), Version 1 March 2007

Final Facility Wide Groundwater Monitoring Program, RVAAP-66 Facility Wide Groundwater Quality Assurance Project Plan (QAPP) Addendum for the Ravenna Army Ammunition Plant, Ravenna, OH, Environmental Quality Management, January 2012

Final Facility Wide Quality Assurance Project Plan for Environmental Investigations Groundwater for the Ravenna Army Ammunition Plant, Ravenna, OH, SAIC, February 2011

Additional Comments:



## **Appendix II**



## Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
<b><i>SDG: R1306055</i></b>										
218.6	FWGEQUIPRinse2-0341-GW	AQ	EB	Hexavalent Chromium	0.020	0.043		J	ug/L	Ms
218.6	FWGLL3mw-244-0323-GF	AQ	N	Hexavalent Chromium	0.020	0.361		J	ug/L	Ms



## Data Qualifier Summary

Lab Reporting Batch ID: R1306055

Laboratory: CAS\_R

EDD Filename: PrepR1306055

eQAPP Name: RVAAP Cr6+ rev1

Method Category: METALS

Method: 218.6

Matrix: AQ

Sample ID: FWGEQUIPRinse2-0341-GW

Collected: 8/20/2013 1:42:00

Analysis Type: RES/DIS

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HEXAVALENT CHROMIUM	0.043		0.010	MDL	0.020	PQL	ug/L	J	Ms

Sample ID: FWGLL3mw-244-0323-GF

Collected: 8/20/2013 12:29:00

Analysis Type: RES/DIS

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HEXAVALENT CHROMIUM	0.361		0.010	MDL	0.020	PQL	ug/L	J	Ms

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.01 - RVAAP-66

10/11/2013 4:22:07 PM

ADR version 1.7.0.207

Page 1 of 2



## ***Data Qualifier Summary***

Lab Reporting Batch ID: R1306055

EDD Filename: PrepR1306055

Laboratory: CAS\_R

eQAPP Name: RVAAP Cr6+ rev1

### **Reason Code Legend**

<b><i>Reason Code</i></b>	<b><i>Description</i></b>
Ms	Matrix Spike Upper Estimation

\* denotes a non-reportable result

Project Name and Number: 30174.0016.001.10.01 - RVAAP-66

10/11/2013 4:22:07 PM

ADR version 1.7.0.207

Page 2 of 2



## **APPENDIX D**

### **INVESTIGATION-DERIVED WASTE CHARACTERIZATION AND DISPOSAL PLAN**





John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

November 21, 2013

Mr. Brett Merkel  
Army National Guard Directorate  
ARNGD-ILE Clean Up  
111 South George Mason Drive  
Arlington, VA 22203

**CERTIFIED MAIL**

7012 3050 0001 8838 1267

AND

Mr. Mark Patterson  
Installation Manager  
Ravenna Army Ammunition Plant  
8451 State Route 5  
Ravenna, OH 44266

**CERTIFIED MAIL**

7012 3050 0001 8838 5075

**RE: RAVENNA ARMY AMMUNITION PLANT, PORTAGE/TRUMBULL COUNTIES,  
APPROVAL, INVESTIGATION DERIVED WASTE CHARACTERIZATION AND  
DISPOSAL PLAN, FWGWMP, DATED NOVEMBER 7, 2013, OHIO EPA ID #  
267-000859-036**

Dear Mr. Patterson:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Investigation Derived Waste Characterization and Disposal Plan (IDW) for the August 2013 Sampling Event" associated with the Facility-Wide Groundwater Monitoring Program. The Plan is for waste generated during the ground water sampling event of August 2013 at the Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio. The waste included three 55 gallon drums of purge water and decontamination waters associated with the event. This document was received at Ohio EPA, Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on November 15, 2013, and the cover letter is dated November 7, 2013. The document was prepared for the U.S. Army Corps of Engineers - Louisville District by Environmental Quality Management, Inc. (EQM) under Contract No. W912QR-11-F-0266.

**Scanned**

By:  
Date:

Northeast District Office • 2110 East Aurora Road • Twinsburg, OH 44087-1924  
www.epa.ohio.gov • (330) 963-1200 • (330) 487-0769 (fax)

**RECEIVED**

**E-MAILED**



MR. BRETT MERKEL, ARMY NATIONAL GUARD  
MR. MARK PATTERSON, RAVENNA ARMY AMMUNITION PLANT  
NOVEMBER 21, 2013  
PAGE 2

The report is approved and Ohio EPA concurs that the IDW (3 drums of waste water), generated August 2013, may be disposed of as non-hazardous and sent offsite to a permitted water treatment facility.

If you have any questions, please call me at (330) 963-1292.

Sincerely,



Kevin M. Palombo  
Environmental Specialist  
Division of Environmental Response and Revitalization

KP/nvr

cc: Katie Tait, OHARNG RTLS  
Kevin Sedlak, ARNG- RVAAP  
Cullen Grasty, USACE

ec: Nancy Zikmanis, Ohio EPA, NEDO, DERR  
Rod Beals, Ohio EPA, NEDO, DERR  
Justin Burke, Ohio EPA, CO, DERR



**VEXOR Technology, Inc.**

955 West Smith Road  
 Medina, Ohio 44256  
 Phone: 330-721-9773  
 FAX: 330-721-9438  
 BPA ID# OH077772895  
 www.vexortechnology.com

**MATERIAL CHARACTERIZATION**

\* RE CERTIFICATION REQUEST

Approval # 17345  
 Sample # \_\_\_\_\_  
 Sales Rep \_\_\_\_\_  
 Date Submitted 8/11/11

E-mail: Vexorohio@aol.com

Generator RAVENNA ARMY AMMUNITIONS PLANT  
 Site Address 8451 ST. RT. 9  
 City RAVENNA State OH ZIP 44266  
 Phone 330.721.9773 Fax 330.721.9438  
 BPA ID# OH077772895 SIC Code \_\_\_\_\_  
 Technical Contact JOHN MILLER - ERM  
 Title PROTECT MANAGER e-mail jmill@epam.com

Bill To Name EMERALD ENVIRONMENTAL SVCS.  
 Site Address 1021 ST. ALAIR AVE.  
 City KENT State OH ZIP 44240  
 Phone 330.677.0785 Fax 330.677.1567  
 Business Contact DANIS ARCHACKI  
 Title PRO. MANAGER e-mail darchacki@emerald-environmental.com

**MATERIAL DESCRIPTION**

Name and Description of Material: MONITORING WELL PUMPS WATER  
 Process Generating Material: GROUNDWATER FROM WELLS U.S. BPA Hazardous Waste: Yes ☐ No ☒  
 Proper DOT shipping name: NON DOT REGULATED MATERIAL  
 Method of Shipment: Bulk ☐ Drum ☒ Tote ☐ Cubic Yd Box ☐ Other/Explain: \_\_\_\_\_  
 Estimated Annual Volume: \_\_\_\_\_ Cubic Yards \_\_\_\_\_ Tons \_\_\_\_\_ Gallons 20 Drums 75 Container material (metal/plastic, etc.) metal  
 Frequency: One Time Only ☐ Daily ☐ Weekly ☐ Monthly ☐ Other- explain OTHER Approx drum weight 300 lbs  
 Special Handling Instructions: NA  
 Preferred Disposal Method: Landfill ☐ Waste to Energy ☐ Recycling ☐ Other ☐

**MATERIAL PROPERTIES AT 78°F**

a) Physical State: Solid ☐ Semi-solid ☐ Powder ☒ Liquid ☐ Phases \_\_\_\_\_  
 b) Reactivity: Water reactive ☐ Acid Reactive ☐ Alkaline Reactive ☐ Oxidizer ☐ Auto setting ☒ none  
 c) Flash Point, °F: ≤ 72 ☐ > 72-100 ☐ > 100-140 ☐ > 140-200 ☐ > 200 ☒ NA  
 d) S. G./Density 1.0 e) pH: ≤ 2 ☐ > 2-6 ☒ > 6-9 ☐ > 9-12.5 ☐ ≥ 12.5 ☐ NA  
 f) Odor: ☒ None ☐ Mild ☐ Strong: Describe: \_\_\_\_\_ g) Color \_\_\_\_\_  
 h) Total Organic Halogen (TOX) ☒ 0 ppm ☐ > 1000 ppm\* If this material is considered a "USBD OIL" and is to be managed as a USBD OIL, please complete the "USBD OIL" ADDENDUM and attach to this profile.  
 i) PCB Content: ☒ 0 ppm ☐ 1-49 ppm\* ☐ equal to or > 50 ppm \*Supporting analysis and documentation required.

**MATERIAL COMPOSITION: List all components, add up to 100%.**

Constituent	Range % (wt-vol)	
	Min	Max
<u>GROUNDWATER</u>	<u>99</u>	<u>100</u>
<u>SEDIMENT</u>	<u>1</u>	<u>5.0%</u>

A combined total should equal 100%

Above is based on: Generator Knowledge ☐ Analytical Data ☐ MSDS ☐  
 Please attach analysis, TCLP information and appropriate MSDS sheets.  
 SAMPLE SUBMITTED WITH THIS PROFILE: Yes ☐ No ☐

**For VEXOR Use Only**

Evaluated by: hmg  
 Approved - Treatment: WT  
 Rejected - Reason: \_\_\_\_\_  
 Date Completed: 08/16/11  
 Price: \_\_\_\_\_ /Unit  
 Approved By: AD Date: 8/16/11

**GENERATOR CERTIFICATION**

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the material being offered for disposal. Samples of this material submitted to VEXOR are representative of the material described in this profile. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for treatment, processing or recycling or attempt to deliver for same any material that is classified as toxic waste, hazardous waste, medical or infectious waste or any other material that this facility is prohibited from accepting by law.

Authorized Representative Name (Printed) Mark Patterson  
 Authorized Representative Signature Mark Patterson

Company U.S. Army Ravenna Army  
 Title Fac. Manager Date 8/3/11

Ammo.  
Plant



**DRAFT**

**FACILITY-WIDE GROUNDWATER MONITORING PROGRAM  
RVAAPP-66 FACILITY-WIDE GROUNDWATER**

**INVESTIGATION-DERIVED WASTE CHARACTERIZATION  
AND DISPOSAL PLAN  
AUGUST 2013 SAMPLING EVENT REPORT**

**RAVENNA ARMY AMMUNITION PLANT,  
RAVENNA, OHIO**

**November 13, 2013**

**GSA Contract Number GS-10F-0293K  
Delivery Order W912QR-11-F-0266**

**Prepared for:**

**U.S. Army Corps of Engineers  
600 Martin Luther King Jr. Place  
Louisville, Kentucky 40202**

**Prepared by:**

**Environmental Quality Management, Inc.  
1800 Carillon Boulevard  
Cincinnati, Ohio 45240**



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**APPENDICES**

A Investigation-Derived Waste Analytical Report



## ACRONYMS

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4	AOC	Area of Concern
5	B12	Building 1200
6	BKG	Background Well
7	CBL	C Block Quarry
8	CBP	Central Burn Pits
9	EBG	Erie Burning Grounds
10	EQM	Environmental Quality Management, Inc.
11	EPA	Environmental Protection Agency
12	°F	Degrees Fahrenheit
13	FWGWMPP	Facility-Wide Groundwater Monitoring Program Plan
14	FWSAP	Facility-Wide Sampling and Analysis Plan
15	gal	Gallon
16	IDW	Investigation-derived Waste
17	mg/L	Milligram per Liter
18	NTA	NACA Test Area
19	ODA2	Open Demolition Area #2
20	RCRA	Resource Conservation and Recovery Act
21	RQL	Ramsdell Quarry Landfill
22	RVAAP	Ravenna Army Ammunition Plant
23	SAP	Sampling and Analysis Plan
24	SCF	Sharon Conglomerate Formation
25	SVOC	Semi-volatile Organic Compounds
26	TCLP	Toxicity Characteristic Leaching Procedure
27	USACE	United States Army Corps of Engineers
28	VOC	Volatile Organic Compounds
29	WBG	Winklepeck Burning Grounds



## 1.0 INTRODUCTION

Investigative activities were conducted during the Facility-Wide Groundwater Monitoring Program sampling events in August 2013 at the Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio, resulting in the generation of investigation-derived wastes (IDW) comprising purge water and equipment decontamination wastewater. The IDW purge water was generated in the course of field activities at each well. The IDW decontamination waters were generated from the cleaning and decontamination of non-dedicated equipment used to sample the wells. The purpose of this report is to characterize and classify the IDW for proper disposal. The report includes:

- A summary of the IDW generated and its origin.
- A review of the analytical results used for waste characterization.
- Classification of the IDW per the *Facility Wide Sampling and Analysis Plan* (FWSAP).
- Recommendations for disposal.

This document follows guidance established by the United States Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency (EPA) regarding IDW disposition at RVAAP.



## 2.0 OPERATIONAL HISTORY AND WASTE GENERATION

Information regarding the operational history and suspected contaminants for the Facility-Wide Groundwater Monitoring Program Plan (FWGWMPP) is presented in Section 1.2 of the *Final Part 1 - Sampling and Analysis Plan Addendum for the Facility-Wide Groundwater Monitoring Program Plan at the Ravenna Army Ammunition Plant, Ravenna, Ohio* (SAP Addendum; Portage, 2004). Section 4.6 of the SAP Addendum describes procedures used for sampling and managing IDW at RVAAP.

Water (purged groundwater and decontamination water) IDW was generated during the August 2013 sampling event (53 wells). The purge water collected from the sampled areas of concern (AOCs) was stored in drums labeled for purge water disposal. Purge water was generated in accordance with the FWSAP, Section 5.4.4.2 (SAIC, 2011) under the micropurging criteria. Decontamination water was generated from the washing, rinsing, and decontamination procedures used for all non-dedicated sampling equipment. The decontamination water was stored in a drum separate from the purge water. These decontamination procedures are described in Section 5.4.8 of the FWSAP.

The drum container label, type and size of the drum container used, estimated volume per drum, and the source of purge wastewater or decontamination fluid is presented in Table 2-1.

**Table 2-1. IDW Inventory of Drums**

Drum Label	Drum Type & Size	Contents	Estimated Volume	Location/ Source
EQM 2013-4	55-gal Steel	Decontamination/Rinse Water	~35 gallons	Equipment Rinse/ Decontamination
EQM 2013-5	55-gal Steel	Purge Water	~55 gallons	Load Lines 1, 2, 3, 10, and 12, EBG, ODA2, B12, NTA, RQL, WBG, BKG, SCF, and FWG wells
EQM 2013-6	55-gal Steel	Purge Water	~55 gallons	Load Lines 1, 2, 3, 10, and 12, EBG, ODA2, B12, NTA, RQL, WBG, BKG, SCF, and FWG wells

EBG = Erie Burning Grounds

ODA2 = Open Demolition Area 2

WBG = Winklepeck Burning Grounds

B12 = Building 1200

RQL = Ramsdell Quarry Landfill

NTA = NACA Test Area

FWG = New Facility-Wide Groundwater wells

SCF = Sharon Conglomerate Formation



### 3.0 MANAGEMENT OF ENVIRONMENTAL MEDIA

All environmental media were managed in a manner that minimized potential risk to human health and the environment. Investigation-derived waste was handled as nonhazardous material pending waste characterization and classification based on analytical results. The FWSAP and the Sampling and Analysis Plan (SAP) Addendum describe approved procedures used for containerizing and handling IDW.

All purged groundwater IDW generated from each micropurging event was placed into a 55-gal drum as previously agreed upon by RVAAP, USACE, and Ohio EPA. The purge water was transferred daily from each well location after sampling via closed-top 5-gal buckets to the appropriately labeled 55-gal drum located and staged on a wooden pallet inside Building 1036.



#### 4.0 DISCUSSION OF ANALYTICAL RESULTS

As described in Section 8.4 of the FWSAP (IDW Characterization and Classification for Disposal), all IDW were characterized for disposal by taking composite samples collected from each of the segregated waste streams. There were only two segregated waste streams during this sampling event that required characterization: one for the generated purge water and one for the decontamination wastewater. A composite sample was taken of each waste stream using a disposable bailer until a total of approximately 4 liters was withdrawn in equal amounts from all drums of that particular waste stream. Each waste stream composite sample was submitted to TestAmerica Laboratories in North Canton, Ohio, for full toxicity characteristic leaching procedure (TCLP) analysis in accordance with the FWSAP using the following methods:

- TCLP mercury by EPA Method SW-846 1311/7470A.
- TCLP metals (silver, arsenic, barium, cadmium, chromium, lead, and selenium) by EPA Method SW-846 1311/6010B.
- TCLP semivolatile organic compounds (SVOCs) by EPA Method SW-846 1311/8270C.
- TCLP volatile organic compounds (VOCs) by EPA Method SW-846 1311/8260B.
- TCLP pesticides by EPA Method SW-846 1311/8081A
- TCLP herbicides by EPA Method SW-846 1311/8151A
- Total cyanide by EPA Method SW-846 9012A
- Sulfide by EPA Method SW-846 9034
- Flashpoint by EPA Method SW-846 1010
- pH by EPA Method SW-846 9040B

A trip blank was submitted with the samples and analyzed for VOCs. The IDW analytical results are presented in Appendix A.



## 5.0 RECOMMENDATIONS FOR DISPOSAL

Table 8-1 in the FWSAP presents the maximum concentrations of contaminants for the toxicity characteristic for hazardous wastes as per 40 CFR 261.24. Analytical results for the IDW generated during the 2013 groundwater sampling event were compared against these criteria to determine whether the waste streams generated were potentially hazardous or non-hazardous.

### 5.1 Purge Water

During micro-purging of the monitoring wells, liquid IDW was generated and sampled. The analytical results for the purged groundwater were compared to the regulatory levels from Table 8-1 in the FWSAP. The regulatory criteria for Resource Conservation and Recovery Act (RCRA) hazardous waste determinations were not exceeded. Table 5-1 presents the detected results compared to the regulatory characteristics for hazardous wastes as per 40 CFR 261.24.

EQM recommends that the drums containing purged groundwater be classified as non-hazardous and be sent offsite for disposal to a permitted water treatment facility in accordance with Section 8.0 of the FWSAP.

**Table 5-1. Detected Analytical Results When Compared to USEPA Regulatory Characteristic Levels (40 CFR 261.20 - 24)**

Sample ID	Detected Contaminant	Detected Result (mg/L)	Regulatory Level <sup>1</sup> (mg/L)	Above Regulatory Yes/No
FWG-IDW-MWPURGEAUG2013	Barium	0.045 J B	100	No
	Flashpoint	>180°F	<140°F	No
	pH <sup>2</sup>	7.68	<2 or >12.5	No
FWG-IDW-MWDECONAUG2013	Arsenic	0.0036 J	5.0	No
	Barium	0.020 J B	100	No
	Chromium	0.039 J	5.0	No
	Lead	0.0056 J	5.0	No
	Flashpoint	>180°F	<140°F	No
	pH <sup>2</sup>	9.25	<2 or >12.5	No
TRIP BLANK (totals analysis)	No Detections	NA	NA	NA

<sup>1</sup> = USEPA Regulatory Characteristic Levels (40 CFR 261.20 through 24).

<sup>2</sup> = pH measured in Standard Units (S.U.).

J = estimated result. Result is less than reporting limit.

B = blank contamination.

NA = not applicable.



## 5.2 Decontamination Fluids

A composite sample was collected of the decontamination fluids generated during cleaning of non-dedicated sampling equipment. The analytical results indicated that all analytes were below TCLP threshold values. Therefore, the decontamination wastewater should be classified as non-hazardous and sent offsite to a permitted water treatment facility for disposal in accordance with Section 8.0 of the FWSAP.

## 5.3 Summary of Disposal Recommendations

It is recommended that all drums be classified as contaminated but non-hazardous. They should be sent offsite to a permitted water treatment facility for disposal. The TCLP test results for both composite samples show that no chemical was detected at hazardous waste levels. Table 5-2 presents a summary of each drum and the recommended disposal options for the waste streams.

**Table 5-2. Summary of Drum Containers, TCLP/Characteristic Waste Criteria, and Disposal Recommendations**

<b>Drum Container Label</b>	<b>Media</b>	<b>TCLP Criteria</b>	<b>Disposal Recommendation</b>
EQM 2013-4	Water	Maximum concentration of contaminants NOT exceeded	Offsite disposal as non- hazardous waste
EQM 2013-5	Water	Maximum concentration of contaminants NOT exceeded	Offsite disposal as non- hazardous waste
EQM 2013-6	Water	Maximum concentration of contaminants NOT exceeded	Offsite disposal as non- hazardous waste



## 6.0 REFERENCES

- Science Applications International Corporation (SAIC). February 24, 2011. *Final Facility-Wide Sampling and Analysis Plan for Environmental Investigations, Ravenna Army Ammunition Plant, Ravenna, Ohio.*
- Portage Environmental. 2004. *RVAAP Facility Wide Groundwater Monitoring Program Plan.*



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**APPENDIX A**  
**INVESTIGATION-DERIVED WASTE**  
**ANALYTICAL REPORT**



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Canton  
4101 Shuffel Street NW  
North Canton, OH 44720  
Tel: (330)497-9396

TestAmerica Job ID: 240-28199-1  
Client Project/Site: RVAAP 66 (OH) - IDW

For:  
Environmental Quality Mgt., Inc.  
1800 Carillon Blvd  
Cincinnati, Ohio 45240

Attn: Mr. Erik Corbin



Authorized for release by:  
8/30/2013 5:15:20 PM

Mark Loeb, Project Manager II  
mark.loeb@testamericainc.com

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

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

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

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## Definitions/Glossary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Qualifiers

#### GC/MS VOA

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

#### GC/MS Semi VOA

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

#### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
U	Indicates the analyte was analyzed for but not detected.

### General Chemistry

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
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
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: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Job ID: 240-28199-1

Laboratory: TestAmerica Canton

Narrative

### CASE NARRATIVE

Client: Environmental Quality Mgt., Inc.

Project: RVAAP 66 (OH) - IDW

Report Number: 240-28199-1

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 some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 08/22/2013; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 5.8 and 6.0 C.

#### TCLP VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for TCLP volatile organic compounds (GCMS) in accordance with EPA SW-846 Methods 1311/8260B. The samples were leached on 08/22/2013 and analyzed on 08/28/2013.

Sample FWG-IDW-MWDECONAUG2013 (240-28199-2)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following volatiles sample(s) was diluted due to foaming at the time of purging during the original sample analysis:  
FWG-IDW-MWDECONAUG2013. Elevated reporting limits (RLs) are provided.

No other difficulties were encountered during the VOCs analysis. All quality control parameters were within the acceptance limits.

#### VOLATILE ORGANIC COMPOUNDS (GCMS)



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Job ID: 240-28199-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

Sample FWG-IDW-MWTB-AUG2013 (240-28199-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/29/2013.

No difficulties were encountered during the VOCs analysis. All quality control parameters were within the acceptance limits.

#### TCLP SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for TCLP semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Methods 1311/8270C. The samples were leached on 08/22/2013, prepared on 08/23/2013 and analyzed on 08/28/2013.

Surrogates are added during the extraction process prior to dilution. When the sample is diluted, surrogate recoveries are diluted out and no corrective action is required.

Internal standard responses for Perylene-d12 was outside of acceptance limits for the following sample(s):  
FWG-IDW-MWDECONAUG2013. The sample(s) shows evidence of matrix interference.

No other difficulties were encountered during the SVOCs analysis. All quality control parameters were within the acceptance limits.

#### TCLP CHLORINATED PESTICIDES

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for TCLP chlorinated pesticides in accordance with EPA SW-846 Methods 1311/8081A. The samples were leached on 08/22/2013, prepared on 08/23/2013 and analyzed on 08/27/2013.

DCB Decachlorobiphenyl failed the surrogate recovery criteria low for FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWDECONAUG2013MS (240-28199-2MS).

The grand mean exception, as outlined in EPA Method 8000B, was applied to the opening and closing continuing calibration verification (CCV) standards associated with batch 99059. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average %D (the grand mean) of all the compounds in the CCV is less than or equal to 15%D. The samples associated with these CCVs FWG-IDW-MWDECONAUG2013, FWG-IDW-MWPURGEAUG2013 were non-detect for the affected analytes; therefore the data have been reported.

The opening and closing Technical Chlordane continuing calibration verifications (CCV) associated with batch 99059 recovered above the upper control limits. The samples associated with these CCVs FWG-IDW-MWDECONAUG2013, FWG-IDW-MWPURGEAUG2013 were non-detects for the affected analyte; therefore the data have been reported.

Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: FWG-IDW-MWDECONAUG2013. These results have been reported and qualified.

No other difficulties were encountered during the pesticides analysis. All other quality control parameters were within the acceptance limits.

#### TCLP CHLORINATED HERBICIDES

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for TCLP chlorinated herbicides in accordance with EPA SW-846 Methods 1311/8151A. The samples were leached on 08/22/2013, prepared on 08/26/2013 and analyzed on 08/27/2013.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

No difficulties were encountered during the herbicides analysis. All quality control parameters were within the acceptance limits.

#### TCLP METALS (ICP)

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for TCLP



## Case Narrative

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Job ID: 240-28199-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

metals (ICP) in accordance with EPA SW-846 Methods 1311/6010B. The samples were leached on 08/22/2013, prepared on 08/23/2013 and analyzed on 08/26/2013.

Barium was detected in method blanks LB 240-98607/1-D and MB 240-98699/2-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

#### TCLP MERCURY

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 08/22/2013, prepared on 08/23/2013 and analyzed on 08/27/2013.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

#### FLASHPOINT

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for flashpoint in accordance with EPA SW-846 Method 1010. The samples were analyzed on 08/26/2013.

No difficulties were encountered during the flashpoint analysis. All quality control parameters were within the acceptance limits.

#### TOTAL CYANIDE

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/23/2013 and 08/26/2013.

No difficulties were encountered during the cyanide analysis. All quality control parameters were within the acceptance limits.

#### SULFIDE

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for sulfide in accordance with EPA SW-846 Method 9034. The samples were prepared and analyzed on 08/26/2013.

No difficulties were encountered during the sulfide analysis. All quality control parameters were within the acceptance limits.

#### PH

Samples FWG-IDW-MWDECONAUG2013 (240-28199-2) and FWG-IDW-MWPURGEAUG2013 (240-28199-3) were analyzed for pH in accordance with EPA SW-846 Method 9040B. The samples were analyzed on 08/22/2013.

No difficulties were encountered during the pH analysis. All quality control parameters were within the acceptance limits.



## Method Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
8081A	Organochlorine Pesticides (GC)	SW846	TAL CAN
8151A	Herbicides (GC)	SW846	TAL CAN
6010B	Metals (ICP)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW846	TAL CAN
9012A	Cyanide, Total and/or Amenable	SW846	TAL CAN
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL CAN
9040B	pH	SW846	TAL CAN

### Protocol References:

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

### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



## Sample Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-28199-1	FWG-IDW-MWTB-AUG2013	WQ	08/21/13 16:00	08/22/13 07:00
240-28199-2	FWG-IDW-MWDECONAUG2013	Water	08/21/13 16:20	08/22/13 07:00
240-28199-3	FWG-IDW-MWPURGEAUG2013	Water	08/21/13 16:50	08/22/13 07:00



## Detection Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWTB-AUG2013

Lab Sample ID: 240-28199-1

No Detections.

Client Sample ID: FWG-IDW-MWDECONAUG2013

Lab Sample ID: 240-28199-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0036	J	0.50	0.0032	mg/L	1		6010B	TCLP
Barium	0.020	J B	10	0.00067	mg/L	1		6010B	TCLP
Chromium	0.039	J	0.50	0.0022	mg/L	1		6010B	TCLP
Lead	0.0056	J	0.50	0.0019	mg/L	1		6010B	TCLP
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
pH	9.25		0.100	0.100	SU	1		9040B	Total/NA

Client Sample ID: FWG-IDW-MWPURGEAUG2013

Lab Sample ID: 240-28199-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.045	J B	10	0.00067	mg/L	1		6010B	TCLP
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
pH	7.68		0.100	0.100	SU	1		9040B	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWTB-AUG2013

Lab Sample ID: 240-28199-1

Date Collected: 08/21/13 16:00

Matrix: WQ

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/29/13 17:25	1
1,2-Dichloroethane	1.0	U	1.0	0.22	ug/L			08/29/13 17:25	1
Benzene	1.0	U	1.0	0.13	ug/L			08/29/13 17:25	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/29/13 17:25	1
Chlorobenzene	1.0	U	1.0	0.15	ug/L			08/29/13 17:25	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/29/13 17:25	1
2-Butanone (MEK)	10	U	10	0.57	ug/L			08/29/13 17:25	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/29/13 17:25	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/29/13 17:25	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/29/13 17:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		63 - 129		08/29/13 17:25	1
4-Bromofluorobenzene (Surr)	78		66 - 117		08/29/13 17:25	1
Toluene-d8 (Surr)	83		74 - 115		08/29/13 17:25	1
Dibromofluoromethane (Surr)	104		75 - 121		08/29/13 17:25	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWDECONAUG2013

Lab Sample ID: 240-28199-2

Date Collected: 08/21/13 16:20

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.050	U	0.050	0.019	mg/L			08/28/13 23:05	2
1,2-Dichloroethane	0.050	U	0.050	0.022	mg/L			08/28/13 23:05	2
2-Butanone (MEK)	0.50	U	0.50	0.057	mg/L			08/28/13 23:05	2
Benzene	0.050	U	0.050	0.013	mg/L			08/28/13 23:05	2
Carbon tetrachloride	0.050	U	0.050	0.013	mg/L			08/28/13 23:05	2
Chlorobenzene	0.050	U	0.050	0.015	mg/L			08/28/13 23:05	2
Chloroform	0.050	U	0.050	0.016	mg/L			08/28/13 23:05	2
Tetrachloroethene	0.050	U	0.050	0.029	mg/L			08/28/13 23:05	2
Trichloroethene	0.050	U	0.050	0.017	mg/L			08/28/13 23:05	2
Vinyl chloride	0.050	U	0.050	0.022	mg/L			08/28/13 23:05	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 121		08/28/13 23:05	2
4-Bromofluorobenzene (Surr)	95		70 - 124		08/28/13 23:05	2
Toluene-d8 (Surr)	97		90 - 115		08/28/13 23:05	2
Dibromofluoromethane (Surr)	96		84 - 128		08/28/13 23:05	2

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		08/23/13 11:30	08/28/13 17:33	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		08/23/13 11:30	08/28/13 17:33	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00024	mg/L		08/23/13 11:30	08/28/13 17:33	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00025	mg/L		08/23/13 11:30	08/28/13 17:33	1
Hexachlorobenzene	0.020	U	0.020	0.000085	mg/L		08/23/13 11:30	08/28/13 17:33	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		08/23/13 11:30	08/28/13 17:33	1
Hexachloroethane	0.020	U	0.020	0.00019	mg/L		08/23/13 11:30	08/28/13 17:33	1
3 & 4 Methylphenol	0.040	U	0.040	0.00080	mg/L		08/23/13 11:30	08/28/13 17:33	1
2-Methylphenol	0.0040	U	0.0040	0.00017	mg/L		08/23/13 11:30	08/28/13 17:33	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		08/23/13 11:30	08/28/13 17:33	1
Pentachlorophenol	0.040	U	0.040	0.00027	mg/L		08/23/13 11:30	08/28/13 17:33	1
Pyridine	0.020	U	0.020	0.00035	mg/L		08/23/13 11:30	08/28/13 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	59		27 - 110	08/23/13 11:30	08/28/13 17:33	1
2-Fluorophenol (Surr)	10		10 - 110	08/23/13 11:30	08/28/13 17:33	1
2,4,6-Tribromophenol (Surr)	53		15 - 110	08/23/13 11:30	08/28/13 17:33	1
Nitrobenzene-d5 (Surr)	59		27 - 110	08/23/13 11:30	08/28/13 17:33	1
Phenol-d5 (Surr)	27		20 - 110	08/23/13 11:30	08/28/13 17:33	1
Terphenyl-d14 (Surr)	86		38 - 110	08/23/13 11:30	08/28/13 17:33	1

## Method: 8081A - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	0.0050	U	0.0050	0.000079	mg/L		08/23/13 11:47	08/27/13 09:49	1
Endrin	0.00050	U	0.00050	0.000026	mg/L		08/23/13 11:47	08/27/13 09:49	1
Heptachlor	0.00050	U	0.00050	0.000019	mg/L		08/23/13 11:47	08/27/13 09:49	1
Heptachlor epoxide	0.00050	U	0.00050	0.000017	mg/L		08/23/13 11:47	08/27/13 09:49	1
gamma-BHC (Lindane)	0.00050	U	0.00050	0.000015	mg/L		08/23/13 11:47	08/27/13 09:49	1
Methoxychlor	0.0010	U	0.0010	0.000077	mg/L		08/23/13 11:47	08/27/13 09:49	1
Toxaphene	0.020	U	0.020	0.00077	mg/L		08/23/13 11:47	08/27/13 09:49	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWDECONAUG2013

Lab Sample ID: 240-28199-2

Date Collected: 08/21/13 16:20

Matrix: Water

Date Received: 08/22/13 07:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	80		46 - 122	08/23/13 11:47	08/27/13 09:49	1
Tetrachloro-m-xylene	89		46 - 122	08/23/13 11:47	08/27/13 09:49	1
DCB Decachlorobiphenyl	18 X		34 - 141	08/23/13 11:47	08/27/13 09:49	1
DCB Decachlorobiphenyl	20 X		34 - 141	08/23/13 11:47	08/27/13 09:49	1

## Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.0020	U	0.0020	0.00021	mg/L		08/26/13 12:37	08/27/13 16:04	1
Silvex (2,4,5-TP)	0.00050	U	0.00050	0.00010	mg/L		08/26/13 12:37	08/27/13 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	61		37 - 116	08/26/13 12:37	08/27/13 16:04	1
2,4-Dichlorophenylacetic acid	78		37 - 116	08/26/13 12:37	08/27/13 16:04	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0036	J	0.50	0.0032	mg/L		08/23/13 10:17	08/26/13 18:14	1
Barium	0.020	J B	10	0.00067	mg/L		08/23/13 10:17	08/26/13 18:14	1
Cadmium	0.10	U	0.10	0.00066	mg/L		08/23/13 10:17	08/26/13 18:14	1
Chromium	0.039	J	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 18:14	1
Lead	0.0056	J	0.50	0.0019	mg/L		08/23/13 10:17	08/26/13 18:14	1
Selenium	0.25	U	0.25	0.0041	mg/L		08/23/13 10:17	08/26/13 18:14	1
Silver	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 18:14	1

## Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		08/23/13 14:55	08/27/13 14:19	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			08/26/13 07:14	1
Cyanide, Total	0.010	U	0.010	0.0032	mg/L		08/23/13 10:11	08/23/13 13:31	1
Sulfide	3.0	U	3.0	0.94	mg/L		08/26/13 08:18	08/26/13 08:18	1
pH	9.25		0.100	0.100	SU			08/22/13 16:12	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWPURGEAUG2013

Lab Sample ID: 240-28199-3

Date Collected: 08/21/13 16:50

Matrix: Water

Date Received: 08/22/13 07:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			08/28/13 23:29	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			08/28/13 23:29	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			08/28/13 23:29	1
Benzene	0.025	U	0.025	0.0065	mg/L			08/28/13 23:29	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			08/28/13 23:29	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			08/28/13 23:29	1
Chloroform	0.025	U	0.025	0.0080	mg/L			08/28/13 23:29	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			08/28/13 23:29	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			08/28/13 23:29	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			08/28/13 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 121		08/28/13 23:29	1
4-Bromofluorobenzene (Surr)	94		70 - 124		08/28/13 23:29	1
Toluene-d8 (Surr)	100		90 - 115		08/28/13 23:29	1
Dibromofluoromethane (Surr)	99		84 - 128		08/28/13 23:29	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		08/23/13 11:30	08/28/13 17:55	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		08/23/13 11:30	08/28/13 17:55	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00024	mg/L		08/23/13 11:30	08/28/13 17:55	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00025	mg/L		08/23/13 11:30	08/28/13 17:55	1
Hexachlorobenzene	0.020	U	0.020	0.000085	mg/L		08/23/13 11:30	08/28/13 17:55	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		08/23/13 11:30	08/28/13 17:55	1
Hexachloroethane	0.020	U	0.020	0.00019	mg/L		08/23/13 11:30	08/28/13 17:55	1
3 & 4 Methylphenol	0.040	U	0.040	0.00080	mg/L		08/23/13 11:30	08/28/13 17:55	1
2-Methylphenol	0.0040	U	0.0040	0.00017	mg/L		08/23/13 11:30	08/28/13 17:55	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		08/23/13 11:30	08/28/13 17:55	1
Pentachlorophenol	0.040	U	0.040	0.00027	mg/L		08/23/13 11:30	08/28/13 17:55	1
Pyridine	0.020	U	0.020	0.00035	mg/L		08/23/13 11:30	08/28/13 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		27 - 110	08/23/13 11:30	08/28/13 17:55	1
2-Fluorophenol (Surr)	29		10 - 110	08/23/13 11:30	08/28/13 17:55	1
2,4,6-Tribromophenol (Surr)	60		15 - 110	08/23/13 11:30	08/28/13 17:55	1
Nitrobenzene-d5 (Surr)	67		27 - 110	08/23/13 11:30	08/28/13 17:55	1
Phenol-d5 (Surr)	56		20 - 110	08/23/13 11:30	08/28/13 17:55	1
Terphenyl-d14 (Surr)	93		38 - 110	08/23/13 11:30	08/28/13 17:55	1

## Method: 8081A - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	0.0050	U	0.0050	0.000079	mg/L		08/23/13 11:47	08/27/13 10:30	1
Endrin	0.00050	U	0.00050	0.000026	mg/L		08/23/13 11:47	08/27/13 10:30	1
Heptachlor	0.00050	U	0.00050	0.000019	mg/L		08/23/13 11:47	08/27/13 10:30	1
Heptachlor epoxide	0.00050	U	0.00050	0.000017	mg/L		08/23/13 11:47	08/27/13 10:30	1
gamma-BHC (Lindane)	0.00050	U	0.00050	0.000015	mg/L		08/23/13 11:47	08/27/13 10:30	1
Methoxychlor	0.0010	U	0.0010	0.000077	mg/L		08/23/13 11:47	08/27/13 10:30	1
Toxaphene	0.020	U	0.020	0.00077	mg/L		08/23/13 11:47	08/27/13 10:30	1

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# Client Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWPURGEAUG2013

Lab Sample ID: 240-28199-3

Date Collected: 08/21/13 16:50

Matrix: Water

Date Received: 08/22/13 07:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		46 - 122	08/23/13 11:47	08/27/13 10:30	1
Tetrachloro-m-xylene	83		46 - 122	08/23/13 11:47	08/27/13 10:30	1
DCB Decachlorobiphenyl	94		34 - 141	08/23/13 11:47	08/27/13 10:30	1
DCB Decachlorobiphenyl	99		34 - 141	08/23/13 11:47	08/27/13 10:30	1

## Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.0020	U	0.0020	0.00021	mg/L		08/26/13 12:37	08/27/13 16:27	1
Silvex (2,4,5-TP)	0.00050	U	0.00050	0.00010	mg/L		08/26/13 12:37	08/27/13 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	78		37 - 116	08/26/13 12:37	08/27/13 16:27	1
2,4-Dichlorophenylacetic acid	76		37 - 116	08/26/13 12:37	08/27/13 16:27	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0032	mg/L		08/23/13 10:17	08/26/13 18:26	1
Barium	0.045	J B	10	0.00067	mg/L		08/23/13 10:17	08/26/13 18:26	1
Cadmium	0.10	U	0.10	0.00066	mg/L		08/23/13 10:17	08/26/13 18:26	1
Chromium	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 18:26	1
Lead	0.50	U	0.50	0.0019	mg/L		08/23/13 10:17	08/26/13 18:26	1
Selenium	0.25	U	0.25	0.0041	mg/L		08/23/13 10:17	08/26/13 18:26	1
Silver	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 18:26	1

## Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		08/23/13 14:55	08/27/13 14:20	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			08/26/13 07:45	1
Cyanide, Total	0.010	U	0.010	0.0032	mg/L		08/26/13 10:55	08/26/13 14:09	1
Sulfide	3.0	U	3.0	0.94	mg/L		08/26/13 08:18	08/26/13 08:18	1
pH	7.68		0.100	0.100	SU			08/22/13 16:13	1

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## Surrogate Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (63-129)	BFB (66-117)	TOL (74-115)	DBFM (75-121)
LCS 240-99545/4	Lab Control Sample	98	99	94	100
MB 240-99545/6	Method Blank	116	87	93	111

**Surrogate Legend**

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-121)	BFB (70-124)	TOL (90-115)	DBFM (84-128)
LCS 240-99416/6	Lab Control Sample	107	102	99	100

**Surrogate Legend**

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

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

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-121)	BFB (70-124)	TOL (90-115)	DBFM (84-128)
240-28199-2	FWG-IDW-MWDECONAUG2013	104	95	97	96
240-28199-3	FWG-IDW-MWPURGEAUG2013	106	94	100	99
LB 240-98604/1-A MB	Method Blank	104	101	101	100

**Surrogate Legend**

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

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

Matrix: WQ

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (63-129)	BFB (66-117)	TOL (74-115)	DBFM (75-121)
240-28199-1	FWG-IDW-MWTB-AUG2013	111	78	83	104

**Surrogate Legend**

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

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## Surrogate Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW  
DBFM = Dibromofluoromethane (Surr)

TestAmerica Job ID: 240-28199-1

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (27-110)	2FP (10-110)	TBP (15-110)	NBZ (27-110)	PHL (20-110)	TPH (38-110)
LCS 240-98719/11-A	Lab Control Sample	60	12	50	65	41	86
MB 240-98719/10-A	Method Blank	64	35	48	68	59	91

**Surrogate Legend**

FBP = 2-Fluorobiphenyl (Surr)  
2FP = 2-Fluorophenol (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
PHL = Phenol-d5 (Surr)  
TPH = Terphenyl-d14 (Surr)

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (27-110)	2FP (10-110)	TBP (15-110)	NBZ (27-110)	PHL (20-110)	TPH (38-110)
240-28199-2	FWG-IDW-MWDECONAUG2013	59	10	53	59	27	86
240-28199-3	FWG-IDW-MWPURGEAUG2013	65	29	60	67	56	93

**Surrogate Legend**

FBP = 2-Fluorobiphenyl (Surr)  
2FP = 2-Fluorophenol (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
PHL = Phenol-d5 (Surr)  
TPH = Terphenyl-d14 (Surr)

### Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (46-122)	TCX2 (46-122)	DCB1 (34-141)	DCB2 (34-141)
LCS 240-98727/5-A	Lab Control Sample	75	79	98	107
MB 240-98727/4-A	Method Blank	60	63	83	89

**Surrogate Legend**

TCX = Tetrachloro-m-xylene  
DCB = DCB Decachlorobiphenyl

### Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (46-122)	TCX2 (46-122)	DCB1 (34-141)	DCB2 (34-141)
240-28199-2	FWG-IDW-MWDECONAUG2013	80	89	18 X	20 X
240-28199-2 MS	FWG-IDW-MWDECONAUG2013	69	77	23 X	27 X

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## Surrogate Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (46-122)	TCX2 (46-122)	DCB1 (34-141)	DCB2 (34-141)
240-28199-3	FWG-IDW-MWPURGEAUG2013	75	83	94	99
<b>Surrogate Legend</b>					
TCX = Tetrachloro-m-xylene					
DCB = DCB Decachlorobiphenyl					

### Method: 8151A - Herbicides (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCPA1 (37-116)	DCPA2 (37-116)
LCS 240-98962/5-A	Lab Control Sample	60	79
MB 240-98962/4-A	Method Blank	63	75
<b>Surrogate Legend</b>			
DCPA = 2,4-Dichlorophenylacetic acid			

### Method: 8151A - Herbicides (GC)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCPA1 (37-116)	DCPA2 (37-116)
240-28199-2	FWG-IDW-MWDECONAUG2013	61	78
240-28199-3	FWG-IDW-MWPURGEAUG2013	78	76
240-28199-3 MS	FWG-IDW-MWPURGEAUG2013	74	84
<b>Surrogate Legend</b>			
DCPA = 2,4-Dichlorophenylacetic acid			



# QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

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

Lab Sample ID: LCS 240-99416/6

Matrix: Water

Analysis Batch: 99416

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.00	1.02		mg/L		102	71 - 133
1,2-Dichloroethane	1.00	1.05		mg/L		105	81 - 114
Benzene	1.00	0.965		mg/L		97	84 - 120
2-Butanone (MEK)	2.00	2.20		mg/L		110	49 - 120
Carbon tetrachloride	1.00	1.01		mg/L		101	54 - 122
Chlorobenzene	1.00	0.931		mg/L		93	86 - 111
Chloroform	1.00	1.01		mg/L		101	87 - 123
Tetrachloroethene	1.00	0.996		mg/L		100	79 - 134
Trichloroethene	1.00	0.969		mg/L		97	78 - 130
Vinyl chloride	1.00	0.960		mg/L		96	56 - 111

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		80 - 121
4-Bromofluorobenzene (Surr)	102		70 - 124
Toluene-d8 (Surr)	99		90 - 115
Dibromofluoromethane (Surr)	100		84 - 128

Lab Sample ID: MB 240-99545/6

Matrix: Water

Analysis Batch: 99545

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/29/13 14:23	1
1,2-Dichloroethane	1.0	U	1.0	0.22	ug/L			08/29/13 14:23	1
Benzene	1.0	U	1.0	0.13	ug/L			08/29/13 14:23	1
2-Butanone (MEK)	10	U	10	0.57	ug/L			08/29/13 14:23	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/29/13 14:23	1
Chlorobenzene	1.0	U	1.0	0.15	ug/L			08/29/13 14:23	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/29/13 14:23	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/29/13 14:23	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/29/13 14:23	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/29/13 14:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 129		08/29/13 14:23	1
4-Bromofluorobenzene (Surr)	87		66 - 117		08/29/13 14:23	1
Toluene-d8 (Surr)	93		74 - 115		08/29/13 14:23	1
Dibromofluoromethane (Surr)	111		75 - 121		08/29/13 14:23	1

Lab Sample ID: LCS 240-99545/4

Matrix: Water

Analysis Batch: 99545

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.55		ug/L		95	78 - 131
1,2-Dichloroethane	10.0	11.0		ug/L		110	71 - 127
Benzene	10.0	9.71		ug/L		97	83 - 112

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# QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

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

Lab Sample ID: LCS 240-99545/4

Matrix: Water

Analysis Batch: 99545

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Butanone (MEK)	20.0	18.9		ug/L		94	60 - 126
Carbon tetrachloride	10.0	10.2		ug/L		102	66 - 128
Chlorobenzene	10.0	9.80		ug/L		98	85 - 110
Chloroform	10.0	10.2		ug/L		102	79 - 117
Tetrachloroethene	10.0	10.3		ug/L		103	79 - 114
Trichloroethene	10.0	9.84		ug/L		98	76 - 117
Vinyl chloride	10.0	7.33		ug/L		73	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		63 - 129
4-Bromofluorobenzene (Surr)	99		66 - 117
Toluene-d8 (Surr)	94		74 - 115
Dibromofluoromethane (Surr)	100		75 - 121

Lab Sample ID: LB 240-98604/1-A MB

Matrix: Water

Analysis Batch: 99416

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			08/28/13 16:40	1
1,2-Dichloroethene	0.025	U	0.025	0.011	mg/L			08/28/13 16:40	1
Benzene	0.025	U	0.025	0.0065	mg/L			08/28/13 16:40	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			08/28/13 16:40	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			08/28/13 16:40	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			08/28/13 16:40	1
Chloroform	0.025	U	0.025	0.0080	mg/L			08/28/13 16:40	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			08/28/13 16:40	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			08/28/13 16:40	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			08/28/13 16:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 121		08/28/13 16:40	1
4-Bromofluorobenzene (Surr)	101		70 - 124		08/28/13 16:40	1
Toluene-d8 (Surr)	101		90 - 115		08/28/13 16:40	1
Dibromofluoromethane (Surr)	100		84 - 128		08/28/13 16:40	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-98719/10-A

Matrix: Water

Analysis Batch: 99066

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98719

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		08/23/13 11:30	08/27/13 16:11	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		08/23/13 11:30	08/27/13 16:11	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00024	mg/L		08/23/13 11:30	08/27/13 16:11	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00025	mg/L		08/23/13 11:30	08/27/13 16:11	1

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# QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-98719/10-A

Matrix: Water

Analysis Batch: 99066

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98719

Analyte	Result	MB MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	0.020	U	0.020	0.000085	mg/L		08/23/13 11:30	08/27/13 16:11	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		08/23/13 11:30	08/27/13 16:11	1
Hexachloroethane	0.020	U	0.020	0.00019	mg/L		08/23/13 11:30	08/27/13 16:11	1
3 & 4 Methylphenol	0.040	U	0.040	0.00080	mg/L		08/23/13 11:30	08/27/13 16:11	1
2-Methylphenol	0.0040	U	0.0040	0.00017	mg/L		08/23/13 11:30	08/27/13 16:11	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		08/23/13 11:30	08/27/13 16:11	1
Pentachlorophenol	0.040	U	0.040	0.00027	mg/L		08/23/13 11:30	08/27/13 16:11	1
Pyridine	0.020	U	0.020	0.00035	mg/L		08/23/13 11:30	08/27/13 16:11	1

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		27 - 110	08/23/13 11:30	08/27/13 16:11	1
2-Fluorophenol (Surr)	35		10 - 110	08/23/13 11:30	08/27/13 16:11	1
2,4,6-Tribromophenol (Surr)	48		15 - 110	08/23/13 11:30	08/27/13 16:11	1
Nitrobenzene-d5 (Surr)	68		27 - 110	08/23/13 11:30	08/27/13 16:11	1
Phenol-d5 (Surr)	59		20 - 110	08/23/13 11:30	08/27/13 16:11	1
Terphenyl-d14 (Surr)	91		38 - 110	08/23/13 11:30	08/27/13 16:11	1

Lab Sample ID: LCS 240-98719/11-A

Matrix: Water

Analysis Batch: 99066

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98719

Analyte	Spike Added	LCS LCS Result	Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.0800	0.0436		mg/L		55	16 - 110
2,4,5-Trichlorophenol	0.0800	0.0397		mg/L		50	35 - 110
2,4,6-Trichlorophenol	0.0800	0.0371		mg/L		46	36 - 110
2,4-Dinitrotoluene	0.0800	0.0495		mg/L		62	49 - 110
Hexachlorobenzene	0.0800	0.0514		mg/L		64	44 - 110
Hexachlorobutadiene	0.0800	0.0409		mg/L		51	35 - 110
Hexachloroethane	0.0800	0.0415		mg/L		52	34 - 110
3 & 4 Methylphenol	0.0800	0.0443		mg/L		55	38 - 110
2-Methylphenol	0.0800	0.0446		mg/L		56	36 - 114
Nitrobenzene	0.0800	0.0509		mg/L		64	43 - 110
Pentachlorophenol	0.160	0.0851		mg/L		53	10 - 122
Pyridine	0.0800	0.0434		mg/L		54	34 - 110

Surrogate	%Recovery	LCS LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	60		27 - 110
2-Fluorophenol (Surr)	12		10 - 110
2,4,6-Tribromophenol (Surr)	50		15 - 110
Nitrobenzene-d5 (Surr)	65		27 - 110
Phenol-d5 (Surr)	41		20 - 110
Terphenyl-d14 (Surr)	66		38 - 110

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# QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

## Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 240-98727/4-A

Matrix: Water

Analysis Batch: 99059

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98727

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	0.0050	U	0.0050		0.000079	mg/L			08/23/13 11:47	08/27/13 10:50	1
Endrin	0.00050	U	0.00050		0.000026	mg/L			08/23/13 11:47	08/27/13 10:50	1
Heptachlor	0.00050	U	0.00050		0.000019	mg/L			08/23/13 11:47	08/27/13 10:50	1
Heptachlor epoxide	0.00050	U	0.00050		0.000017	mg/L			08/23/13 11:47	08/27/13 10:50	1
gamma-BHC (Lindane)	0.00050	U	0.00050		0.000015	mg/L			08/23/13 11:47	08/27/13 10:50	1
Methoxychlor	0.0010	U	0.0010		0.000077	mg/L			08/23/13 11:47	08/27/13 10:50	1
Toxaphene	0.020	U	0.020		0.00077	mg/L			08/23/13 11:47	08/27/13 10:50	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	60		46 - 122			08/23/13 11:47	08/27/13 10:50	1
Tetrachloro-m-xylene	63		46 - 122			08/23/13 11:47	08/27/13 10:50	1
DCB Decachlorobiphenyl	83		34 - 141			08/23/13 11:47	08/27/13 10:50	1
DCB Decachlorobiphenyl	89		34 - 141			08/23/13 11:47	08/27/13 10:50	1

Lab Sample ID: LCS 240-98727/5-A

Matrix: Water

Analysis Batch: 99059

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98727

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits
Endrin	0.00200	0.00219	J	mg/L				110	59 - 136
Heptachlor	0.00200	0.00183	J	mg/L				92	63 - 123
Heptachlor epoxide	0.00200	0.00234	J	mg/L				117	59 - 141
gamma-BHC (Lindane)	0.00200	0.00187	J	mg/L				93	59 - 137
Methoxychlor	0.00400	0.00425	J	mg/L				106	42 - 141

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	75		46 - 122		
Tetrachloro-m-xylene	79		46 - 122		
DCB Decachlorobiphenyl	98		34 - 141		
DCB Decachlorobiphenyl	107		34 - 141		

Lab Sample ID: 240-28199-2 MS

Matrix: Water

Analysis Batch: 99059

Client Sample ID: FWG-IDW-MWDECONAUG2013

Prep Type: TCLP

Prep Batch: 98727

Analyte	Sample	Sample	Spike	MS	MS	Result	Qualifier	Unit	D	%Rec	Limits
Endrin	0.00050	U	0.00200	0.00218	J	mg/L				109	50 - 150
Heptachlor	0.00050	U	0.00200	0.00179	J	mg/L				90	50 - 150
Heptachlor epoxide	0.00050	U	0.00200	0.00220	J	mg/L				110	50 - 150
gamma-BHC (Lindane)	0.00050	U	0.00200	0.00174	J	mg/L				87	50 - 150
Methoxychlor	0.0010	U	0.00400	0.00441	J	mg/L				110	50 - 150

Surrogate	MS	MS	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	69		46 - 122		
Tetrachloro-m-xylene	77		46 - 122		
DCB Decachlorobiphenyl	23	X	34 - 141		
DCB Decachlorobiphenyl	27	X	34 - 141		

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# QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 240-98962/4-A

Matrix: Water

Analysis Batch: 99141

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98962

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.0020	U	0.0020	0.00021	mg/L		08/26/13 12:37	08/27/13 17:15	1
Silvex (2,4,5-TP)	0.00050	U	0.00050	0.00010	mg/L		08/26/13 12:37	08/27/13 17:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	63		37 - 116				08/26/13 12:37	08/27/13 17:15	1
2,4-Dichlorophenylacetic acid	75		37 - 116				08/26/13 12:37	08/27/13 17:15	1

Lab Sample ID: LCS 240-98962/5-A

Matrix: Water

Analysis Batch: 99141

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98962

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	0.0200	0.0178		mg/L		89	35 - 136
Silvex (2,4,5-TP)	0.00500	0.00369		mg/L		74	46 - 112
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
2,4-Dichlorophenylacetic acid	60		37 - 116				
2,4-Dichlorophenylacetic acid	79		37 - 116				

Lab Sample ID: 240-28199-3 MS

Matrix: Water

Analysis Batch: 99141

Client Sample ID: FWG-IDW-MWPURGEAUG2013

Prep Type: TCLP

Prep Batch: 98962

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	0.0020	U	0.0200	0.0172		mg/L		86	54 - 114
Silvex (2,4,5-TP)	0.00050	U	0.00500	0.00417		mg/L		83	52 - 124
Surrogate	MS %Recovery	MS Qualifier	Limits						
2,4-Dichlorophenylacetic acid	74		37 - 116						
2,4-Dichlorophenylacetic acid	84		37 - 116						

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-98699/2-A

Matrix: Water

Analysis Batch: 99017

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98699

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0032	mg/L		08/23/13 10:17	08/26/13 17:11	1
Barium	0.000881	J	10	0.00067	mg/L		08/23/13 10:17	08/26/13 17:11	1
Cadmium	0.10	U	0.10	0.00066	mg/L		08/23/13 10:17	08/26/13 17:11	1
Chromium	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 17:11	1
Lead	0.50	U	0.50	0.0019	mg/L		08/23/13 10:17	08/26/13 17:11	1
Selenium	0.25	U	0.25	0.0041	mg/L		08/23/13 10:17	08/26/13 17:11	1
Silver	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 17:11	1

TestAmerica Canton



# QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-98699/3-A

Matrix: Water

Analysis Batch: 99017

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	2.16		mg/L		108	50 - 150
Barium	2.00	1.95	J	mg/L		98	50 - 150
Cadmium	0.0500	0.0511	J	mg/L		102	50 - 150
Chromium	0.200	0.206	J	mg/L		103	50 - 150
Lead	0.500	0.466	J	mg/L		93	50 - 150
Selenium	2.00	2.15		mg/L		108	50 - 150
Silver	0.0500	0.0544	J	mg/L		109	50 - 150

Lab Sample ID: LB 240-98607/1-D LB

Matrix: Water

Analysis Batch: 99017

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 98699

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0032	mg/L		08/23/13 10:17	08/26/13 17:07	1
Barium	0.00165	J	10	0.00067	mg/L		08/23/13 10:17	08/26/13 17:07	1
Cadmium	0.10	U	0.10	0.00066	mg/L		08/23/13 10:17	08/26/13 17:07	1
Chromium	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 17:07	1
Lead	0.50	U	0.50	0.0019	mg/L		08/23/13 10:17	08/26/13 17:07	1
Selenium	0.25	U	0.25	0.0041	mg/L		08/23/13 10:17	08/26/13 17:07	1
Silver	0.50	U	0.50	0.0022	mg/L		08/23/13 10:17	08/26/13 17:07	1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-98702/2-A

Matrix: Water

Analysis Batch: 99183

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98702

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		08/23/13 14:55	08/27/13 14:00	1

Lab Sample ID: LCS 240-98702/3-A

Matrix: Water

Analysis Batch: 99183

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00489		mg/L		98	50 - 150

Lab Sample ID: LB 240-98607/1-E LB

Matrix: Water

Analysis Batch: 99183

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 98702

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		08/23/13 14:55	08/27/13 13:59	1

TestAmerica Canton



## QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Method: 1010 - Ignitability, Pensky-Martens Closed-Cup Method

Lab Sample ID: LCS 240-98968/1

Matrix: Water

Analysis Batch: 98968

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	83.00		Degrees F		102	97 - 103

### Method: 9012A - Cyanide, Total and/or Amenable

Lab Sample ID: MB 240-98696/1-A

Matrix: Water

Analysis Batch: 98763

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0032	mg/L		08/23/13 10:11	08/23/13 13:25	1

Lab Sample ID: LCS 240-98696/2-A

Matrix: Water

Analysis Batch: 98763

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0519	0.0542		mg/L		104	69 - 118

Lab Sample ID: MRL 240-98763/6 MRL

Matrix: Water

Analysis Batch: 98763

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0114		mg/L		114	70 - 130

Lab Sample ID: MB 240-98921/1-A

Matrix: Water

Analysis Batch: 98996

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98921

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0032	mg/L		08/26/13 10:55	08/26/13 13:58	1

Lab Sample ID: LCS 240-98921/2-A

Matrix: Water

Analysis Batch: 98996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98921

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0519	0.0510		mg/L		98	69 - 118

Lab Sample ID: MRL 240-98996/10 MRL

Matrix: Water

Analysis Batch: 98996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0106		mg/L		106	70 - 130

TestAmerica Canton



## QC Sample Results

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 240-98870/1-A

Matrix: Water

Analysis Batch: 98961

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98870

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfide	3.0	U	3.0	0.94	mg/L		08/26/13 08:18	08/26/13 08:18	1

Lab Sample ID: LCS 240-98870/2-A

Matrix: Water

Analysis Batch: 98961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98870

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Sulfide	8.26	7.86		mg/L		95	70 - 130	

### Method: 9040B - pH

Lab Sample ID: LCS 240-98527/2

Matrix: Water

Analysis Batch: 98527

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
pH	6.34	6.380		SU		101	97 - 103	

TestAmerica Canton



## QC Association Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### GC/MS VOA

#### Leach Batch: 98604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	1311	
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	1311	
LB 240-98604/1-A MB	Method Blank	TCLP	Water	1311	

#### Analysis Batch: 99416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	8260B	98604
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8260B	98604
LB 240-98604/1-A MB	Method Blank	TCLP	Water	8260B	98604
LCS 240-99416/6	Lab Control Sample	Total/NA	Water	8260B	

#### Analysis Batch: 99545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-1	FWG-IDW-MWTB-AUG2013	Total/NA	WQ	8260B	
LCS 240-99545/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-99545/6	Method Blank	Total/NA	Water	8260B	

### GC/MS Semi VOA

#### Leach Batch: 98607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	1311	
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	1311	

#### Prep Batch: 98719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	3520C	98607
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	3520C	98607
LCS 240-98719/11-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-98719/10-A	Method Blank	Total/NA	Water	3520C	

#### Analysis Batch: 99066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-98719/11-A	Lab Control Sample	Total/NA	Water	8270C	98719
MB 240-98719/10-A	Method Blank	Total/NA	Water	8270C	98719

#### Analysis Batch: 99297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	8270C	98719
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8270C	98719

### GC Semi VOA

#### Leach Batch: 98607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	1311	
240-28199-2 MS	FWG-IDW-MWDECONAUG2013	TCLP	Water	1311	
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	1311	
240-28199-3 MS	FWG-IDW-MWPURGEAUG2013	TCLP	Water	1311	

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## QC Association Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### GC Semi VOA (Continued)

#### Prep Batch: 98727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	3520C	98607
240-28199-2 MS	FWG-IDW-MWDECONAUG2013	TCLP	Water	3520C	98607
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	3520C	98607
LCS 240-98727/5-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-98727/4-A	Method Blank	Total/NA	Water	3520C	

#### Prep Batch: 98962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	8151A	98607
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8151A	98607
240-28199-3 MS	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8151A	98607
LCS 240-98962/5-A	Lab Control Sample	Total/NA	Water	8151A	
MB 240-98962/4-A	Method Blank	Total/NA	Water	8151A	

#### Analysis Batch: 99059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	8081A	98727
240-28199-2 MS	FWG-IDW-MWDECONAUG2013	TCLP	Water	8081A	98727
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8081A	98727
LCS 240-98727/5-A	Lab Control Sample	Total/NA	Water	8081A	98727
MB 240-98727/4-A	Method Blank	Total/NA	Water	8081A	98727

#### Analysis Batch: 99141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	8151A	98962
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8151A	98962
240-28199-3 MS	FWG-IDW-MWPURGEAUG2013	TCLP	Water	8151A	98962
LCS 240-98962/5-A	Lab Control Sample	Total/NA	Water	8151A	98962
MB 240-98962/4-A	Method Blank	Total/NA	Water	8151A	98962

### Metals

#### Leach Batch: 98607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	1311	
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	1311	
LB 240-98607/1-D LB	Method Blank	TCLP	Water	1311	
LB 240-98607/1-E LB	Method Blank	TCLP	Water	1311	

#### Prep Batch: 98699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	3010A	98607
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	3010A	98607
LB 240-98607/1-D LB	Method Blank	TCLP	Water	3010A	98607
LCS 240-98699/3-A	Lab Control Sample	Total/NA	Water	3010A	
MB 240-98699/2-A	Method Blank	Total/NA	Water	3010A	

#### Prep Batch: 98702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	7470A	98607

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## QC Association Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Metals (Continued)

#### Prep Batch: 98702 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	7470A	98607
LB 240-98607/1-E LB	Method Blank	TCLP	Water	7470A	98607
LCS 240-98702/3-A	Lab Control Sample	Total/NA	Water	7470A	
MB 240-98702/2-A	Method Blank	Total/NA	Water	7470A	

#### Analysis Batch: 99017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	6010B	98699
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	6010B	98699
LB 240-98607/1-D LB	Method Blank	TCLP	Water	6010B	98699
LCS 240-98699/3-A	Lab Control Sample	Total/NA	Water	6010B	98699
MB 240-98699/2-A	Method Blank	Total/NA	Water	6010B	98699

#### Analysis Batch: 99183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	TCLP	Water	7470A	98702
240-28199-3	FWG-IDW-MWPURGEAUG2013	TCLP	Water	7470A	98702
LB 240-98607/1-E LB	Method Blank	TCLP	Water	7470A	98702
LCS 240-98702/3-A	Lab Control Sample	Total/NA	Water	7470A	98702
MB 240-98702/2-A	Method Blank	Total/NA	Water	7470A	98702

### General Chemistry

#### Analysis Batch: 98527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	Total/NA	Water	9040B	
240-28199-3	FWG-IDW-MWPURGEAUG2013	Total/NA	Water	9040B	
LCS 240-98527/2	Lab Control Sample	Total/NA	Water	9040B	

#### Prep Batch: 98696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	Total/NA	Water	9012A	
LCS 240-98696/2-A	Lab Control Sample	Total/NA	Water	9012A	
MB 240-98696/1-A	Method Blank	Total/NA	Water	9012A	

#### Analysis Batch: 98763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	Total/NA	Water	9012A	98696
LCS 240-98696/2-A	Lab Control Sample	Total/NA	Water	9012A	98696
MB 240-98696/1-A	Method Blank	Total/NA	Water	9012A	98696
MRL 240-98763/6 MRL	Lab Control Sample	Total/NA	Water	9012A	

#### Prep Batch: 98870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	Total/NA	Water	9030B	
240-28199-3	FWG-IDW-MWPURGEAUG2013	Total/NA	Water	9030B	
LCS 240-98870/2-A	Lab Control Sample	Total/NA	Water	9030B	
MB 240-98870/1-A	Method Blank	Total/NA	Water	9030B	

TestAmerica Canton



## QC Association Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### General Chemistry (Continued)

#### Prep Batch: 98921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-3	FWG-IDW-MWPURGEAUG2013	Total/NA	Water	9012A	
LCS 240-98921/2-A	Lab Control Sample	Total/NA	Water	9012A	
MB 240-98921/1-A	Method Blank	Total/NA	Water	9012A	

#### Analysis Batch: 98961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	Total/NA	Water	9034	98870
240-28199-3	FWG-IDW-MWPURGEAUG2013	Total/NA	Water	9034	98870
LCS 240-98870/2-A	Lab Control Sample	Total/NA	Water	9034	98870
MB 240-98870/1-A	Method Blank	Total/NA	Water	9034	98870

#### Analysis Batch: 98968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-2	FWG-IDW-MWDECONAUG2013	Total/NA	Water	1010	
240-28199-3	FWG-IDW-MWPURGEAUG2013	Total/NA	Water	1010	
LCS 240-98968/1	Lab Control Sample	Total/NA	Water	1010	

#### Analysis Batch: 98996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28199-3	FWG-IDW-MWPURGEAUG2013	Total/NA	Water	9012A	98921
LCS 240-98921/2-A	Lab Control Sample	Total/NA	Water	9012A	98921
MB 240-98921/1-A	Method Blank	Total/NA	Water	9012A	98921
MRL 240-98996/10 MRL	Lab Control Sample	Total/NA	Water	9012A	



# Lab Chronicle

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWTB-AUG2013

Lab Sample ID: 240-28199-1

Date Collected: 08/21/13 16:00

Matrix: WQ

Date Received: 08/22/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	99545	08/29/13 17:25	LRW	TAL CAN

Client Sample ID: FWG-IDW-MWDECONAUG2013

Lab Sample ID: 240-28199-2

Date Collected: 08/21/13 16:20

Matrix: Water

Date Received: 08/22/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			98604	08/22/13 15:40	DRJ	TAL CAN
TCLP	Analysis	8260B		2	99416	08/28/13 23:05	TJL1	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	3520C			98719	08/23/13 11:30	AKC	TAL CAN
TCLP	Analysis	8270C		1	99297	08/28/13 17:33	TMH	TAL CAN
TCLP	Analysis	8081A		1	99059	08/27/13 09:49	CVD	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	3520C			98727	08/23/13 11:47	AKC	TAL CAN
TCLP	Prep	8151A			98962	08/26/13 12:37	AKC	TAL CAN
TCLP	Analysis	8151A		1	99141	08/27/13 16:04	DEB	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	3010A			98699	08/23/13 10:17	DEE	TAL CAN
TCLP	Analysis	6010B		1	99017	08/26/13 18:14	RKT	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	7470A			98702	08/23/13 14:55	DEE	TAL CAN
TCLP	Analysis	7470A		1	99183	08/27/13 14:19	ADS	TAL CAN
Total/NA	Analysis	9040B		1	98527	08/22/13 16:12	AMM2	TAL CAN
Total/NA	Prep	9012A			98696	08/23/13 10:11	AMM2	TAL CAN
Total/NA	Analysis	9012A		1	98763	08/23/13 13:31	AMM2	TAL CAN
Total/NA	Prep	9030B			98870	08/26/13 08:18	BLW	TAL CAN
Total/NA	Analysis	9034		1	98961	08/26/13 08:18	BLW	TAL CAN
Total/NA	Analysis	1010		1	98968	08/26/13 07:14	TPH	TAL CAN

Client Sample ID: FWG-IDW-MWPURGEAUG2013

Lab Sample ID: 240-28199-3

Date Collected: 08/21/13 16:50

Matrix: Water

Date Received: 08/22/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			98604	08/22/13 15:40	DRJ	TAL CAN
TCLP	Analysis	8260B		1	99416	08/28/13 23:29	TJL1	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	3520C			98719	08/23/13 11:30	AKC	TAL CAN
TCLP	Analysis	8270C		1	99297	08/28/13 17:55	TMH	TAL CAN
TCLP	Analysis	8081A		1	99059	08/27/13 10:30	CVD	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN

TestAmerica Canton



# Lab Chronicle

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

Client Sample ID: FWG-IDW-MWPURGEAUG2013

Lab Sample ID: 240-28199-3

Date Collected: 08/21/13 16:50

Matrix: Water

Date Received: 08/22/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	3520C			98727	08/23/13 11:47	AKC	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	8151A			98962	08/26/13 12:37	AKC	TAL CAN
TCLP	Analysis	8151A		1	99141	08/27/13 16:27	DEB	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	3010A			98699	08/23/13 10:17	DEE	TAL CAN
TCLP	Analysis	6010B		1	99017	08/26/13 18:26	RKT	TAL CAN
TCLP	Leach	1311			98607	08/22/13 15:40	DRJ	TAL CAN
TCLP	Prep	7470A			98702	08/23/13 14:55	DEE	TAL CAN
TCLP	Analysis	7470A		1	99183	08/27/13 14:20	ADS	TAL CAN
Total/NA	Analysis	9040B		1	98527	08/22/13 16:13	AMM2	TAL CAN
Total/NA	Prep	9030B			98870	08/26/13 08:18	BLW	TAL CAN
Total/NA	Analysis	9034		1	98961	08/26/13 08:18	BLW	TAL CAN
Total/NA	Analysis	1010		1	98968	08/26/13 07:45	TPH	TAL CAN
Total/NA	Prep	9012A			98921	08/26/13 10:55	NJE	TAL CAN
Total/NA	Analysis	9012A		1	98996	08/26/13 14:09	NJE	TAL CAN

## Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



## Certification Summary

Client: Environmental Quality Mgt., Inc.  
Project/Site: RVAAP 66 (OH) - IDW

TestAmerica Job ID: 240-28199-1

### Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200004	07-31-13 *
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-14
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-14
New Jersey	NELAP	2	OH001	06-30-14
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13 *
Texas	NELAP	6		08-31-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
Wisconsin	State Program	5	999518190	08-31-13

\* Expired certification is currently pending renewal and is considered valid.

TestAmerica Canton



North Canton, OH 44720

**THE UNIVERSITY OF CHICAGO**

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Page 33 of 36



TestAmerica Cation Sample Receipt Form/Narrative  
Canton Facility

Client EQM Site Name RVAAP Cooler unpacked by Lance Hall

Cooler Received on 8-21-13 Opened on 8-22-13

FedEx: 1<sup>st</sup> Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other \_\_\_\_\_

TestAmerica Cooler # NO # 12813 Foam Box Client Cooler Box \_\_\_\_\_ Other \_\_\_\_\_

Packing material used: Bubble Wrap Foam Plastic Bag None \_\_\_\_\_ Other \_\_\_\_\_

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# A	(CF -1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
IR GUN# 4	(CF 0 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
IR GUN# 5	(CF +1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C
IR GUN# 8	(CF -0 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were custody seals on the bottle(s)? Yes No

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Did all bottles arrive in good condition (Unbroken)? Yes No

7. Could all bottle labels be reconciled with the COC? Yes No

8. Were correct bottle(s) used for the test(s) indicated? Yes No

9. Sufficient quantity received to perform indicated analyses? Yes No

10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC376062

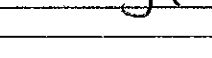
11. Were VOAs on the COC? Yes No

12. Were air bubbles >6 mm in any VOA vials? Yes No NA

13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

<b>14. CHAIN OF CUSTODY &amp; SAMPLE DISCREPANCIES</b>                       	Samples processed by: 
----------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------

---

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

---

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.

Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_







Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
FWG-IDW-MWDECONAUG2013	240-28199-B-2	Plastic 250ml - with Sodium	>12	_____	_____
FWG-IDW-MWDECONAUG2013	240-28199-C-2	Plastic 500ml - with Zn Acetate and	>9	_____	_____
FWG-IDW-MWPURGEAUG2013	240-28199-B-3	Plastic 250ml - with Sodium	>12	_____	_____
FWG-IDW-MWPURGEAUG2013	240-28199-C-3	Plastic 500ml - with Zn Acetate and	>9	_____	_____



## **APPENDIX E**

### **REPORTING LIMITS THAT CURRENTLY DO NOT MEET THE RVAAP QAPP PROJECT ACTION REQUIREMENTS, MCLS, AND/OR RSL**



**VOCs**

CAS No.	Analyte Name	Units	MDL	LOD <sup>1</sup>	RL	PAR <sup>2</sup>	MCL	RSL
79-34-5	1,1,2,2-Tetrachloroethane	µg/L	0.18	0.25	1	1	NS	0.066
79-00-5	1,1,2-Trichloroethane	µg/L	0.27	0.5	1	1	5	0.24
106-93-4	1,2-Dibromoethane	µg/L	0.24	0.25	1	1	NS	0.0065
107-06-2	1,2-Dichloroethane	µg/L	0.22	0.25	1	1	5	0.15
75-27-4	Bromodichloromethane	µg/L	0.15	0.25	1	1	NS	0.12
124-48-1	Dibromochloromethane	µg/L	0.18	0.25	1	1	NS	0.15
75-01-4	Vinyl chloride	µg/L	0.22	0.25	1	1	2	0.015

**SVOCS**

CAS No.	Analyte Name	Units	MDL	LOD <sup>1</sup>	RL	PAR <sup>2</sup>	MCL	RSL
91-94-1	3,3'-Dichlorobenzidine	µg/L	0.37	1	5	5	NS	0.11
534-52-1	4,6-Dinitro-2-methylphenol	µg/L	2.4	4	5	25	NS	1.2
56-55-3	Benzo(a)anthracene	µg/L	0.03	0.1	0.2	0.2	NS	0.029
50-32-8	Benzo(a)pyrene	µg/L	0.051	0.1	0.2	0.2	0.2	0.0029
205-99-2	Benzo(b)fluoranthene	µg/L	0.039	0.1	0.2	0.2	NS	0.029
111-44-4	bis(2-Chloroethyl)ether	µg/L	0.1	0.1	1	1	NS	0.012
117-81-7	bis(2-Ethylhexyl)phthalate	µg/L	0.22	0.5	2	10	6	0.071
53-70-3	Dibenzo(a,h)anthracene	µg/L	0.45	0.1	0.2	50	NS	0.0029
118-74-1	Hexachlorobenzene	µg/L	0.085	0.1	0.2	10	1	0.042
87-68-3	Hexachlorobutadiene	µg/L	0.27	0.5	1	10	NS	0.26
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	0.043	0.1	0.2	0.2	NS	0.029
621-64-7	N-Nitroso-di-n-propylamine	µg/L	0.24	0.5	1	10	NS	0.0093
87-86-5	Pentachlorophenol	µg/L	0.27	1	5	5	1	0.17

**Pesticides**

CAS No.	Analyte Name	Units	MDL	LOD <sup>1</sup>	RL	PAR <sup>2</sup>	MCL	RSL
309-00-2	Aldrin	µg/L	0.0082	0.02	0.03	0.03	NS	0.0002
319-84-6	alpha-BHC	µg/L	0.007	0.02	0.03	0.03	NS	0.0062
60-57-1	Dieldrin	µg/L	0.0075	0.02	0.03	0.03	NS	0.0015
76-44-8	Heptachlor	µg/L	0.008	0.02	0.03	0.03	0.4	0.0018
1024-57-3	Heptachlor epoxide	µg/L	0.0071	0.02	0.03	0.03	0.2	0.0033
8001-35-2	Toxaphene	µg/L	0.32	0.8	2	2	3	0.013

**PCB**

CAS No.	Analyte Name	Units	MDL	LOD <sup>1</sup>	RL	PAR <sup>2</sup>	MCL	RSL
11104-28-2	PCB- 1221	µg/L	0.13	0.2	0.5	0.2	0.5	0.0043
11141-16-5	PCB- 1232	µg/L	0.16	0.2	0.5	0.2	0.5	0.0043
53469-21-9	PCB- 1242	µg/L	0.22	0.4	0.5	0.4	0.5	0.034
12672-29-6	PCB- 1248	µg/L	0.1	0.2	0.5	0.2	0.5	0.034
11097-69-1	PCB- 1254	µg/L	0.16	0.2	0.5	0.2	0.5	0.034
11096-82-5	PCB- 1260	µg/L	0.17	0.2	0.5	0.2	0.5	0.034

**Explosives**

CAS No.	Analyte Name	Units	MDL	LOD <sup>1</sup>	RL	PAR <sup>2</sup>	MCL	RSL
606-20-2	2,6-Dinitrotoluene	µg/L	0.05	0.1	0.13	0.1	NS	0.042

**Inorganics**

CAS No.	Analyte Name	Units	MDL	LOD <sup>1</sup>	RL	PAR <sup>2</sup>	MCL	RSL
7440-38-2	Arsenic	µg/L	3.3	10	10	5	10	0.045
7440-70-2	Calcium	µg/L	630	1000	1000	100	NS	NS
7440-66-6	Zinc	µg/L	27	50	50	10	NS	4700
7440-28-0	Thallium	µg/L	0.79	1.5	2	1	2	0.16
57-12-5	Cyanide	mg/L	0.01	0.01	0.0032	0.01	0.2	0.0014

Notes:

1- LOD= The smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate is 1%.

2- Project Action Requirements from table 4 of the Facility Wide QAPP

NS= No Standard



**APPENDIX F**

**CORRESPONDENCE AND COMMENTS/RESPONSES**





**NATIONAL GUARD BUREAU**  
111 SOUTH GEORGE MASON DRIVE  
ARLINGTON VA 22204-1373

February 21, 2014

Ohio Environmental Protection Agency  
DERR-NEDO  
Attn: Kevin Palombo, Environmental Specialist  
2110 East Aurora Road  
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program  
Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater  
Ohio EPA ID # 267-000859-036

Dear Mr. Palombo:

The Army is submitting this letter of correspondence in support of the Facility-Wide Groundwater Monitoring Program (FWGWMP) for the Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio. This correspondence was prepared by the US Army Corps of Engineers (USACE) - Louisville District, with the assistance of Environmental Quality Management, Inc. (EQM) under Contract No. W912QR-11-F-0266.

This letter provides responses to the Ohio EPA's review comments regarding the *"FWGWMP Draft Facility-Wide Groundwater Annual Report for 2013, dated December 11, 2013, and Draft Report on the August 2013 Sampling Event, dated December 19, 2013."* Ohio EPA's letter was submitted February 4, 2014, and received by the Army on February 6, 2014. The Army requests Ohio EPA's review and concurrence with the Army's response to comments.

**Response to Comments**

The Army understands the Ohio EPA's review comments may be applicable to both of the Army's subject documents. The following paragraphs present Ohio EPA's review comments, which are then followed by the Army's responses:

1. **Ohio EPA Comment: The version of RSLs used in the report needs to be clarified.** Ground water sampling results were compared to Ohio EPA and U.S. EPA Regional Screening Levels (RSLs) for tap water. The RSLs were most recently updated in November 2013. The report does not state what version of the RSLs was utilized. This clarification needs to be added.

**Army Response:** The Army used the revised November 2013 RSLs for the comparison. A footnote has been added to Tables 4-2 and 4-3 to this effect. Additionally, the tables in the August 2013 report will also have this footnote added.

2. **Ohio EPA Comment: MCL and RSL for cyanide need to be correctly cited.** The text of the report incorrectly states (page viii): "...there is no MCL for cyanide." However, Tables 4-2 and 4-3 correctly listed the MCL for cyanide, which is 0.2 mg/L. Also, pages 48, 50, and 59 of Table 4-2 incorrectly indicate that the tap water RSL for cyanide is 0 mg/L. The current tap water RSL for cyanide, 0.0014 mg/L, is correctly listed in Table 4-3. The text on page viii needs to be



Subject: Army responses to Ohio EPA's review comments regarding the "FWGWMP Draft Facility-Wide Groundwater Annual Report for 2013, dated December 11, 2013, and Draft Report on the August 2013 Sampling Event, dated December 19, 2013." Ravenna Army Ammunition Plant Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Ohio EPA ID # 267-000859-036

changed to indicate that there is a MCL for cyanide, and pages 48, 49, and 59 of Table 4-2 needs to list the correct RSL for cyanide. These discrepancies need to be corrected.

**Army Response:** The text on page viii will be revised as follows "*cyanide exceeded the RSL but not the MCL in three wells.*" Pages 48, 49, and 59 of Table 4-2 have been corrected with the correct RSL values.

3. **Ohio EPA Comment: The rate, extent, and concentration of chemicals of potential concern (COPCs) in the vicinity of LL3mw-244 need to be determined.** Well LL3mw-244, screened in the Upper Sharon Aquifer, is located in the vicinity of Load Line 3, approximately 40 feet north and hydraulically upgradient of the southern boundary fence line. The concentration of hexavalent chromium in LL3mw-244 during the October 2012 and January and August 2013 sampling events consistently exceeded the RSL for that compound. Page 106 of the report indicates that well LL3mw-244 has consistently contained explosive constituents at low levels (below RSLs). Further, page 106 states:

*Based on this information the extent of explosives in ground water has not been defined south-southwest of LL3mw-244.*

COPCs may be migrating in the Upper Sharon Aquifer off the facility's property, and to the south-southwest.

Further, it is our understanding that new wells PW-1, PW-2, and PW-3, located near the eastern and southeastern property lines, were installed in December 2013. At this writing, data from these new wells were not available.

The rate, extent, and concentration of hexavalent chromium and explosive constituents in the vicinity of that portion of the southern facility boundary line near Load Line 3 need to be determined. Hopefully, the installation of the additional monitoring wells will provide this information.

**Army Response:** The Ohio EPA is correct. The Army installed new wells near the eastern and southeastern property lines down-gradient of Load Lines 1-3 in December 2013. This included a new RI well (LL3mw-246) installed hydraulically down-gradient of well LL3mw-244. The new RI well was sampled in January 2014 and the results are currently pending. Until the groundwater laboratory results are received and evaluated, no other statements can be made regarding potential off-RVAAP impacts in this area of the site.

4. **Ohio EPA Comment: The concentration of hexavalent chromium in LL3mw-244 needs to be accurately and consistently described throughout the report.** The report (Table 4-2, page 55) indicates that the concentrations of hexavalent chromium exceeded its respective RSL during the October 2012 and January and August 2013 sampling events. Confusingly, page 85-86 of the report indicates that the only constituent that exceeded the MCL or RSL in LL3mw-244 during the reporting period was beta-BHC. Page 85 through 86 of the report need to be revised to



Subject: Army responses to Ohio EPA's review comments regarding the "FWGWMP Draft Facility-Wide Groundwater Annual Report for 2013, dated December 11, 2013, and Draft Report on the August 2013 Sampling Event, dated December 19, 2013." Ravenna Army Ammunition Plant Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Ohio EPA ID # 267-000859-036

indicate that the concentrations of hexavalent chromium in LL3mw-244 consistently exceeded the RSL during the reporting period. This issue needs to be addressed.

**Army Response:** The following bullet will be added to page 86 of the 2013 Annual report:

- *Hexavalent chromium exceeded the RSL during the October 2012, January 2013, and August 2013 sampling events. There is no MCL for hexavalent chromium. The hexavalent chromium concentrations ranged from 0.143 to 0.361 µg/L during the three sampling events; all three detections were qualified as estimated values.*

**5. Ohio EPA Comment: There is a concern with the high pH value in FWGmw-002.**

According to the report, the measured pH value of greater than 9 in FWGmw-002 may be indicative that the well has been impacted. The report ambiguously states (page 39):

*EQM will monitor the pH in the future, if it is part of the FWGMP network.*

The facility needs to determine whether there is a pH impact in FWGmw-002, or if the elevated pH value represents a short term anomaly/variation in ground water quality, or is due to sampling and/or equipment error. This issue needs to be addressed.

**Army Response:** Well FWGmw-002 is located on the north side of RVAAP and is up-gradient of former operations at the site. This well was sampled in October 2012 and January 2013. Based on the constituent concentrations identified in well FWGmw-002 during these two sampling events, there is no residual contamination present that would account for the higher pH response. This well is not currently included in the semiannual monitoring events; however EQM will monitor the pH level in this well during the next two sampling events to determine whether this is a trend, short term anomaly/variation in groundwater quality, or simply due to sampling/equipment error.

**6. Ohio EPA Comment: The apparent sharp decrease in the number of BEHP detections above the RSL and/or MCL in 2013 compared to the 2012 reporting period needs to be explained.**

According to the *FWGWMP Annual Report for 2013*, BEHP was identified at concentrations above the compound's MCL and RSL in only two wells (FWGmw-010 and FWGmw-011) for one sampling event each during the 2013 reporting period. Whereas, according to the previously reviewed *FWGWMP Annual Report for 2012*, BEHP was identified at concentrations above the compound's MCL and/or RSL in 65 monitoring wells for at least one sample event during the 2012 reporting period.

It is not clear why there has been an apparently large decline in the frequency at which BEHP is detected above the RSL and/or MCL during the reporting period. This issue needs to be evaluated and explained.

**Army Response:** The *FWGWMP Annual Report for 2012* included the quarterly reports for October 2011, January 2012, April 2012, and July 2012. The RSLs updated in April 2012 were used for comparison in the 2012 Annual Report. In April 2012, the RSL for BEHP was 0.071



Subject: Army responses to Ohio EPA's review comments regarding the "FWGWMP Draft Facility-Wide Groundwater Annual Report for 2013, dated December 11, 2013, and Draft Report on the August 2013 Sampling Event, dated December 19, 2013." Ravenna Army Ammunition Plant Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Ohio EPA ID # 267-000859-036

µg/L. Beginning in November 2012, the RSL for BEHP was revised to 4.8 µg/L; this value remained unchanged during the May 2013 and November 2013 updates. [Historically, the Region IX Preliminary Remediation Goal (PRG) for BEHP was also 4.8 µg/L.] A preliminary review of the 2012 annual data (i.e., data from October 2011 and January, April, and October 2012) shows only four occurrences in which BEHP exceeds the current RSL of 4.8 µg/L.

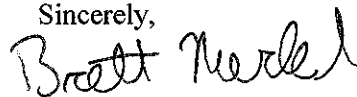
#### Statement

**Ohio EPA Statement:** The quality of potentiometric maps has improved. The quality of the potentiometric maps submitted has improved and represent a more realistic interpretation of ground water flow compared to previous such submissions.

**Army Response:** Acknowledged. The Army appreciates the Ohio EPA's assistance in improving the quality of the potentiometric maps.

Please contact the undersigned at (703) 601-7785 or [brett.a.merkel.civ@mail.mil](mailto:brett.a.merkel.civ@mail.mil) if there are issues or concerns with this submission.

Sincerely,



Brett A. Merkel  
RVAAP Restoration Program Manager  
Army National Guard Directorate

cc: Nancy Zikmanis, Ohio EPA, DERR-NEDO  
Rod Beals, Ohio EPA, DERR-NEDO  
Justin Burke, Ohio EPA  
Kevin Sedlak, ARNG, Camp Ravenna  
Katie Tait, OHARNG Camp Ravenna  
Glen Beckham, USACE Louisville  
Nat Peters, USACE Louisville  
Eric Cheng, USACE Louisville  
Gail Harris, Vista Sciences





John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Craig W. Butler, Interim Director

February 4, 2014

Mr. Brett Merkel  
Army National Guard Directorate  
ARNGD-ILE Clean Up  
111 South George Mason Drive  
Arlington, VA 22203

**RE: RAVENNA ARMY AMMUNITION PLANT, PORTAGE/TRUMBULL COUNTIES,  
COMMENT LETTER RE: FWGWMP DRAFT FACILITY-WIDE GROUND  
WATER ANNUAL REPORT FOR 2013, DATED DECEMBER 11, 2013 AND  
DRAFT REPORT ON THE AUGUST 2013 SAMPLING EVENT, DATED  
DECEMBER 19, 2013, OHIO EPA ID # 267-000859-036**

Dear Mr. Merkel:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft Facility-Wide Groundwater Monitoring Program (FWGWMP) RVAAP-66 Facility-Wide Ground Water Annual Report for 2013 at the Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio." This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR), on December 12, 2013 and is dated December 11, 2013. Ohio EPA also received the "FWGWMP RVAAP-66 Facility-Wide Groundwater Report on the August 2013 Sampling Event," at NEDO on December 20 and is dated December 19, 2013. Both documents were prepared for the U.S. Army Corps of Engineers (USACE) - Louisville District, by Environmental Quality Management, Inc. (EQM), under Contract No. GS-10F-0293K.

The Annual Report summarizes the results of the ground water sampling events conducted October 15-17, 2012; January 21-25, 2013; and August 19-21, 2013. Note: Beginning in January, 2013, sampling frequency was changed from quarterly to semiannual (scheduled to occur in January and July). To date, all 281 FWGWMP wells at the facility have been sampled at least four quarters.

It is noted that the data package for the August 2013 Sampling Event was received by this office after the Annual Report, which included the August 2013 data. In the future,

**E-MAILED**  
02-06-2014 BMT

**Scanned**  
By: BMT  
Date: 02-06-2014

Northeast District Office • 2110 East Aurora Road • Twinsburg, OH 44087-1924  
www.epa.ohio.gov • (330) 963-1200 • (330) 487-0769 (fax)

**RECEIVED**  
02-06-2014



all data packages for the year should be received by this office before the Annual Report is submitted.

Comments on the document, based on Ohio EPA review, are provided below. These comments may also be applicable to the August 2013 Sampling Event data package and should be addressed in both reports. Please provide responses to the enclosed comments in accordance with the Directors Findings and Orders.

### COMMENTS

- #1. **The version of RSLs used in the report needs to be clarified.** Ground water sampling results were compared to Ohio EPA and U.S. EPA regional Screening Levels (RSLs) for tap water. The RSLs were most recently updated in November 2013. The report does not state what version of the RSLs was utilized. This clarification needs to be added.
- #2. **MCL and RSL for cyanide need to be correctly cited.** The text of the report incorrectly states (page viii): "...there is no MCL for cyanide". However, Tables 4-2 and 4-3 correctly listed the MCL for cyanide, which is 0.2 mg/L. Also, pages 48, 50, and 59 of Table 4-2 incorrectly indicate that the tap water RSL for cyanide is 0 mg/L. The current tap water RSL for cyanide, 0.0014 mg/L, is correctly listed in Table 4-3. The text on page viii needs to be changed to indicate that there is a MCL for cyanide, and pages 48, 49, and 59 of Table 4-2 needs to list the correct RSL for cyanide. These discrepancies need to be corrected.
- #3. **The rate, extent, and concentration of chemicals of potential concern (COPCs) in the vicinity of LL3mw-244 need to be determined.** Well LL3mw-244, screened in the Upper Sharon Aquifer, is located in the vicinity of Load Line 3, approximately 40 feet north and hydraulically upgradient of the southern boundary fence line. The concentration of hexavalent chromium in LL3mw-244, during the October 2012, January and August 2013 sampling events, consistently exceeded the RSL for that compound. Page 106 of the report indicates that well LL3mw-244 has consistently contained explosive constituents at low levels (below RSLs). Further, page 106 of the report states:

*Based on this information the extent of explosives in ground water has not been defined south-southwest of LL3mw-244.*

COPCs may be migrating in the Upper Sharon Aquifer off the facility's property, and to the south-southwest.



Further, it is our understanding that new wells PW-1, PW-2 and PW-3, located near the eastern and southeastern property lines were, installed in December, 2013. At this writing, data from these new wells were not available.

The rate, extent, and concentration of hexavalent chromium and explosive constituents in the vicinity of that portion of the southern facility boundary line near Load Line 3 need to be determined. Hopefully, the installation of the additional monitoring wells will provide this information.

- #4. The concentration of hexavalent chromium in LL3mw-244 needs to be accurately and consistently described throughout the report.** The report (Table 4-2, page 55) indicates that the concentrations of hexavalent chromium exceeded its respective RSL during the October 2012, January and August 2013 sampling events. Confusingly, page 85-86 of the report indicates that the only constituent that exceeded either a MCL or RSL in LL3mw-244 during the reporting period was beta-BHC. Page 85 through 86 of the report need to be revised to indicate that the concentrations of hexavalent chromium in LL3mw-244 consistently exceeded the RSL during the reporting period. This issue needs to be addressed.
- #5. There is a concern with the high pH value in FWGmw-002.** According to the report, the measured pH value of greater than 9 in FWGmw-002 may be indicative that the well has been impacted. The report ambiguously states (page 39):

*EQM will monitor the pH in the future, if it is part of the FWGWMP network.*

The facility needs to determine whether there is a pH impact in FWGmw-002, or if the elevated pH value represents a short term anomaly/variation in ground water quality, or is due to sampling and/or equipment error. This issue needs to be addressed.

- #6. The apparent sharp decrease in the number of BEHP detections above the RSL and/or MCL in 2013 compared to the 2012 reporting period needs to be explained.** According to the *FWGWMP Annual Report for 2013*, BEHP was identified at concentrations above the compound's MCL and RSL in only two wells (FWGmw-010 and FWGmw-011) for one sampling event each during the 2013 reporting period. Whereas, according to the previously reviewed the *FWGWMP Annual Report for 2012*, BEHP was identified at concentrations above the compound's MCL and/or RSL in 65 monitoring wells for at least one sample event during the 2012 reporting period.



It is not clear why there has been an apparently large decline in the frequency at which BEHP is detected above the RSL and/or MCL during the reporting period. This issue needs to be evaluated and explained.

## Statement

**The quality of potentiometric maps has improved.** The quality of the potentiometric maps submitted has improved and represent a more realistic interpretation of ground water flow compared to previous such submissions.

Pursuant to the CERCLA process, the property owner usually can provide the expected land uses to assist in ensuring that the investigation addresses all receptors for both current and future land uses. Be advised that due to land use uncertainty, Ohio EPA may require additional work in the future, to address data gaps. It is incumbent upon the Army to finalize land use at Camp Ravenna as soon as possible, otherwise additional work and schedule slippage may result.

This document was reviewed by personnel from Ohio EPA, DERR. Ohio EPA has determined that additional information is necessary to approve the document. If you have any questions, please call me at (330) 963-1292.

Sincerely,



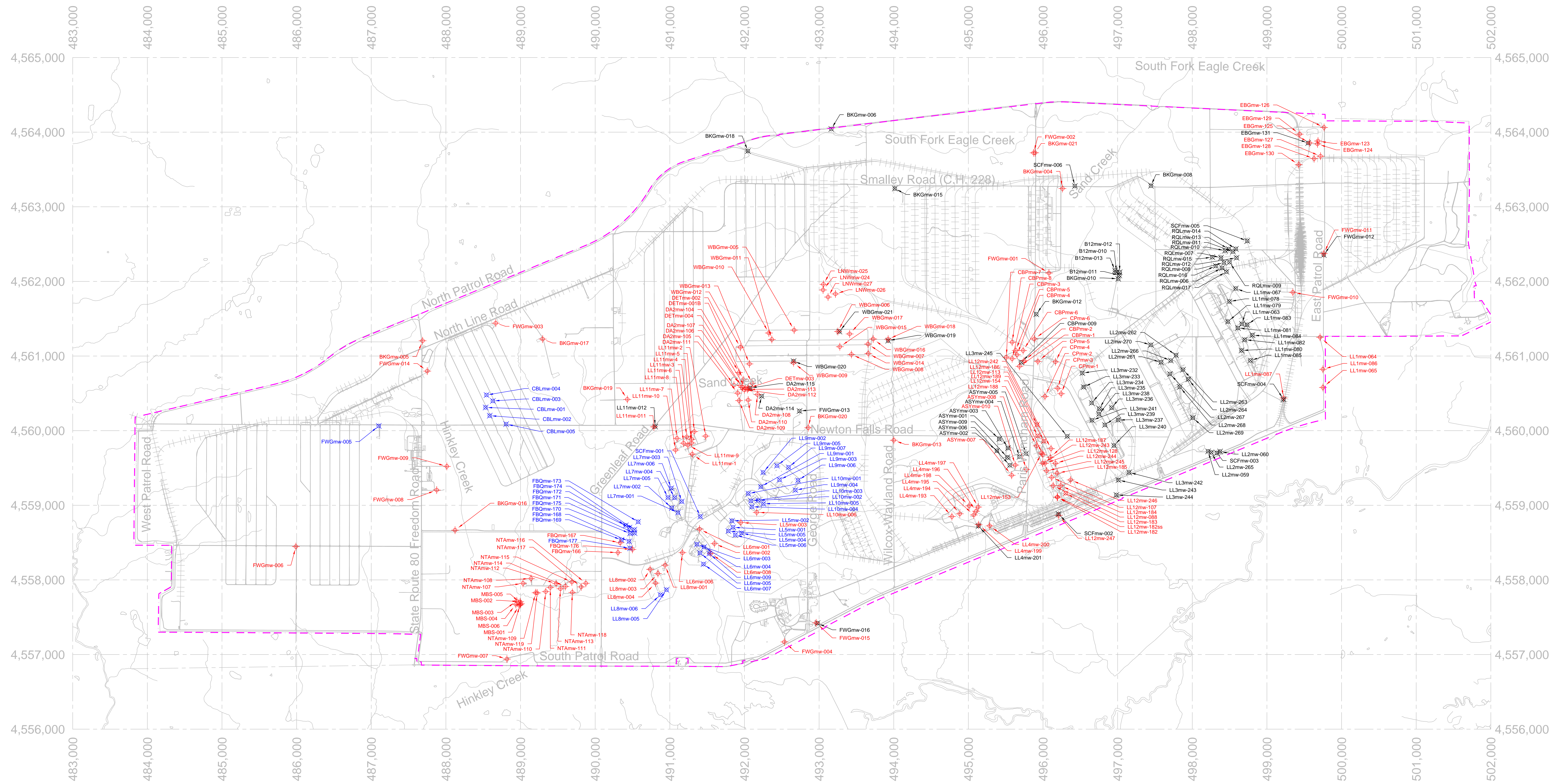
Kevin M. Palombo  
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cc: Katie Tait, OHARNG, Camp Ravenna  
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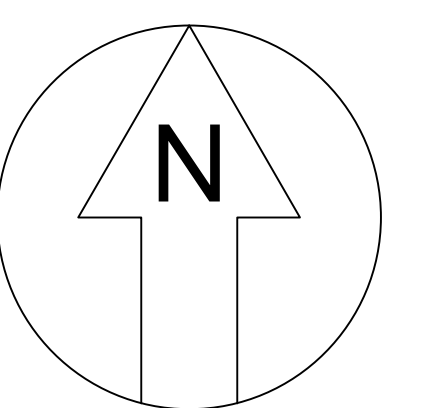
ec: Nancy Zikmanis, Ohio EPA, NEDO, DERR  
Justin Burke, Ohio EPA, CO, DERR  
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LEGEND

- SHARON MEMBER WELL
- UNCONSOLIDATED WELL
- HOMEGOOD MEMBER WELL
- PROPERTY LINE

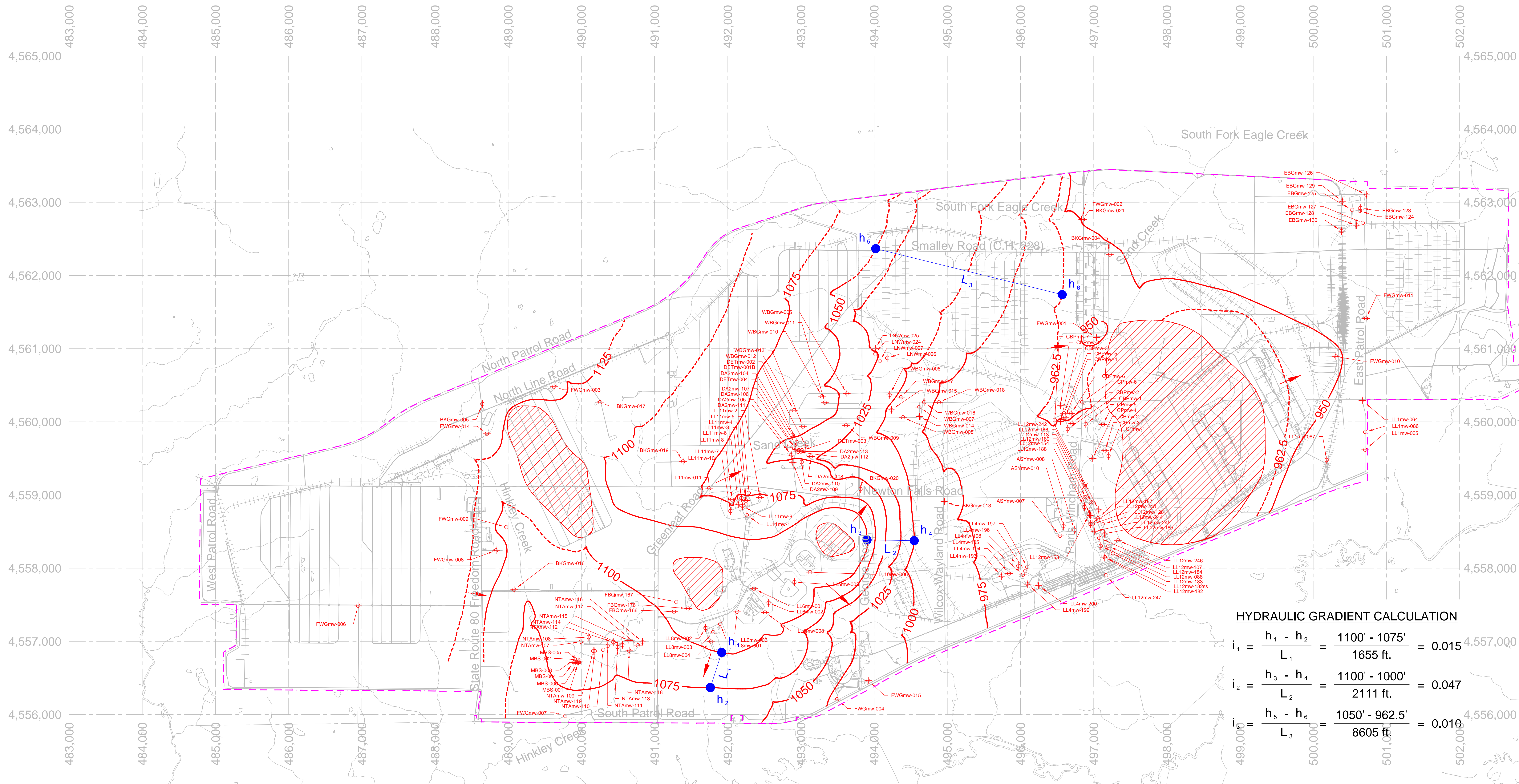


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SCALE (METERS)

COORDINATE SYSTEM UTM NAD 83 ZONE 17

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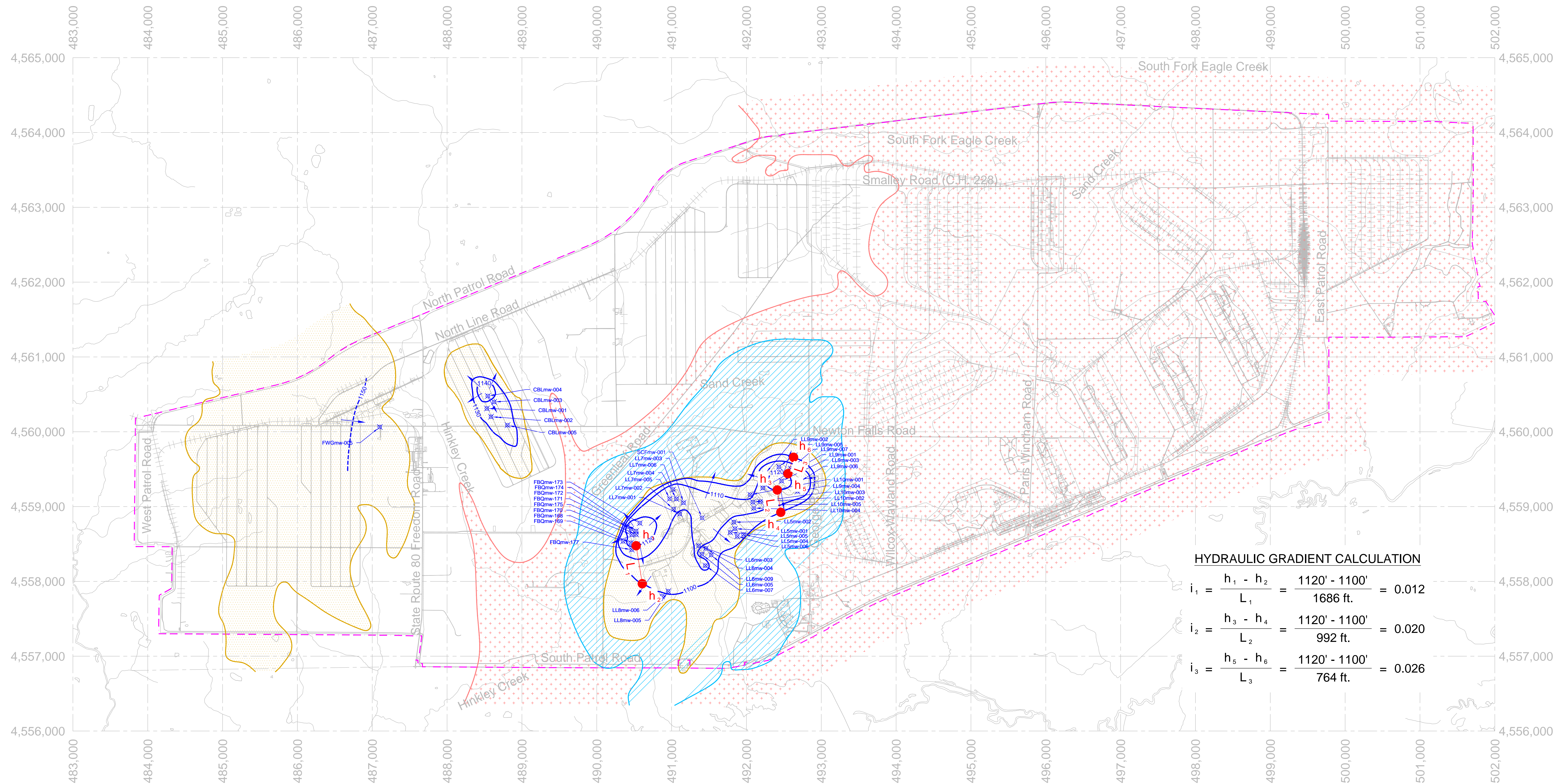
HYDRAULIC GRADIENT CALCULATION

$$i_1 = \frac{h_1 - h_2}{L_1} = \frac{1100' - 1075'}{1655 \text{ ft.}} = 0.015$$
$$i_2 = \frac{h_3 - h_4}{L_2} = \frac{1100' - 1000'}{2111 \text{ ft.}} = 0.047$$
$$i_3 = \frac{h_5 - h_6}{L_3} = \frac{1050' - 962.5'}{8605 \text{ ft.}} = 0.010$$

- LEGEND**
- UNCONSOLIDATED WELL
  - PROPERTY LINE
  - LINE OF EQUAL GROUNDWATER ELEVATION (ft.,amsl) [DASHED WHERE INFERRED]
  - GROUNDWATER DIRECTION
  - UNCONSOLIDATED AQUIFER MISSING
  - INFERRED GROUNDWATER DIVIDE

WVAP Area	Well ID	Permit No. Expirant Date 2013-1940	WVAP Area	Well ID	Permit No. Expirant Date 2013-1940	WVAP Area	Well ID	Permit No. Expirant Date 2013-1940	WVAP Area	Well ID	Permit No. Expirant Date 2013-1940	
Load Line 1	LL10w-004	830.00	LL10w-006	872.00	DETR-0018	1640.00	NFAw-007	1000.00	MBSw-001	1000.00		
	LL10w-005	830.00		LL10w-007		872.00		NFAw-008		1000.00	MBSw-002	1000.00
	LL10w-006	830.00		LL10w-011		874.00		NFAw-009		1000.00	MBSw-003	1000.00
	LL10w-007	830.00		LL10w-026		864.00		NFAw-004		1007.00	MBSw-004	1000.00
Load Line 4	LL10w-012	876.00	LL10w-013	874.00	DA2Sw-014	1052.00	NFAw-011	1070.00	MBSw-005	1000.00		
	LL10w-013	876.00		LL10w-014		871.00		DA2Sw-015		1050.00	NFAw-012	1069.00
	LL10w-014	870.00		LL10w-015		874.00		DA2Sw-016		1057.00	NFAw-013	1069.00
	LL10w-016	871.00		LL10w-024		876.00		DA2Sw-017		1050.00	NFAw-014	1072.00
Load Line 12	LL10w-197	871.00	LL10w-198	871.00	DA2Sw-108	1050.00	NFAw-108	1070.00	FV0Sw-002	1100.00		
	LL10w-198	877.00		LL10w-199		871.00		DA2Sw-109		1050.00	NFAw-109	1068.00
	LL10w-199	870.00		LL10w-200		874.00		DA2Sw-110		1054.00	NFAw-110	1069.00
	LL10w-200	870.00		DA2w-111		1050.00		NFAw-111		1072.00	FV0Sw-003	1070.00
Load Line 15	LL10w-003	1100.00	LL10w-007	871.00	DA2w-112	1020.00	NFAw-112	1067.00	FV0Sw-004	1100.00		
	LL10w-001	1112.11		LL10w-006		870.00		DE2Sw-113		1020.00	MBSw-006	1000.00
Load Line 16	LL10w-002	1100.00	LL10w-009	874.00	ES2Sw-121	800.00.00	MBSw-007	1007.00	FV0Sw-010	1011.00		
	LL10w-008	1110.00		LL10w-242		873.00		ES2Sw-124		800.00.00	MBSw-007	1000.00
	LL10w-009	1100.00		LL10w-243		873.00		ES2Sw-125		800.00.00	MBSw-008	1000.00
	LL10w-001	1111.13		LL10w-244		871.00		ES2Sw-126		800.00.00	MBSw-009	1000.00
Load Line 18	LL10w-002	1107.00	LL10w-245	873.00	ES2Sw-127	800.00.00	MBSw-010	1002.00	BG2Sw-004	1000.00		
	LL10w-003	1107.00		LL10w-246		864.00		ES2Sw-128		800.00.00	MBSw-011	1002.00
	LL10w-004	1107.00		LL10w-247		870.00		ES2Sw-129		800.00.00	MBSw-012	1000.00
	LL10w-005	1112.00		AD2Sw-001		871.00		ES2Sw-130		800.00.00	MBSw-013	1000.00
Load Line 19	LL11w-001	1000.10	AD2Sw-002	871.00	FBSw-161	1111.00	MBSw-014	1000.00	BG2Sw-005	1000.00		
	LL11w-002	1020.00		AD2Sw-003		865.00		FBSw-162		1111.00	MBSw-015	1000.00
	LL11w-003	1007.00		AD2Sw-004		865.00		FBSw-176		1123.00	MBSw-016	1000.00
	LL11w-004	1000.00		AD2Sw-005		864.00		LM0Sw-024		1000.00	MBSw-017	1000.00
Load Line 19	LL11w-005	1020.00	AD2Sw-006	865.00	LM0Sw-025	1000.00	MBSw-018	1000.00	BG2Sw-006	1000.00		
	LL11w-006	1000.00		AD2Sw-007		865.00		LM0Sw-026		1000.00	MBSw-019	1000.00
	LL11w-007	1000.00		AD2Sw-008		865.00		LM0Sw-027		1000.00	MBSw-020	1000.00
	LL11w-008	1000.00		AD2Sw-009		862.00		LM0Sw-028		1000.00	MBSw-021	1000.00
Load Line 19	LL11w-009	1000.00	AD2Sw-010	865.00	LM0Sw-029	1000.00	MBSw-022	1000.00	BG2Sw-007	1000.00		
	LL11w-010	1000.00		AD2Sw-011		862.00		LM0Sw-030		1000.00	MBSw-023	1000.00
	LL11w-011	1000.00		AD2Sw-012		865.00		LM0Sw-031		1000.00	MBSw-024	1000.00
	LL11w-012	1000.00		AD2Sw-013		865.00		LM0Sw-032		1000.00	MBSw-025	1000.00
Load Line 19	LL11w-013	1000.00	AD2Sw-014	865.00	LM0Sw-033	1000.00	MBSw-026	1000.00	BG2Sw-008	1000.00		
	LL11w-014	1000.00		AD2Sw-015		865.00		LM0Sw-034		1000.00	MBSw-027	1000.00
	LL11w-015	1000.00		AD2Sw-016		865.00		LM0Sw-035		1000.00	MBSw-028	1000.00
	LL11w-016	1000.00		AD2Sw-017		865.00		LM0Sw-036		1000.00	MBSw-029	1000.00
Load Line 19	LL11w-017	1000.00	AD2Sw-018	865.00	LM0Sw-037	1000.00	MBSw-030	1000.00	BG2Sw-009	1000.00		
	LL11w-018	1000.00		AD2Sw-019		865.00		LM0Sw-038		1000.00	MBSw-031	1000.00
	LL11w-019	1000.00		AD2Sw-020		865.00		LM0Sw-039		1000.00	MBSw-032	1000.00
	LL11w-020	1000.00		AD2Sw-021		865.00		LM0Sw-040		1000.00	MBSw-033	1000.00
Load Line 19	LL11w-021	1000.00	AD2Sw-022	865.00	LM0Sw-041	1000.00	MBSw-034	1000.00	BG2Sw-010	1000.00		
	LL11w-022	1000.00		AD2Sw-023		865.00		LM0Sw-042		1000.00	MBSw-035	1000.00
	LL11w-023	1000.00		AD2Sw-024		865.00		LM0Sw-043		1000.00	MBSw-036	1000.00
	LL11w-024	1000.00		AD2Sw-025		865.00		LM0Sw-044		1000.00	MBSw-037	1000.00
Load Line 19	LL11w-025	1000.00	AD2Sw-026	865.00	LM0Sw-045	1000.00	MBSw-038	1000.00	BG2Sw-011	1000.00		
	LL11w-026	1000.00		AD2Sw-027		865.00		LM0Sw-046		1000.00	MBSw-039	1000.00
	LL11w-027	1000.00		AD2Sw-028		865.00		LM0Sw-047		1000.00	MBSw-040	1000.00
	LL11w-028	1000.00		AD2Sw-029		865.00		LM0Sw-048		1000.00	MBSw-041	1000.00
Load Line 19	LL11w-029	1000.00	AD2Sw-030	865.00	LM0Sw-049	1000.00	MBSw-042	1000.00	BG2Sw-012	1000.00		
	LL11w-030	1000.00		AD2Sw-031		865.00		LM0Sw-050		1000.00	MBSw-043	1000.00
	LL11w-031	1000.00		AD2Sw-032		865.00		LM0Sw-051		1000.00	MBSw-044	1000.00
	LL11w-032	1000.00		AD2Sw-033		865.00		LM0Sw-052		1000.00	MBSw-045	1000.00
Load Line 19	LL11w-033	1000.00	AD2Sw-034	865.00	LM0Sw-053	1000.00	MBSw-046	1000.00	BG2Sw-013	1000.00		
	LL11w-034	1000.00		AD2Sw-035		865.00		LM0Sw-054		1000.00	MBSw-047	1000.00
	LL11w-035	1000.00		AD2Sw-036		865.00		LM0Sw-055		1000.00	MBSw-048	1000.00
	LL11w-036	1000.00		AD2Sw-037		865.00		LM0Sw-056		1000.00	MBSw-049	1000.00
Load Line 19	LL11w-037	1000.00	AD2Sw-038	865.00	LM0Sw-057	1000.00	MBSw-050	1000.00	BG2Sw-014	1000.00		
	LL11w-038	1000.00		AD2Sw-039		865.00		LM0Sw-058		1000.00	MBSw-051	1000.00
	LL11w-039	1000.00		AD2Sw-040		865.00		LM0Sw-059		1000.00	MBSw-052	1000.00
	LL11w-040	1000.00		AD2Sw-041		865.00		LM0Sw-060		1000.00	MBSw-053	1000.00
Load Line 19	LL11w-041	1000.00	AD2Sw-042	865.00	LM0Sw-061	1000.00	MBSw-054	1000.00	BG2Sw-015	1000.00		
	LL11w-042	1000.00		AD2Sw-043		865.00		LM0Sw-062		1000.00	MBSw-055	1000.00
	LL11w-043	1000.00		AD2Sw-044		865.00		LM0Sw-063		1000.00	MBSw-056	1000.00
	LL11w-044	1000.00		AD2Sw-045		865.00		LM0Sw-064		1000.00	MBSw-057	1000.00
Load Line 19	LL11w-045	1000.00	AD2Sw-046	865.00	LM0Sw-065	1000.00	MBSw-058	1000.00	BG2Sw-016	1000.00		
	LL11w-046	1000.00		AD2Sw-047		865.00		LM0Sw-066		1000.00	MBSw-059	1000.00
	LL11w-047	1000.00		AD2Sw-048		865.00		LM0Sw-067		1000.00	MBSw-060	1000.00
	LL11w-048	1000.00		AD2Sw-049		865.00		LM0Sw-068		1000.00	MBSw-061	1000.00
Load Line 19	LL11w-049	1000.00	AD2Sw-050	865.00	LM0Sw-069	1000.00	MBSw-062	1000.00	BG2Sw-017	1000.00		
	LL11w-050	1000.00		AD2Sw-051		865.00		LM0Sw-070		1000.00	MBSw-063	1000.00
	LL11w-051	1000.00		AD2Sw-052		865.00		LM0Sw-071		1000.00	MBSw-064	1000.00
	LL11w-052	1000.00		AD2Sw-053		865.00		LM0Sw-072		1000.00	MBSw-065	1000.00
Load Line 19	LL11w-053	1000.00	AD2Sw-054	865.00	LM0Sw-073	1000.00	MBSw-066	1000.00	BG2Sw-018	1000.00		
	LL11w-054	1000.00		AD2Sw-055		865.00		LM0Sw-074		1000.00	MBSw-067	1000.00
	LL11w-055	1000.00		AD2Sw-056		865.00		LM0Sw-075		1000.00	MBSw-068	1000.00
	LL11w-056	1000.00		AD2Sw-057		865.00		LM0Sw-076		1000.00	MBSw-069	1000.00
Load Line 19	LL11w-057	1000.00	AD2Sw-058	865.00	LM0Sw-077	1000.00	MBSw-070	1000.00	BG2Sw-019	1000.00		
	LL11w-058	1000.00		AD2Sw-059		865.00		LM0Sw-078		1000.00	MBSw-071	1000.00
	LL11w-059	1000.00		AD2Sw-060		865.00		LM0Sw-079		1000.00	MBSw-072	1000.00
	LL11w-060	1000.00		AD2Sw-061		865.00		LM0Sw-080		1000.00	MBSw-073	1000.00
Load Line 19	LL11w-061	1000.00	AD2Sw-062	865.00	LM0Sw-081	1000.00	MBSw-074	1000.00	BG2Sw-020	1000.00		
	LL11w-062	1000.00		AD2Sw-063		865.00		LM0Sw-082		1000.00	MBSw-075	1000.00
	LL11w-063	1000.00		AD2Sw-064		865.00		LM0Sw-083		1000.00	MBSw-076	1000.00
	LL11w-064	1000.00		AD2Sw-065		865.00		LM0Sw-084		1000.00	MBSw-077	1000.00
Load Line 19	LL11w-065	1000.00	AD2Sw-066	865.00	LM0Sw-085	1000.00	MBSw-078	1000.00	BG2Sw-021	1000.00		
	LL11w-066	1000.00		AD2Sw-067		865.00		LM0Sw-086		1000.00	MBSw-079	1000.00
	LL11w-067	1000.00		AD2Sw-068		865.00		LM0Sw-087		1000.00	MBSw-080	1000.00
	LL11w-068	1000.00		AD2Sw-069		865.00		LM0Sw-088		1000.00	MBSw-081	1000.00
Load Line 19	LL11w-069	1000.00	AD2Sw-070	865.00	LM0Sw-089	1000.00	MBSw-082	1000.00	BG2Sw-022	1000.00		
	LL11w-070	1000.00		AD2Sw-071		865.00		LM0Sw-090		1000.00	MBSw-083	1000.00
	LL11w-071	1000.00		AD2Sw-072		865.00		LM0Sw-091		1000.00	MBSw-084	1000.00
	LL11w-072	1000.00		AD2Sw-073		865.00		LM0Sw-092		1000.00	MBSw-085	1000.00
Load Line 19	LL11w-073	1000.00	AD2Sw-074	865.00	LM0Sw-093	1000.00	MBSw-086	1000.00	BG2Sw-023	1000.00		
	LL11w-074	1000.00		AD2Sw-075		865.00		LM0Sw-094		1000.00	MBSw-087	1000.00
	LL11w-075	1000.00		AD2Sw-076		865.00		LM0Sw-095		1000.00	MBSw-088	1000.00
	LL11w-076	1000.00		AD2Sw-077		865.00		LM0Sw-096		1000.00	MBSw-089	1000.00
Load Line 19	LL11w-077	1000.00	AD2Sw-078	865.00	LM0Sw-097	1000.00	MBSw-090	1000.00	BG2Sw-024	1000.00		
	LL11w-078	1000.00		AD2Sw-079		865.00		LM0Sw-098		1000.00	MBSw-091	1000.00
	LL11w-079	1000.00		AD2Sw-080		865.00		LM0Sw-099		1000.00	MBSw-092	1000.00
	LL11w-080	1000.00		AD2Sw-081		865.00		LM0Sw-100		1000.00	MBSw-093	1000.00
Load Line 19	LL11w-081	1000.00	AD2Sw-082	865.00	LM0Sw-101	1000.00	MBSw-094	1000.00	BG2Sw-025	1000.00		
	LL11w-082	1000.00		AD2Sw-083		865.00		LM0Sw-102		1000.00	MBSw-095	1000.00
	LL11w-083	1000.00		AD2Sw-084		865.00		LM0Sw-103		1000.00	MBSw-096	1000.00
	LL11w-084	1000.00		AD2Sw-085		865.00		LM0Sw-104		1000.00	MBSw-097	1000.00
Load Line 19	LL11w-085	1000.00	AD2Sw-086	865.00	LM0Sw-105	1000.00	MBSw-098	1000.00	BG2Sw-026	1000.00		
	LL11w-086	1000.00		AD2Sw-087		865.00		LM0Sw-106		1000.00	MBSw-099	1000.00
	LL11w-087	1000.00		AD2Sw-088		865.00		LM0Sw-107		1000.00	MBSw-100	1000.00





HYDRAULIC GRADIENT CALCULATION

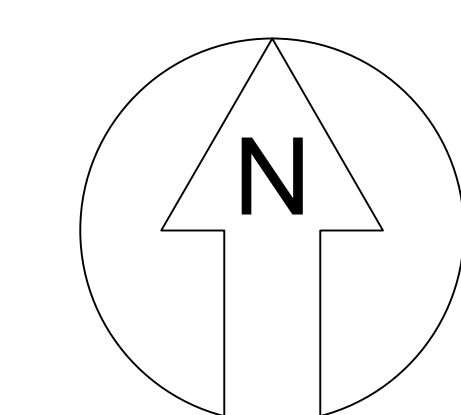
$$i_1 = \frac{h_1 - h_2}{L_1} = \frac{1120' - 1100'}{1686 \text{ ft.}} = 0.012$$
$$i_2 = \frac{h_3 - h_4}{L_2} = \frac{1120' - 1100'}{992 \text{ ft.}} = 0.020$$
$$i_3 = \frac{h_5 - h_6}{L_3} = \frac{1120' - 1100'}{764 \text{ ft.}} = 0.026$$

NOTES  
"GEOLOGY AND GROUND-WATER RESOURCES OF PORTAGE COUNTY, OHIO"  
TWIN CREEK, OHIO, 1966  
BEDROCK GEOLOGY REPORT FROM THE OHIO GEOLOGIC SURVEY

Well ID	Positional Error (ft., amsl)	Well ID	Positional Error (ft., amsl)
LL8mw-001	1108.83	CBLmw-001	1107.54
LL8mw-002	1108.13.31	CBLmw-002	1107.52
LL8mw-003	1108.01	CBLmw-003	1107.37
LL8mw-004	1108.81	CBLmw-004	1108.10
LL8mw-005	1108.87	CBLmw-005	1102.86
LL8mw-006	1110.08	FBQmw-173	1102.17
LL8mw-007	1108.18	FBQmw-174	1113.73
LL8mw-008	1108.75	FBQmw-175	1105.64
LL8mw-009	1102.75	FBQmw-176	1108.87
LL8mw-010	1109.01	FBQmw-177	1102.93
LL8mw-011	1108.89	FBQmw-178	1102.27
LL8mw-012	1114.58	FBQmw-179	1104.57
LL8mw-013	1110.05	FBQmw-180	1103.88
LL8mw-014	1110.06	FBQmw-181	1118.96
LL8mw-015	1110.23	FBQmw-182	1108.12
LL8mw-016	1110.53		
LL8mw-017	1104.58		
LL8mw-018	1087.72		
LL8mw-019	1119.34		
LL8mw-020	1119.40		
LL8mw-021	1104.95		
LL8mw-022	1110.88		
LL8mw-023	1118.27		
LL8mw-024	1112.46		
LL8mw-025	1112.23		
LL8mw-026	1109.38		
LL8mw-027	1110.45		
LL8mw-028	1110.42		
LL8mw-029	1110.36		
LL8mw-030	1111.48		

**LEGEND**

- ✕ HOMEWOOD MEMBER WELL
- - - - - PROPERTY LINE
- 1100 — LINE OF EQUAL GROUNDWATER ELEVATION (ft., amsl)
- 1030 - - - - - (INTERMEDIATE DASHED)
- GROUNDWATER DIRECTION
- [Pattern] HOMEWOOD MEMBER
- [Pattern] SHARON MEMBER
- [Pattern] SHARON SHALE



0 500 1000  
SCALE (METERS)

REV		DESCRIPTION	DATE	APPROVED
REVISIONS				

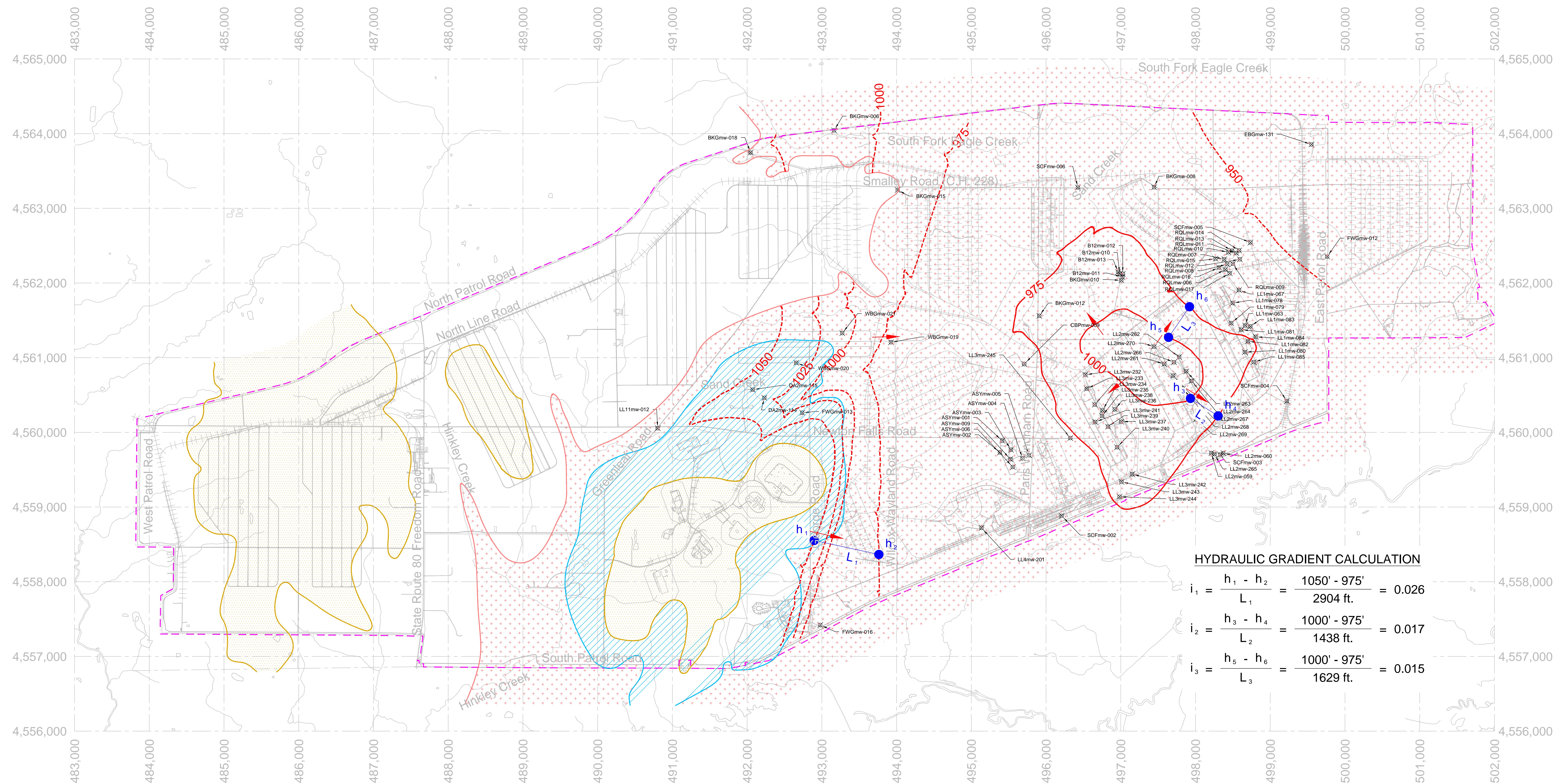
ENVIRONMENTAL QUALITY  
MANAGEMENT, INC.  
1800 CARLSON BLVD., CINCINNATI, OHIO 45240  
PHONE: 513.825.7500 | FAX: 513.825.7495  
WWW.EQM.COM

DRAWN	R. RUSSELL	09-30-2013
CHECKED	S. SPESCHARDT	10-01-2013
APPROVED	J. MILLER	10-01-2013
SCALE:	AS SHOWN	

POTENTIOMETRIC SURFACE OF HOMEWOOD (AUGUST 2013)			
SIZE	PROJECT NO.	DWG. NO.	REV
E	030174.0016	PLATE 3	0

COORDINATE SYSTEM UTM NAD 83 ZONE 17





### HYDRAULIC GRADIENT CALCULATION

$$i_1 = \frac{h_1 - h_2}{L_1} = \frac{1050' - 975'}{2904 \text{ ft.}} = 0.026$$

$$i_2 = \frac{h_3 - h_4}{L_2} = \frac{1000' - 975'}{1438 \text{ ft.}} = 0.017$$

$$i_3 = \frac{h_5 - h_6}{L_3} = \frac{1000' - 975'}{1629 \text{ ft.}} = 0.015$$

RVAAP Area	Well ID	Planned/Actual Elevation (feet) 2019-2020	RVAAP Area	Well ID	Planned/Actual Elevation (feet) 2019-2020	
LO01 Line 1	LL1rwa001	957.09	Alder Spring Yard	LL1rwa012	956.01	
	LL1rwa002	957.09		AD1rwa001	970.71	
	LL1rwa003	956.79		AD1rwa002	970.24	
	LL1rwa004	947.75		AD1rwa003	973.40	
	LL1rwa005	956.67		AD1rwa004	973.40	
	LL1rwa001	971.46		AD1rwa005	972.28	
	LL1rwa002	971.67		AD1rwa006	969.45	
	LL1rwa003	962.76		AD1rwa007	971.29	
	LL1rwa004	947.75		AD1rwa008	969.45	
	LL1rwa005	962.88		AD1rwa011	969.46	
LO01 Line 2	LL1rwa006	953.94	Building 1200	AD1rwa012	969.81	
	LL1rwa007	952.02		AD1rwa013	966.81	
	LL1rwa001	1004.58		Central Bus Stop	CB1rwa000	962.27
	LL1rwa002	1005.06			CB1rwa001	1006.29
	LL1rwa003	1004.62			CB1rwa002	1007.96
	LL1rwa004	1006.71		East Boring Grounds	EB1rwa011	949.29
	LL1rwa005	981.93			EB1rwa006	961.01
	LL1rwa006	1006.68			EB1rwa007	960.86
	LL1rwa007	1005.87		EB1rwa008	960.58	
	LL1rwa008	1002.66		EB1rwa009	961.19	
LL1rwa009	956.74	EB1rwa010	959.59			
LO01 Line 3	LL1rwa010	1003.00	Rammed Gravel Landfill	RL1rwa011	955.97	
	LL1rwa012	982.35		RL1rwa012	957.15	
	LL1rwa013	979.73		RL1rwa013	956.64	
	LL1rwa014	956.67		RL1rwa014	953.84	
	LL1rwa015	953.91		RL1rwa015	961.13	
	LL1rwa016	969.28		RL1rwa016	962.29	
	LL1rwa017	961.27		RL1rwa017	960.23	
	LL1rwa018	961.77		RL1rwa018	973.38	
	LL1rwa019	950.61		IR1rwa000	1001.69	
	LL1rwa020	974.52		WB1rwa011	1001.52	
LO01 Line 4	LL1rwa021	955.56	Fairbairns	FB1rwa012	961.45	
	LL1rwa022	954.42		FB1rwa013	961.45	
	LL1rwa023	979.70		FB1rwa014	966.12	
	LL1rwa024	978.90		BF1rwa006	1006.90	
	LL1rwa025	968.19		BF1rwa007	973.03	
LO01 Line 4	LL1rwa026	968.62	Background	BF1rwa008	966.73	
				BF1rwa009	966.73	
				BF1rwa010	961.52	

## NOTES

"GEOLOGY AND GROUND-WATER RESOURCES OF PORTAGE COUNTY, OHIO"  
(WINSLOW AND WHITE, 1968). NOT ALL LITHOLOGIC UNITS ARE PRESENTED.

### LEGEND

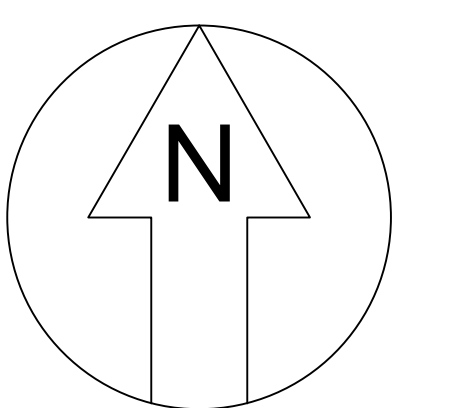
✕ SHARON MEMBER WELL

— PROPERTY LINE

HOMEWOOD MEMBER

SHARON MEMBER

SHARON SHALE

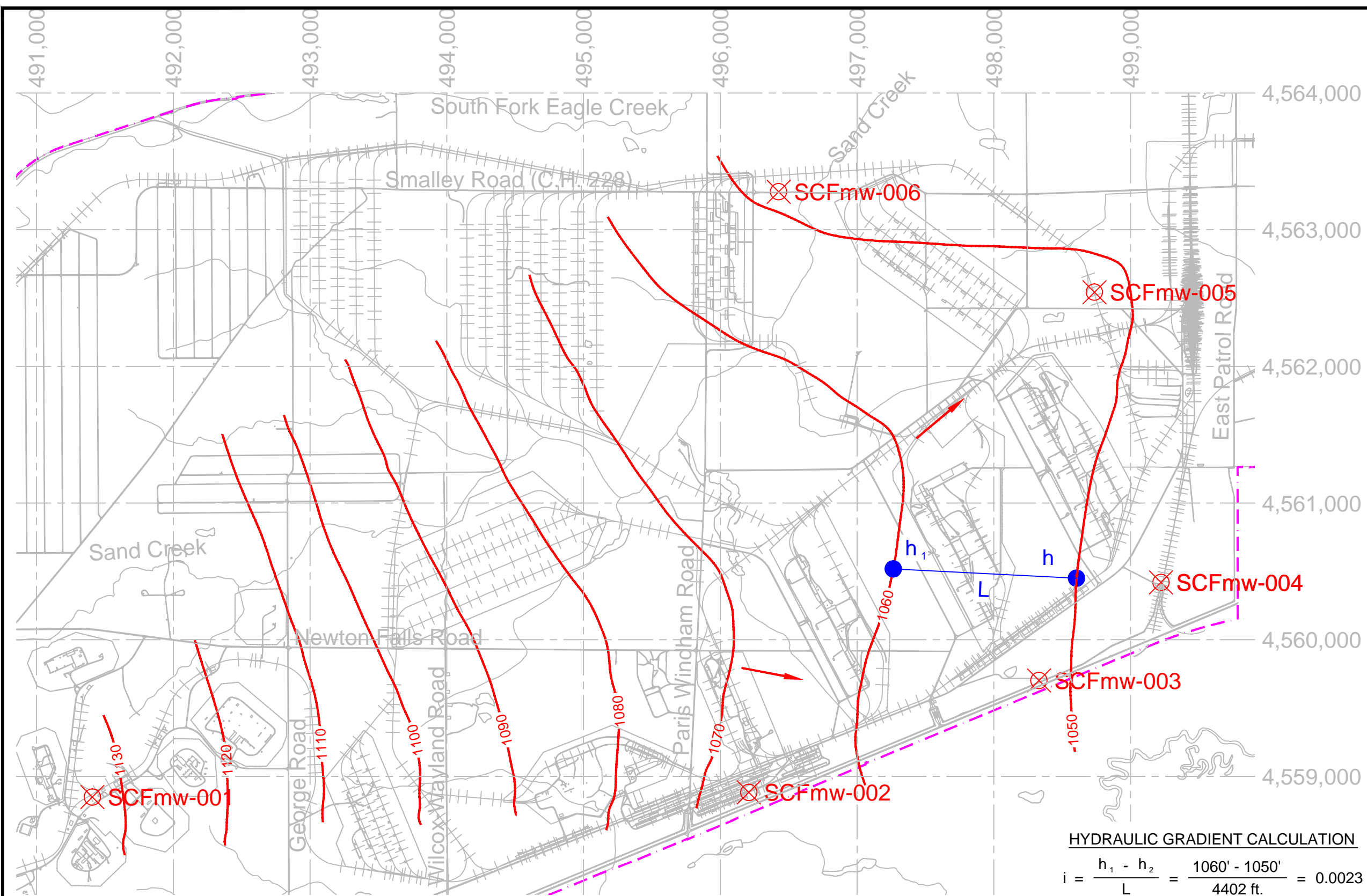


0 500 1000  
SCALE (METERS)

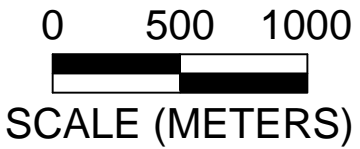
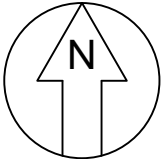
COORDINATE SYSTEM UTM NAD 83 ZONE 17

				 <b>ENVIRONMENTAL QUALITY MANAGEMENT, INC.</b>  1800 CARLSON BLVD., CINCINNATI, OHIO 45240 PHONE 513.825.7500   FAX 513.825.7495 WWW.EQM.COM	DRAWN: R. RUSSELL 09-30-2013		<div>POTENTIOMETRIC SURFACE OF UPPER SHARON (AUGUST 2013)</div>			
					CHECKED: S. SPESSHARDT 10-01-2013					
					APPROVED: J. MILLER 10-01-2013					
REV	DESCRIPTION	DATE	APPROVED	SCALE: AS SHOWN		SIZE	PROJECT NO.	DWG. NO.	REV	
	REVISIONS					E	030174.0016	PLATE 4	0	





SHARON CONGLOMERATE WELLS	
Well ID	Elevation (ft, amsl)
SCFmw-001	1032.23
SCFmw-002	965.94
SCFmw-003	950.83
SCFmw-004	944.37
SCFmw-005	951.00
SCFmw-006	948.04



HYDRAULIC GRADIENT CALCULATION

$$i = \frac{h_1 - h_2}{L} = \frac{1060' - 1050'}{4402 \text{ ft.}} = 0.0023$$

- LEGEND**
- PROPERTY LINE
  - 980 — LINE OF EQUAL GROUNDWATER ELEVATION (ft,amsl)
  - GROUNDWATER DIRECTION
  - ⊗ MONITORING WELL

COORDINATE SYSTEM UTM NAD 83 ZONE 17

REV	DESCRIPTION	DATE	APPROVED
REVISIONS			



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DRAWN	R. RUSSELL	09-30-2013
CHECKED	S. SPESSHARDT	10-01-2013
APPROVED	J. MILLER	10-01-2013
SCALE:	AS SHOWN	

POTENTIOMETRIC SURFACE OF SHARON CONGLOMERATE (AUGUST 2013)			
ORIGINAL SIZE	PROJECT NO.	DWG NO.	REV
B	30174.0016.001	PLATE 5	0