

**APPENDIX F**

**INVESTIGATIVE DERIVED WASTE  
CHARACTERIZATION AND DISPOSAL PLAN**



State of Ohio Environmental Protection Agency

Northeast District Office

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Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

March 6, 2009

RE: RAVENNA ARMY AMMUNITION PLANT,  
PORTAGE/TRUMBULL COUNTIES,  
DRAFT, INVESTIGATION DERIVED  
WASTE AND DISPOSAL PLAN, FWGWMP,  
JANUARY 2009 SAMPLING EVENT REPORT

Mr. Mark Patterson  
Installation Manager  
Ravenna Army Ammunition Plant  
8451 State Route 5  
Ravenna, OH 44266

**CERTIFIED MAIL**  
**7008 2810 0000 5304 9647**

Dear Mr. Patterson:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft, Investigation-Derived Waste Characterization and Disposal Plan (IDW), for the Facility-Wide Groundwater Monitoring Program, January 2009 Sampling Event, at the Ravenna Army Ammunition Plant, Ravenna, OH" document. This document was received at Ohio EPA, Northeast District Office (NEDO), Division of Emergency and Remedial response (DERR), on March 4, 2009 and is dated March 3, 2009. The document was prepared for the U.S. Army Corps of Engineers (USACE) – Louisville District, by Environmental Quality Management, Inc. (EQM), under contract no. W912QR-04-D-0036.

The report is approved and Ohio EPA concurs that the IDW from the January 2009 Sampling Event may be disposed of as non-hazardous waste.

If you have any questions, please call me at (330) 963-1207.

Sincerely,

Vicki Deppisch  
Project Coordinator  
Division of Emergency and Remedial Response

VD/kss

cc: Bonnie Buthker, Ohio EPA, DERR, SWDO  
John Miller, EQM  
Maj. Ed Meade, OHARNG RTLS  
Mark Nichter, USACE Louisville

Eileen Mohr, Ohio EPA, NEDO, DERR  
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ec: Mike Eberle, Ohio EPA, NEDO, DERR  
Todd Fisher, Ohio EPA, NEDO, DERR

**DRAFT**

**FACILITY-WIDE GROUNDWATER MONITORING PROGRAM**

**INVESTIGATION-DERIVED WASTE CHARACTERIZATION  
AND DISPOSAL PLAN  
JANUARY 2009 SAMPLING EVENT**

**RAVENNA ARMY AMMUNITION PLANT,  
RAVENNA, OHIO**

**MARC Contract Number W912QR-04-D-0036  
Delivery Order No. 0006**

**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**

**March 2009**

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## CONTENTS

3 CONTENTS..... i  
4 TABLES ..... i  
5 APPENDICES ..... i  
6 ACRONYMS ..... ii  
7 1.0 INTRODUCTION .....1  
8 2.0 OPERATIONAL HISTORY AND WASTE GENERATION .....1  
9 3.0 MANAGEMENT OF ENVIRONMENTAL MEDIA.....2  
10 4.0 DISCUSSION OF ANALYTICAL RESULTS.....2  
11 5.0 RECOMMENDATIONS FOR DISPOSAL .....3  
12 5.1 Groundwater .....3  
13 5.2 Decontamination Fluids .....3  
14 5.3 Summary of Disposal Recommendations .....4  
15 6.0 REFERENCES .....5

19  
20

## TABLES

21 Table 2.1 IDW Inventory of Drums.....2  
22 Table 5.1 Detected Analytical Results When Compared to USEPA Regulatory  
23 Characteristic Levels (40 CFR 261.20 – 24) .....4  
24 Table 5.2 Summary of Drum Containers, TCLP Criteria, and Disposal  
25 Recommendations.....5  
26  
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## APPENDICES

31 Appendix 1 Investigation-Derived Waste Analytical Report

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2 **ACRONYMS**

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4	AOC	Area of Concern
5	EQM	Environmental Quality Management, Inc.
6	EPA	U.S. Environmental Protection Agency
7	IDW	Investigation-derived wastes
8	Ohio EPA	Ohio Environmental Protection Agency
9	PPE	Personal protective equipment
10	RCRA	Resource Conservation and Recovery Act
11	RVAAP	Ravenna Army Ammunition Plant
12	SAP	Sampling and Analysis Plan
13	SVOC	Semi-volatile organic compounds
14	TCLP	Toxicity Characteristic Leaching Procedure
15	USACE	US Army Corps of Engineers
16	VOC	Volatile organic compounds

## 1.0 INTRODUCTION

Investigative activities were conducted during the Facility Wide Groundwater Monitoring Program sampling events in January 2009 at the Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio, resulting in the generation of investigation-derived wastes (IDW) consisting of purge-water and equipment decontamination water wastes. The IDW purge water was generated in the course of sampling each well. The IDW decontamination waters were generated from the cleaning and decontamination activities for non-dedicated equipment needed 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*,
- Recommendations for disposal.

This document follows guidance established by the US Army Corps of Engineers (USACE) and the Ohio 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 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 January 2009 sampling event. The purge water collected from the 20 AOCs sampled was stored in drums labeled for purge water disposal, as opposed to previous events where each AOC had its own drum. The decision to composite the purge water was decided in a telephone conference between M. Patterson (RVAAP), E. Mohr (OEPA) and V. Deppisch (OEPA) on January 16, 2008. Purge water was generated in accordance with the Facility Wide Sampling and Analysis Plan (SAP), Section 4.3.4.2 (SAIC, 2001) under the Micro-Purging 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 4.3.8 Decontamination Procedures of the Facility Wide SAP.

The drum container label number, the type and size of drum container used, estimated volume within each drum, and the source of purge waste water or decontamination fluid is presented in Table 2.1 below.

**Table 2.1. IDW Inventory of Drums**

Drum Label	Drum Type & Size	Contents	Estimated Volume	Location/Source
EQM 2009-1	55 Gal. Steel	Decontamination/Rinse Water	~40-gallons	Equipment Rinse/Decontamination
EQM 2009-2	55 Gal. Steel	Purge water	~50-gallons	*
EQM 2009-3	55 Gal. Steel	Purge water	~50-gallons	*
EQM 2009-4	55 Gal. Steel	Purge water	~50-gallons	*

\* = LL1, LLs 5-11, Central Burn Pits, Cobbs Pond, Erie Burning Grounds,, Winklepeck Burning Grounds, Open Demolition Area #2, Landfill N. of Winklepeck, Mustard Burial Site, NACA Test Run Area, Fuze & Booster Quarry, Ramsdell Quarry, Building 1200, C-Block.

### 3.0 MANAGEMENT OF ENVIRONMENTAL MEDIA

All environmental media were managed in a manner that minimized potential risk to human health and the environment. IDW was handled as nonhazardous material pending waste characterization and classification based on analytical results. The Facility-Wide SAP (SAIC, 2001) and the Final Part 1 Sampling and Analysis Plan (Portage, 2004) describe approved procedures used for containerizing and handling IDW.

All liquid indigenous (purged groundwater) IDW generated from each monitoring well micro-purging was placed into the 55-gallon drum as previously agreed upon by RVAAP, USACE and Ohio EPA. The purge water was transferred daily from each well location after sampling by closed-top 5-gallon buckets to the appropriately labeled 55-gallon drum located and staged inside Building 1036.

### 4.0 DISCUSSION OF ANALYTICAL RESULTS

Per Section 7.4 of the *Facility-Wide SAP (2001)*, IDW Characterization and Classification for Disposal, all IDW indigenous wastes were characterized for disposal by taking composite samples collected from each of the segregated waste streams. There were only two segregated waste streams that needed to be investigated: one for the purge water generated, and one for the decontamination procedures. Each waste stream had a composite sample taken by using a “drum thief” 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, North Canton for full toxicity characteristic leaching procedure (TCLP) analysis using the following methods in accordance with the Facility-Wide SAP (SAIC, 2001):

- TCLP Mercury by SW846 1311/7470A

- 1 • TCLP Metals (Silver, arsenic, barium, cadmium, chromium, lead, and selenium)
- 2 by SW846 1311/6010B
- 3 • TCLP Semi-volatile organic compounds (SVOCs) by SW846 1311/8270C
- 4 • TCLP Volatile organic compounds (VOCs) by SW846 1311/8260B
- 5 • Reactive Cyanide by SW846 7.3.3
- 6 • Reactive Sulfide by SW846 7.3.4
- 7 • Flash Point by SW846 1010
- 8 • pH by SW846 9040B

9  
10 A trip blank was submitted with the samples and analyzed for Volatile Organic  
11 Compounds. The IDW analytical results are presented in Appendix 1.

## 12 13 14 **5.0 RECOMMENDATIONS FOR DISPOSAL**

15  
16 Table 7-1 in the *Facility-Wide SAP* (SAIC, 2001) presents all the maximum  
17 concentration of contaminants for the toxicity characteristic for hazardous wastes as per  
18 40 CFR 261.24. Analytical results for the January 2009 groundwater sampling event's  
19 IDW were compared against these criteria to determine whether waste streams generated  
20 were potentially hazardous or non-hazardous.

### 21 22 **5.1 Groundwater**

23  
24 IDW was generated during the well sampling activities by micro-purging monitoring  
25 wells associated with this investigation. After comparing the analytical data results  
26 generated from groundwater sampling activities to the contaminants and their regulatory  
27 levels from Table 7-1 1 in the *Facility-Wide SAP* (SAIC, 2001), the data indicated that no  
28 regulatory criteria for Resource Conservation and Recovery Act (RCRA) hazardous  
29 waste determinations were exceeded. Table 5.1 below presents the detected results  
30 compared to the regulatory characteristic for hazardous wastes as per 40 CFR 261.24.

31  
32 It is recommended that the drums containing purged groundwater be classified as  
33 contaminated, but non-hazardous and that it be sent off-site for disposal to a permitted  
34 water treatment facility in accordance with the *Facility-Wide SAP* (SAIC, 2001)  
35 guidance under Section 7.0 "Investigation-Derived Waste".

### 36 37 **5.2 Decontamination Fluids**

38  
39 A composite sample collected from decontamination fluids generated from cleaning of  
40 non-dedicated sampling equipment used during the investigation indicated that all  
41 analytes were below TCLP threshold values and therefore should be classified as non-  
42 hazardous. It is recommended that the water in this drum be classified as contaminated,  
43 non-hazardous, and be sent off-site for disposal to a permitted water treatment facility in  
44 accordance with the *Facility-Wide SAP* (SAIC, 2001) guidance under Section 7.0  
45 Investigation-Derived Waste.



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**Table 5.1 Detected Analytical Results**

Sample ID	Detected Contaminant	Detected Result	Regulatory <sup>1</sup> Level	Above Regulatory Yes/No
FWG-IDW-MWPURGE JAN 09	Barium	0.040mg/L J	100 mg/L	No
	Reactive Sulfide	17.7 mg/kg J	See Table Notes	No
	Flashpoint	>180°F	<140°F	No
	pH	7.3	<2 or >12.5	No
FWG-IDW-MWDECON- JAN 09	Barium	0.0024 mg/L J	100 mg/L	No
	Cadmium	0.0025 mg/L J	1.0 mg/L	No
	Chromium	0.0029 mg/L J	5.0 mg/L	No
	Lead	0.0034 mg/L J	5.0 mg/L	No
	Reactive Sulfide	50.1 mg/kg J	See Table Notes	No
	Flashpoint	>180°F	<140°F	No
	pH	7.8	<2 or >12.5	No
Trip Blank	None Detected	-	-	-

4 J = Estimated result. Result is less than reporting limit.  
 5 Reactive Sulfide Note: Despite the presence of a low concentration of reactive sulfide  
 6 the waste streams are deemed nonhazardous as they do not meet the hazardous waste  
 7 criteria set forth in OAC 3725-51-23 (i.e., reacts violently with water or produces toxic  
 8 gases, fumes or vapors between the ph of 2 and 12.5).  
 9 Note that the flags used to qualify the data are consistent with USACE Laboratory  
 10 Chemistry Guidelines and the RVAAP quarterly groundwater reports.  
 11 1 = USEPA Regulatory Characteristic Levels (40 CFR 261.20 through 24).  
 12

13 **5.3 Summary of Disposal Recommendations**

14 It is recommended that all drums be classified as contaminated, but non-hazardous and  
 15 that they be sent off-site for disposal to a permitted water treatment facility. The  
 16 TCLP/Characteristic test results for both composite samples show that no chemical was  
 17 detected in levels that required a labeling of hazardous. Table 5.2 presents a summary of  
 18 each drum and the recommended disposal options for the waste streams presented and  
 19 previously discussed.  
 20

1  
2 **Table 5.2. Summary of Drum Containers, TCLP/Characteristic Waste Criteria,**  
3 **and Disposal Recommendations**

<b>Drum Container Label</b>	<b>Media</b>	<b>TCLP Criteria</b>	<b>Disposal Recommendation</b>
EQM 2009-1	Water	Maximum Concentration of Contaminants NOT exceeded	Off-Site Non-Hazardous Disposal
EQM 2009-2	Water	Maximum Concentration of Contaminants NOT exceeded	Off-Site Non-Hazardous Disposal
EQM 2009-3	Water	Maximum Concentration of Contaminants NOT exceeded	Off-Site Non-Hazardous Disposal
EQM 2009-4	Water	Maximum Concentration of Contaminants NOT exceeded	Off-Site Non-Hazardous Disposal

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6 **6.0 REFERENCES**

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8 SAIC, 2001. *Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio.*

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11 Portage Environmental, 2004, *RVAAP Facility Wide Groundwater Monitoring Program Plan.*  
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**APPENDIX 1**  
**INVESTIGATION-DERIVED WASTE**  
**ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

**ANALYTICAL REPORT**

PROJECT NO. 30240.0006

RVAAP RAVENNA, OH

Lot #: A9A290269

Erik Corbin

Environmental Quality Mgt., I  
1800 Carillon Blvd  
Cincinnati, OH 45240

TESTAMERICA LABORATORIES, INC.



Approved for release.  
Mark J. Loeb  
Project Manager II  
2/17/2009 9:56 AM

Mark J. Loeb  
Project Manager  
mark.loeb@testamericainc.com

February 17, 2009



## CASE NARRATIVE

A9A290269

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Environmental Quality Mgt., Inc. from the RVAAP Ravenna, OH Site, project number 30240.0006. The samples were received January 29, 2009, according to documented sample acceptance procedures.

The Reactive Cyanide and Reactive Sulfide analyses were performed at the TestAmerica Buffalo Laboratory.

TestAmerica utilizes USEPA approved methods 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. Preliminary results were provided to Angye Dragotta, Erik Corbin, and Jackie Doan on February 12, 2009. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North 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.

Any reference within this document to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.)

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.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Mark J. Loeb, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.1°C.

#### **GC/MS VOLATILES**

Sample(s) FWG-IDW-MWDECON JAN 09 had elevated reporting limits due to foaming.

The matrix spike/matrix spike duplicate(s) for FWG-IDW-MWPURGE JAN 09 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

There were no client requested Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples in batch(es) 9035412. Therefore, the laboratory has included a Laboratory Control Sample Duplicate (LCSD) in the QC batch. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system.

#### **GC/MS SEMIVOLATILES**

There were no client requested Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples in batch(es) 9035037. Therefore, the laboratory has included a Laboratory Control Sample Duplicate (LCSD) in the QC batch. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system.

#### **METALS**

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

#### **GENERAL CHEMISTRY**

Sample(s) FWG-IDW-MWPURGE JAN 09 and FWG-IDW-MWDECON JAN 09 for pH were run outside of method recommended holding time due to analyst over-sight.

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

<b>Volatile (GC or GC/MS)</b>	<b>Semivolatile (GC/MS)</b>	<b>Metals ICP-MS</b>	<b>Metals ICP Trace</b>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.



### TestAmerica North Canton Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP  
(#CL0024), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

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# EXECUTIVE SUMMARY - Detection Highlights

A9A290269

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>FWG-IDW-MWPURGE JAN 09 01/28/09 14:30 001</b>				
Barium - TCLP	0.040 B	10.0	mg/L	SW846 6010B
Flashpoint	>180		deg F	SW846 1010
pH (liquid)	7.3		No Units	SW846 9040B
<b>FWG-IDW-MWDECON JAN 09 01/28/09 14:00 002</b>				
Barium - TCLP	0.0024 B	10.0	mg/L	SW846 6010B
Cadmium - TCLP	0.0025 B	0.10	mg/L	SW846 6010B
Chromium - TCLP	0.0029 B	0.50	mg/L	SW846 6010B
Lead - TCLP	0.0034 B	0.50	mg/L	SW846 6010B
Flashpoint	>180		deg F	SW846 1010
pH (liquid)	7.8		No Units	SW846 9040B

# ANALYTICAL METHODS SUMMARY

A9A290269

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
pH Aqueous	SW846 8260B
Inductively Coupled Plasma (ICP) Metals	SW846 9040B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 6010B
Pensky-Martens Method for Determining Ignitability	SW846 7470A
Semivolatile Organic Compounds by GC/MS	SW846 1010
Volatile Organics by GC/MS	SW846 8270C
	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

## SAMPLE SUMMARY

A9A290269

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
K6F6K	001	FWG-IDW-MWPURGE JAN 09	01/28/09	14:30
K6F6R	002	FWG-IDW-MWDECON JAN 09	01/28/09	14:00
K6F6V	003	TRIP BLANK	01/28/09	12:00

### NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWPURGE JAN 09

TCLP GC/MS Volatiles

Lot-Sample #...: A9A290269-001 Work Order #...: K6F6K1AA Matrix.....: WG  
 Date Sampled...: 01/28/09 14:30 Date Received...: 01/29/09  
 Leach Date.....: 02/03/09 Prep Date.....: 02/04/09 Analysis Date...: 02/04/09  
 Leach Batch #...: P903404 Prep Batch #...: 9035441  
 Dilution Factor: 1  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	0.025	mg/L	0.00013
2-Butanone (MEK)	ND	0.25	mg/L	0.00057
Carbon tetrachloride	ND	0.025	mg/L	0.00013
Chlorobenzene	ND	0.025	mg/L	0.00015
Chloroform	ND	0.025	mg/L	0.00016
1,2-Dichloroethane	ND	0.025	mg/L	0.00022
1,1-Dichloroethylene	ND	0.070	mg/L	0.00019
Tetrachloroethylene	ND	0.070	mg/L	0.00029
Trichloroethylene	ND	0.050	mg/L	0.00017
Vinyl chloride	ND	0.025	mg/L	0.00022

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(86 - 125)
1,2-Dichloroethane-d4	107	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	96	(84 - 125)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWPURGE JAN 09

TCLP GC/MS Semivolatiles

Lot-Sample #...: A9A290269-001 Work Order #...: K6F6K1AD Matrix.....: WG  
 Date Sampled...: 01/28/09 14:30 Date Received...: 01/29/09  
 Leach Date.....: 02/03/09 Prep Date.....: 02/04/09 Analysis Date...: 02/06/09  
 Leach Batch #...: P903403 Prep Batch #...: 9035037  
 Dilution Factor: 1  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
o-Cresol	ND	0.0040	mg/L	0.00080
m-Cresol & p-Cresol	ND	0.040	mg/L	0.00075
1,4-Dichlorobenzene	ND	0.0040	mg/L	0.00034
2,4-Dinitrotoluene	ND	0.020	mg/L	0.00027
Hexachlorobenzene	ND	0.020	mg/L	0.00010
Hexachlorobutadiene	ND	0.020	mg/L	0.00027
Hexachloroethane	ND	0.020	mg/L	0.00080
Nitrobenzene	ND	0.0040	mg/L	0.000040
Pentachlorophenol	ND	0.040	mg/L	0.0024
Pyridine	ND	0.020	mg/L	0.00035
2,4,5-Trichloro-phenol	ND	0.020	mg/L	0.00030
2,4,6-Trichloro-phenol	ND	0.020	mg/L	0.00080

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66	(27 - 110)
2-Fluorobiphenyl	66	(20 - 110)
Terphenyl-d14	97	(44 - 110)
Phenol-d5	65	(10 - 110)
2-Fluorophenol	40	(10 - 110)
2,4,6-Tribromophenol	74	(28 - 110)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWPURGE JAN 09

TCLP Metals

Lot-Sample #...: A9A290269-001 Matrix.....: WG  
 Date Sampled...: 01/28/09 14:30 Date Received...: 01/29/09  
 Leach Date.....: 02/03/09 Leach Batch #...: P903403

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 9035020						
Mercury	ND	0.0020	mg/L	SW846 7470A	02/04-02/06/09	K6F6K1AN
		Dilution Factor: 1		MDL.....: 0.00012		
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AF
		Dilution Factor: 1		MDL.....: 0.0032		
Barium	0.040 B	10.0	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Cadmium	ND	0.10	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AH
		Dilution Factor: 1		MDL.....: 0.00066		
Chromium	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AJ
		Dilution Factor: 1		MDL.....: 0.0022		
Lead	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AK
		Dilution Factor: 1		MDL.....: 0.0019		
Selenium	ND	0.25	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AL
		Dilution Factor: 1		MDL.....: 0.0041		
Silver	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6K1AM
		Dilution Factor: 1		MDL.....: 0.0022		

NOTE(S) :

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

B Estimated result. Result is less than RL.

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWPURGE JAN 09

General Chemistry

Lot-Sample #....: A9A290269-001    Work Order #....: K6F6K    Matrix.....: WG  
Date Sampled....: 01/28/09 14:30    Date Received...: 01/29/09

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	7.3		No Units	SW846 9040B	01/31/09	9031075
			Dilution Factor: 1	MDL.....:		
Flashpoint	>180		deg F	SW846 1010	02/07/09	9038071
			Dilution Factor: 1	MDL.....:		

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWDECON JAN 09

TCLP GC/MS Volatiles

Lot-Sample #...: A9A290269-002 Work Order #...: K6F6R1AA Matrix.....: WG  
 Date Sampled...: 01/28/09 14:00 Date Received...: 01/29/09  
 Leach Date.....: 02/03/09 Prep Date.....: 02/04/09 Analysis Date...: 02/04/09  
 Leach Batch #...: P903404 Prep Batch #...: 9035441  
 Dilution Factor: 2 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	0.050	mg/L	0.00026
2-Butanone (MEK)	ND	0.50	mg/L	0.0011
Carbon tetrachloride	ND	0.050	mg/L	0.00026
Chlorobenzene	ND	0.050	mg/L	0.00030
Chloroform	ND	0.050	mg/L	0.00032
1,2-Dichloroethane	ND	0.050	mg/L	0.00044
1,1-Dichloroethylene	ND	0.050	mg/L	0.00038
Tetrachloroethylene	ND	0.050	mg/L	0.00058
Trichloroethylene	ND	0.050	mg/L	0.00034
Vinyl chloride	ND	0.050	mg/L	0.00044

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	104	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Elevated reporting limits due to matrix interference.



Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWDECON JAN 09

TCLP GC/MS Semivolatiles

Lot-Sample #...: A9A290269-002 Work Order #...: K6F6R1AD Matrix.....: WG  
 Date Sampled...: 01/28/09 14:00 Date Received...: 01/29/09  
 Leach Date.....: 02/03/09 Prep Date.....: 02/04/09 Analysis Date...: 02/11/09  
 Leach Batch #...: P903403 Prep Batch #...: 9035037  
 Dilution Factor: 1  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
o-Cresol	ND	0.0040	mg/L	0.00080
m-Cresol & p-Cresol	ND	0.040	mg/L	0.00075
1,4-Dichlorobenzene	ND	0.0040	mg/L	0.00034
2,4-Dinitrotoluene	ND	0.020	mg/L	0.00027
Hexachlorobenzene	ND	0.020	mg/L	0.00010
Hexachlorobutadiene	ND	0.020	mg/L	0.00027
Hexachloroethane	ND	0.020	mg/L	0.00080
Nitrobenzene	ND	0.0040	mg/L	0.000040
Pentachlorophenol	ND	0.040	mg/L	0.0024
Pyridine	ND	0.020	mg/L	0.00035
2,4,5-Trichloro-phenol	ND	0.020	mg/L	0.00030
2,4,6-Trichloro-phenol	ND	0.020	mg/L	0.00080

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66	(27 - 110)
2-Fluorobiphenyl	71	(20 - 110)
Terphenyl-d14	92	(44 - 110)
Phenol-d5	63	(10 - 110)
2-Fluorophenol	38	(10 - 110)
2,4,6-Tribromophenol	83	(28 - 110)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWDECON JAN 09

TCLP Metals

Lot-Sample #...: A9A290269-002

Matrix.....: WG

Date Sampled...: 01/28/09 14:00 Date Received...: 01/29/09

Leach Date.....: 02/03/09 Leach Batch #...: P903403

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 9035020						
Mercury	ND	0.0020	mg/L	SW846 7470A	02/04-02/06/09	K6F6R1AN
		Dilution Factor: 1		MDL.....: 0.00012		
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AF
		Dilution Factor: 1		MDL.....: 0.0032		
Barium	0.0024 B	10.0	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AG
		Dilution Factor: 1		MDL.....: 0.00067		
Cadmium	0.0025 B	0.10	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AH
		Dilution Factor: 1		MDL.....: 0.00066		
Chromium	0.0029 B	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AJ
		Dilution Factor: 1		MDL.....: 0.0022		
Lead	0.0034 B	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AK
		Dilution Factor: 1		MDL.....: 0.0019		
Selenium	ND	0.25	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AL
		Dilution Factor: 1		MDL.....: 0.0041		
Silver	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6F6R1AM
		Dilution Factor: 1		MDL.....: 0.0022		

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

B Estimated result. Result is less than RL.

Environmental Quality Mgt., Inc.

Client Sample ID: FWG-IDW-MWDECON JAN 09

General Chemistry

Lot-Sample #....: A9A290269-002    Work Order #....: K6F6R    Matrix.....: WG  
Date Sampled....: 01/28/09 14:00    Date Received...: 01/29/09

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	7.8		No Units	SW846 9040B MDL.....:	01/31/09	9031075
			Dilution Factor: 1			
Flashpoint	>180		deg F	SW846 1010 MDL.....:	02/07/09	9038071
			Dilution Factor: 1			

Environmental Quality Mgt., Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A9A290269-003 Work Order #...: K6F6V1AA Matrix.....: WQ  
 Date Sampled...: 01/28/09 12:00 Date Received...: 01/29/09  
 Prep Date.....: 02/04/09 Analysis Date...: 02/04/09  
 Prep Batch #...: 9035412  
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.0	ug/L	0.13
2-Butanone (MEK)	ND	20	ug/L	0.57
Carbon tetrachloride	ND	5.0	ug/L	0.13
Chlorobenzene	ND	5.0	ug/L	0.15
Chloroform	ND	5.0	ug/L	0.16
1,2-Dichloroethane	ND	5.0	ug/L	0.22
1,1-Dichloroethylene	ND	5.0	ug/L	0.19
Tetrachloroethylene	ND	5.0	ug/L	0.29
Trichloroethylene	ND	5.0	ug/L	0.17
Vinyl chloride	ND	5.0	ug/L	0.22

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(78 - 115)
1,2-Dichloroethane-d4	109	(77 - 120)
Toluene-d8	102	(78 - 111)
4-Bromofluorobenzene	98	(80 - 114)

***QUALITY CONTROL  
SECTION***

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9A290269      Work Order #...: K6PN61AA      Matrix.....: WATER  
 MB Lot-Sample #: A9B040000-412  
 Prep Date.....: 02/03/09  
 Analysis Date...: 02/03/09      Prep Batch #...: 9035412  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethylene	ND	5.0	ug/L	SW846 8260B
Tetrachloroethylene	ND	5.0	ug/L	SW846 8260B
Trichloroethylene	ND	5.0	ug/L	SW846 8260B
Vinyl chloride	ND	5.0	ug/L	SW846 8260B
2-Butanone (MEK)	ND	20	ug/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(78 - 115)
1,2-Dichloroethane-d4	104	(77 - 120)
Toluene-d8	103	(78 - 111)
4-Bromofluorobenzene	97	(80 - 114)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A9A290269      Work Order #...: K6LAK1AA      Matrix.....: WATER  
 MB Lot-Sample #: A9B030000-085  
 Leach Date.....: 02/03/09      Prep Date.....: 02/04/09      Analysis Date...: 02/04/09  
 Leach Batch #...: P903404      Prep Batch #...: 9035441  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
2-Butanone (MEK)	ND	0.25	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.025	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.025	mg/L	SW846 8260B
Trichloroethylene	ND	0.025	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	94	(86 - 125)
1,2-Dichloroethane-d4	102	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	96	(84 - 125)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9A290269      Work Order #...: K6NFG1AA      Matrix.....: WATER  
 MB Lot-Sample #: A9B040000-037  
 Leach Date.....: 02/03/09      Prep Date.....: 02/04/09      Analysis Date...: 02/06/09  
 Leach Batch #...: P903403      Prep Batch #...: 9035037  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.0040	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.040	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.0040	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.020	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.020	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.020	mg/L	SW846 8270C
Hexachloroethane	ND	0.020	mg/L	SW846 8270C
Nitrobenzene	ND	0.0040	mg/L	SW846 8270C
Pentachlorophenol	ND	0.040	mg/L	SW846 8270C
Pyridine	ND	0.020	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.020	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.020	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	78	(27 - 110)
2-Fluorobiphenyl	79	(20 - 110)
Terphenyl-d14	103	(44 - 110)
Phenol-d5	75	(10 - 110)
2-Fluorophenol	64	(10 - 110)
2,4,6-Tribromophenol	70	(28 - 110)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.



METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A9A290269

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A9B030000-084 <b>Prep Batch #...</b> : 9035020 <b>Leach Date.....:</b> 02/03/09 <b>Leach Batch #...</b> : P903403						
Mercury	ND	0.0020	mg/L	SW846 7470A	02/04-02/06/09	K6LAH1AK
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AC
		Dilution Factor: 1				
Barium	0.0017 B	10.0	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AD
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AE
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AF
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AG
		Dilution Factor: 1				
Selenium	0.0089 B	0.25	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AH
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6LAH1AJ
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A9A290269

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #: A9B040000-020 Prep Batch #...: 9035020</b>						
Mercury	ND	0.0020	mg/L	SW846 7470A	02/04-02/06/09	K6NEN1AJ
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AA
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AC
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AD
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AE
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AF
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AG
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	02/04-02/06/09	K6NEN1AH
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A9A290269      Work Order #....: K6PN61AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A9B040000-412      K6PN61AD-LCSD  
 Prep Date.....: 02/03/09      Analysis Date...: 02/03/09  
 Prep Batch #....: 9035412  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Vinyl chloride	101	(55 - 121)			SW846 8260B
	86	(55 - 121)	17	(0-30)	SW846 8260B
<b>1,1-Dichloroethylene</b>	<b>99</b>	<b>(65 - 119)</b>			<b>SW846 8260B</b>
	<b>84</b>	<b>(65 - 119)</b>	<b>16</b>	<b>(0-20)</b>	<b>SW846 8260B</b>
Chloroform	109	(87 - 119)			SW846 8260B
	100	(87 - 119)	8.8	(0-30)	SW846 8260B
1,2-Dichloroethane	116	(83 - 122)			SW846 8260B
	105	(83 - 122)	9.5	(0-30)	SW846 8260B
2-Butanone (MEK)	154	(53 - 173)			SW846 8260B
	139	(53 - 173)	10	(0-40)	SW846 8260B
Carbon tetrachloride	90	(81 - 126)			SW846 8260B
	78 a	(81 - 126)	14	(0-30)	SW846 8260B
<b>Trichloroethylene</b>	<b>107</b>	<b>(80 - 122)</b>			<b>SW846 8260B</b>
	<b>97</b>	<b>(80 - 122)</b>	<b>9.6</b>	<b>(0-20)</b>	<b>SW846 8260B</b>
<b>Benzene</b>	<b>109</b>	<b>(79 - 116)</b>			<b>SW846 8260B</b>
	<b>100</b>	<b>(79 - 116)</b>	<b>8.4</b>	<b>(0-20)</b>	<b>SW846 8260B</b>
Tetrachloroethylene	113	(83 - 116)			SW846 8260B
	103	(83 - 116)	8.6	(0-30)	SW846 8260B
<b>Chlorobenzene</b>	<b>104</b>	<b>(81 - 115)</b>			<b>SW846 8260B</b>
	<b>97</b>	<b>(81 - 115)</b>	<b>7.2</b>	<b>(0-20)</b>	<b>SW846 8260B</b>

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(78 - 115)
	99	(78 - 115)
1,2-Dichloroethane-d4	105	(77 - 120)
	103	(77 - 120)
Toluene-d8	105	(78 - 111)
	107	(78 - 111)
4-Bromofluorobenzene	105	(80 - 114)
	103	(80 - 114)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9A290269      Work Order #...: K6P0P1AA      Matrix.....: WATER  
 LCS Lot-Sample#: A9B040000-441  
 Prep Date.....: 02/04/09      Analysis Date...: 02/04/09  
 Prep Batch #...: 9035441  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>92</b>	<b>(76 - 118)</b>	<b>SW846 8260B</b>
2-Butanone (MEK)	127 a	(40 - 110)	SW846 8260B
Carbon tetrachloride	70 a	(71 - 124)	SW846 8260B
<b>Chlorobenzene</b>	<b>89</b>	<b>(76 - 113)</b>	<b>SW846 8260B</b>
Chloroform	91	(82 - 117)	SW846 8260B
1,2-Dichloroethane	99	(78 - 122)	SW846 8260B
<b>1,1-Dichloroethylene</b>	<b>82</b>	<b>(67 - 128)</b>	<b>SW846 8260B</b>
Tetrachloroethylene	102	(64 - 121)	SW846 8260B
<b>Trichloroethylene</b>	<b>92</b>	<b>(76 - 119)</b>	<b>SW846 8260B</b>
Vinyl chloride	84	(47 - 123)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(86 - 124)
1,2-Dichloroethane-d4	109	(80 - 122)
Toluene-d8	105	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #....: A9A290269      Work Order #....: K6NFG1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A9B040000-037      K6NFG1AD-LCSD  
 Prep Date.....: 02/04/09      Analysis Date...: 02/06/09  
 Prep Batch #....: 9035037  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
o-Cresol	74	(23 - 110)			SW846 8270C
	75	(23 - 110)	1.6	(0-30)	SW846 8270C
m-Cresol & p-Cresol	71	(28 - 110)			SW846 8270C
	73	(28 - 110)	3.6	(0-30)	SW846 8270C
1,4-Dichlorobenzene	80	(13 - 110)			SW846 8270C
	81	(13 - 110)	0.19	(0-30)	SW846 8270C
2,4-Dinitrotoluene	85	(45 - 119)			SW846 8270C
	89	(45 - 119)	3.7	(0-30)	SW846 8270C
Hexachlorobenzene	81	(46 - 112)			SW846 8270C
	82	(46 - 112)	2.0	(0-30)	SW846 8270C
Hexachlorobutadiene	50	(10 - 110)			SW846 8270C
	50	(10 - 110)	0.45	(0-30)	SW846 8270C
Hexachloroethane	56	(10 - 110)			SW846 8270C
	58	(10 - 110)	3.2	(0-30)	SW846 8270C
Nitrobenzene	87	(29 - 118)			SW846 8270C
	88	(29 - 118)	0.82	(0-30)	SW846 8270C
Pentachlorophenol	54	(10 - 116)			SW846 8270C
	68	(10 - 116)	22	(0-30)	SW846 8270C
Pyridine	65	(15 - 110)			SW846 8270C
	63	(15 - 110)	4.1	(0-30)	SW846 8270C
2,4,5-Trichloro-phenol	74	(36 - 110)			SW846 8270C
	78	(36 - 110)	5.5	(0-30)	SW846 8270C
2,4,6-Trichloro-phenol	70	(32 - 110)			SW846 8270C
	74	(32 - 110)	5.3	(0-30)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	81	(27 - 110)
	82	(27 - 110)
2-Fluorobiphenyl	79	(20 - 110)
	80	(20 - 110)
Terphenyl-d14	99	(44 - 110)
	102	(44 - 110)
Phenol-d5	77	(10 - 110)
	79	(10 - 110)
2-Fluorophenol	57	(10 - 110)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A9A290269      Work Order #...: K6NFG1AC-LCS      Matrix.....: WATER  
LCS Lot-Sample#: A9B040000-037      K6NFG1AD-LCSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
	70	(10 - 110)
2,4,6-Tribromophenol	79	(28 - 110)
	79	(28 - 110)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TCLP Metals**

**Client Lot #...:** A9A290269

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A9B040000-020 <b>Prep Batch #...:</b> 9035020					
Mercury	103	(50 - 150)	SW846 7470A	02/04-02/06/09	K6NEN1AT
		Dilution Factor: 1			
Arsenic	103	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AK
		Dilution Factor: 1			
Barium	103	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AL
		Dilution Factor: 1			
Cadmium	109	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AM
		Dilution Factor: 1			
Chromium	102	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AN
		Dilution Factor: 1			
Lead	104	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AP
		Dilution Factor: 1			
Selenium	105	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AQ
		Dilution Factor: 1			
Silver	118	(50 - 150)	SW846 6010B	02/04-02/06/09	K6NEN1AR
		Dilution Factor: 1			

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9A290269

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	99	Work Order #: K6JWV1AA (97 - 103)	LCS Lot-Sample#: A9A310000-075 SW846 9040B	01/31/09	9031075
		Dilution Factor: 1			

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.



MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A9A290269      Work Order #...: K6F6K1CE-MS      Matrix.....: WG  
 MS Lot-Sample #: A9A290269-001      K6F6K1CF-MSD  
 Date Sampled...: 01/28/09 14:30      Date Received...: 01/29/09  
 Leach Date.....: 02/03/09      Prep Date.....: 02/04/09      Analysis Date...: 02/04/09  
 Leach Batch #...: P903404      Prep Batch #...: 9035441  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	<b>94</b>	(76 - 117)			<b>SW846 8260B</b>
	<b>97</b>	(76 - 117)	3.3	(0-30)	<b>SW846 8260B</b>
2-Butanone (MEK)	131 a	(37 - 110)			SW846 8260B
	138 a	(37 - 110)	5.0	(0-30)	SW846 8260B
Carbon tetrachloride	69 a	(72 - 124)			SW846 8260B
	69 a	(72 - 124)	0.69	(0-30)	SW846 8260B
Chlorobenzene	<b>89</b>	(72 - 114)			<b>SW846 8260B</b>
	<b>93</b>	(72 - 114)	5.1	(0-30)	<b>SW846 8260B</b>
Chloroform	95	(82 - 117)			SW846 8260B
	97	(82 - 117)	1.8	(0-30)	SW846 8260B
1,2-Dichloroethane	101	(80 - 120)			SW846 8260B
	105	(80 - 120)	3.7	(0-30)	SW846 8260B
1,1-Dichloroethylene	<b>85</b>	(67 - 129)			<b>SW846 8260B</b>
	<b>80</b>	(67 - 129)	5.5	(0-30)	<b>SW846 8260B</b>
Tetrachloroethylene	104	(60 - 119)			SW846 8260B
	106	(60 - 119)	2.0	(0-30)	SW846 8260B
Trichloroethylene	<b>94</b>	(72 - 121)			<b>SW846 8260B</b>
	<b>98</b>	(72 - 121)	5.0	(0-30)	<b>SW846 8260B</b>
Vinyl chloride	91	(54 - 118)			SW846 8260B
	88	(54 - 118)	3.0	(0-30)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(86 - 125)
	97	(86 - 125)
1,2-Dichloroethane-d4	109	(80 - 122)
	109	(80 - 122)
Toluene-d8	103	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)
	101	(84 - 125)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TCLP Metals**

Client Lot #...: A9A290269

Matrix.....: WG

Date Sampled...: 01/28/09 14:30 Date Received...: 01/29/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #: A9A290269-001 Prep Batch #...: 9035020</b>							
<b>Leach Date.....: 02/03/09 Leach Batch #...: P903403</b>							
Mercury	99	(50 - 150)			SW846 7470A	02/04-02/06/09	K6F6K1CC
	99	(50 - 150)	0.58	(0-20)	SW846 7470A	02/04-02/06/09	K6F6K1CD
Dilution Factor: 1							
Arsenic	107	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1AV
	105	(50 - 150)	1.6	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1AW
Dilution Factor: 5							
Barium	107	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1AX
	105	(50 - 150)	1.2	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1A0
Dilution Factor: 5							
Cadmium	115	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1A1
	113	(50 - 150)	1.9	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1A2
Dilution Factor: 5							
Chromium	108	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1A3
	106	(50 - 150)	1.9	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1A4
Dilution Factor: 5							
Lead	110	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1A5
	107	(50 - 150)	2.1	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1A6
Dilution Factor: 5							
Selenium	108	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1A7
	106	(50 - 150)	2.3	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1A8
Dilution Factor: 5							
Silver	113	(50 - 150)			SW846 6010B	02/04-02/06/09	K6F6K1A9
	112	(50 - 150)	1.5	(0-20)	SW846 6010B	02/04-02/06/09	K6F6K1CA
Dilution Factor: 5							

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A9A290269

Work Order #...: K6JGG-SMP  
K6JGG-DUP

Matrix.....: WATER

Date Sampled...: 01/29/09 13:00 Date Received...: 01/31/09

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	5.9	No Units	0.0	(0-20)	SD Lot-Sample #: A9A310128-001 SW846 9040B	01/31/09	9031075

Dilution Factor: 1



# 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>1-28-09</b>	Chain of Custody Number <b>018430</b>	
Address <b>7800 Cuillian Blvd</b>		Telephone Number (Area Code)/Fax Number <b>513-825-7500/7495</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>E. Cumbr</b>	Lab Contact <b>M. Loeb</b>	Analysis (Attach list if more space is needed)	
Project Name and Location (State) <b>RUAAP, Ravenna, OH</b>			Carrier/Waybill Number <b>Lab PU</b>			Special Instructions/Conditions of Receipt  <b>Cooler ID</b>

Contract/Purchase Order/Quote No.  
**PN 830240.0006**

Sample I.D. No. and Description <small>(Containers for each sample may be combined on one line)</small>	Date	Time	Matrix					Containers & Preservatives							TEL SVOCs	VOC/TCLP	Metals/TCLP	Mercury/TCLP	Leachate/Elemental	pH	Stability									
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH																		
FWG-IDW-MWFURGE JAN 09	1-28-09	1430	X					4							X	X	X	X	X	X	X									712
FWG-IDW-MUDECON JAN 09	}	1400	X					4							X	X	X	X	X	X	X								712	
TRIP Blank		1200	X									1				X													712	

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

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

Turn Around Time Required  
 24 Hours  
 48 Hours  
 7 Days  
 14 Days  
 21 Days  
 Other **PER SOW**

QC Requirements (Specify)

1. Relinquished By <b>[Signature]</b>	Date <b>1/29/09</b>	Time <b>0922</b>	1. Received By <b>RE J. P. BOBSON</b>	Date <b>1-29-09</b>	Time <b>0922</b>
2. Relinquished By <b>[Signature]</b>	Date <b>1-29-09</b>	Time <b>1135</b>	2. Received By <b>[Signature]</b>	Date <b>1/29/09</b>	Time <b>1135</b>
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

34 of 49

**TestAmerica Cooler Receipt Form/Narrative**

Lot Number: AAA210269

**North Canton Facility**

Client FQM Project \_\_\_\_\_ By: Cher Lynn  
 Cooler Received on 1-29-09 Opened on 1-29-09 (Signature)

FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_  
 TestAmerica Cooler # 712 Multiple Coolers  Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler(s)? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_ Quantity Unsalvageable \_\_\_\_\_  
 Were custody seals on the outside of cooler(s) signed and dated? Yes  No  NA   
 Were custody seals on the bottle(s)? Yes  No   
 If YES, are there any exceptions? \_\_\_\_\_
  2. Shippers' packing slip attached to the cooler(s)? Yes  No
  3. Did custody papers accompany the sample(s)? Yes  No  Relinquished by client? Yes  No
  4. Were the custody papers signed in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other \_\_\_\_\_
  6. Cooler temperature upon receipt 41 °C See back of form for multiple coolers/temps   
 METHOD: IR  Other   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels be reconciled with the COC? Yes  No
  9. Were sample(s) at the correct pH upon receipt? Yes  No  NA
  10. Were correct bottle(s) used for the test(s) indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
  13. Was a trip blank present in the cooler(s)? Yes  No  Were VOAs on the COC? Yes  No
- Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal  Voice Mail  Other   
 Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**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 Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 100108-HNO<sub>3</sub>; Sulfuric Acid Lot# 100108-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot# 073007 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 050205-(CH<sub>3</sub>COO)<sub>2</sub>ZN/NaOH. What time was preservative added to sample(s)? \_\_\_\_\_

Client ID	pH	Date	Initials

**TestAmerica Cooler Receipt Form/Narrative  
North Canton Facility**

Client ID	pH	Date	Initials
Cooler #	Temp. °C	Method	Coolant

**Discrepancies Cont'd**

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

# ***BUFFALO DATA***



## Analytical Report

SDG Number: A9A290269

Work Order Description: Reactive Cyanide / Reactive Sulfide

For:

Project Manager

**TestAmerica North Canton**

4101 Shuffel Drive NW

North Canton, OH 44720



Sally Hoffman

Project Manager

Sally.Hoffman@testamericainc.com

Thursday, February 12, 2009

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception 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. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

TestAmerica North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

SDG Number: A9A290269

Received: 01/30/09  
Reported: 02/12/09 09:31

Project: Reactive Cyanide / Reactive Sulfide  
Project Number: A9A290269

## TestAmerica Buffalo Current Certifications

As of 1/27/2009

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA, NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA, CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP, SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA, CLP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania*	NELAP CWA, RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T10470441208-TX
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington*	NELAP CWA, RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA, RCRA	252

\*As required under the indicated accreditation, 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.

TestAmerica North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

SDG Number: A9A290269

Received: 01/30/09  
Reported: 02/12/09 09:31

Project: Reactive Cyanide / Reactive Sulfide  
Project Number: A9A290269

## Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

*A pertinent document is appended to this report. 1 page, is included and is an integral part of this report.*

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

TestAmerica North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

SDG Number: A9A290269

Received: 01/30/09  
Reported: 02/12/09 09:31

Project: Reactive Cyanide / Reactive Sulfide  
Project Number: A9A290269

## Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
<b>Sample ID: RSA0969-01 (FWG-IDW-MWPURGE JAN 09 - Water)</b>						<b>Sampled: 01/28/09 14:30</b>		<b>Recvd: 01/30/09 09:30</b>		
<u>General Chemistry Parameters</u>										
HCN Released From Waste	17.7		10.0		mg/L	1.00	02/04/09 20:35	RJP	9B04088	Section 7.3
<b>Sample ID: RSA0969-02 (FWG-IDW-MWDECON JAN 09 - Water)</b>						<b>Sampled: 01/28/09 14:00</b>		<b>Recvd: 01/30/09 09:30</b>		
<u>General Chemistry Parameters</u>										
H2S Released From Waste	50.1		10.0		mg/L	1.00	02/04/09 20:35	RJP	9B04089	Section 7.3

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North Canton, OH 44720

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Project Number: A9A290269

## Sample Summary

<b>SAMPLE IDENTIFICATION</b>	<b>LAB NUMBER</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
FWG-IDW-MWPURGE JAN 09	RSA0969-01	Water	01/28/09 14:30	01/30/09 09:30
FWG-IDW-MWDECON JAN 09	RSA0969-02	Water	01/28/09 14:00	01/30/09 09:30

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 Project Number: A9A290269

## Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
<b>Sample ID: RSA0969-01 (FWG-IDW-MWPURGE JAN 09 - Water)</b>						<b>Sampled: 01/28/09 14:30</b>		<b>Recvd: 01/30/09 09:30</b>		
<u>General Chemistry Parameters</u>										
HCN Released From Waste	17.7		10.0		mg/L	1.00	02/04/09 20:35	RJP	9B04088	Section 7.3
H2S Released From Waste	ND		10.0		mg/L	1.00	02/04/09 20:35	RJP	9B04089	Section 7.3
<b>Sample ID: RSA0969-02 (FWG-IDW-MWDECON JAN 09 - Water)</b>						<b>Sampled: 01/28/09 14:00</b>		<b>Recvd: 01/30/09 09:30</b>		
<u>General Chemistry Parameters</u>										
HCN Released From Waste	ND		10.0		mg/L	1.00	02/04/09 20:35	RJP	9B04088	Section 7.3
H2S Released From Waste	50.1		10.0		mg/L	1.00	02/04/09 20:35	RJP	9B04089	Section 7.3

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### SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Volume	Date	Analyst	Extraction Method
<b>General Chemistry Parameters</b>							
Section 7.3	9B04089	RSA0969-01	1.00	1.00	02/04/09 20:35	RJP	No prep Reactivity
Section 7.3	9B04088	RSA0969-01	50.00	50.00	02/04/09 20:35	RJP	No prep Reactivity
Section 7.3	9B04089	RSA0969-02	1.00	1.00	02/04/09 20:35	RJP	No prep Reactivity
Section 7.3	9B04088	RSA0969-02	50.00	50.00	02/04/09 20:35	RJP	No prep Reactivity

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## LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Spike Level	MRL	MDL	Units	Result	Dup Result	% REC	Dup %REC	%REC Limits	RPD RPD	RPD Limit	Q
<b>General Chemistry Parameters</b>													
<b>9B04088-BLK1</b>													
HCN Released From Waste	9B04088		10.0	N/A	mg/L	ND							
<b>9B04089-BLK1</b>													
H2S Released From Waste	9B04089		10.0	N/A	mg/L	ND							



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 Project Number: A9A290269

## LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	Dup %REC	%REC Limits	RPD RPD	RPD Limit	Q
<b>General Chemistry Parameters</b>													
QC Source Sample: RSA0969-01													
9B04088-DUP1													
HCN Released From Waste	9B04088	17.7		10.0	N/A	mg/L	17.8				1	20	
QC Source Sample: RSA0969-01													
9B04089-DUP1													
H2S Released From Waste	9B04089	10.0		10.0	N/A	mg/L	10.0				0	20	

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Project: Reactive Cyanide / Reactive Sulfide  
 Project Number: A9A290269

## LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Spike Level	MRL	MDL	Units	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
<b>General Chemistry Parameters</b>													
9B04088-BS1													
HCN Released From Waste	9B04088	1000	10.0	N/A	mg/L	319		32		10-100		20	
9B04089-BS1													
H2S Released From Waste	9B04089	570	10.0	N/A	mg/L	331		58		10-100		20	

Laboratory TestAmerica Buffalo  
Seven Trent Laboratories  
10 Hazelwood Drive, Suite 106  
Amherst, NY

Client Code: 14091  
14228

TestAmerica Laboratories, Inc.  
SAMPLE ANALYSIS REQUISITION  
Lab Request: SR109556

Report Package: Report  
Need Analytical Report  
2009-02-12


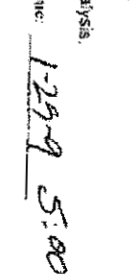
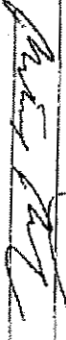
Project Manager: MARK LOEB

Sample ID	Work Order Number	Client Sample ID	Sampling Date	Analysis Required
A9A290269-1	K6F6K	FWG-IDW-MWPPURGE JAN 09	2009-01-28 14:30	WATER, 7.3.3, Reactive Cyanide (Buffalo)
A9A290269-1	K6F6K	FWG-IDW-MWPPURGE JAN 09	2009-01-28 14:30	WATER, 7.3.4, Reactive Sulfide (Buffalo)
A9A290269-2	K6F6K	FWG-IDW-MWDECON JAN 09	2009-01-28 14:00	WATER, 7.3.3, Reactive Cyanide (Buffalo)
A9A290269-2	K6F6K	FWG-IDW-MWDECON JAN 09	2009-01-28 14:00	WATER, 7.3.4, Reactive Sulfide (Buffalo)

Please use Client Sample ID for report  
Call MARK LOEB with questions at 330-497-9396  
at the T.A.L. North Canton Laboratory

Shipping Method: FEDEX

Need detection limit and analysis date included in report.  
Please send a signed copy of this report with the report at completion of analysis.

Relinquished by:  Date/Time: 1-29-09 5:00  
Relinquished by:  Date/Time: 1/30/09 09:50  
Received for lab by:  Date/Time: 1/30/09 09:50

PLEASE RETURN ORIGINAL SAMPLE ANALYSIS REQUISITION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

***END OF REPORT***