

Lockheed Martin  
Maritime Systems & Sensors  
1210 Massillon Road Akron, OH 44315  
Telephone 330.796.2800



January 9, 2009

Ms. Vanessa Steigerwald Dick, Ph.D.  
Ohio Environmental Protection Agency  
Northeast District Office  
2110 East Aurora Road  
Twinsburg, Ohio 44087

Re: Stormwater Sampling Results

Dear Ms. Steigerwald Dick:

Attached is report detailing the stormwater sampling conducted on December 9, 2008 in accordance with the *Stormwater Sampling and Analysis Plan*, revision 1.

Because of the temporal and spatial variability that is inherent in stormwater sampling and analysis, no trends can be established and no conclusions can be made based on a single data set. Further interpretation of these results will continue as additional sampling episodes occur and Lockheed Martin will continue to implement the Plan and forward results of subsequent sampling to you.

Please let me know if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Gunnarson", with a long horizontal flourish extending to the right.

David Gunnarson  
Lockheed Martin Corporation  
1210 Massillon Road  
Akron, Ohio 44315  
330-796-8751

Copy: Phil Rhodes, Ohio EPA, Division of Surface Water  
Dave Gunnarson, Lockheed Martin  
Steve Vardavas, Lockheed Martin  
Norma Fox Horwitz, Summit County Port Authority  
Terrence Finn, Roetzel & Andress

Attachment:  
URS Stormwater Sampling Report, January 9, 2009



January 9, 2009

Mr. David Gunnarson  
Lockheed Martin Corporation  
1210 Massillon Road  
Akron, Ohio 44315

**Re: Interim Report  
Stormwater Sampling – Event No. 1 (December 9, 2008)  
Akron Airdock, Akron, Ohio**

Dear Mr. Gunnarson:

URS conducted the first stormwater sampling event at the Akron Airdock on December 9, 2008. Sampling and analysis procedures followed the *Stormwater Sampling and Analysis Plan - Revision 1* (SAP), for the Akron Airdock dated November 17, 2008 that has been provided to the Ohio Environmental Protection Agency (Ohio EPA).

This interim report transmits the results of the December 9, 2008 sampling. Because of the temporal and spatial variability that is inherent in stormwater sampling and analysis, no trends can be established and no conclusions can be made based on a single data set. Further interpretation of these results will continue as additional sampling episodes occur.

#### ***Weather and Sampling Conditions***

A 0.51-inch rainfall occurred beginning on December 9, 2008 (as reported by the weather station at Akron Fulton International Airport<sup>1</sup>). The rainfall event began at approximately 2 pm on December 9, 2008 and ended by 11 am on December 10, 2008 for a total duration of 21 hours. The weather station reported no measurable precipitation in the preceding 72 hours. Based upon the airport's weather data, the storm characteristics met the target rainfall criteria for stormwater sampling with the exception that the duration, 21 hours, exceeded the desired upper duration range value of 16.8 hours as discussed in the SAP.

In accordance with the SAP, the sampling event targeted "first flush" stormwater flow. URS collected unfiltered samples at the designated on-property points (CB-1462, PAE-2, PAE-3, PAE-5, and PAE-7) within the first 45 minutes of initial discharge. Sampling at the off-property points, 601 and Temp001, was completed within 70 minutes of initial discharge.

Sample collection, field measurements, and sample handling was conducted in accordance with the SAP. URS submitted the samples to TestAmerica, Inc. (TestAmerica) in North Canton, Ohio for laboratory analysis.

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<sup>1</sup> The site rain gauge was not functioning on December 9, 2008.

### **Analytical Results**

TestAmerica analyzed the unfiltered samples for polychlorinated biphenyls (PCBs) by United States Environmental Protection Agency (U.S. EPA) Method 8082-low level and total suspended solids (TSS) by Standard Methods (SM) 2540D. Table 1 presents the lab and field results; Figure 1 shows the sampling locations and a lab data summary. The complete laboratory report is attached in Appendix A.

URS' data review report of the lab results is attached as Appendix B. The data are considered usable however; all PCB results are considered estimated concentrations (J-flagged) because of quality control (QC) issues associated with the analytical process. Specifically, the recoveries of Aroclor 1268 were slightly below the lab's QC acceptance limits, which are advisory limits due to the low solubility of Aroclor 1268 in water.

As summarized below, estimated concentrations of total PCBs in the December 9, 2008 on-property samples ranged from non-detect (0.2 U,J microgram per liter [ $\mu\text{g/L}$ ]) at the east side location (CB 1462) to 0.68 J  $\mu\text{g/L}$  at the west side location (PAW-7). Total PCB concentrations in the off-property locations were reported at estimated levels of 0.13 J  $\mu\text{g/L}$  (601 at the Airport) and 0.11 J  $\mu\text{g/L}$  (Temp001 at Triplett Boulevard).

**Total PCB Summary - December 9, 2008 Samples**

<b>On-Property Locations</b>					<b>Off-Property Locations</b>	
<b>CB-1462</b>	<b>PAE-2</b>	<b>PAE-3</b>	<b>PAE-5</b>	<b>PAW-7</b>	<b>Outfall 601</b>	<b>Temp 001</b>
0.2 UJ $\mu\text{g/L}$	0.13 J $\mu\text{g/L}$	0.20 J $\mu\text{g/L}$	0.50 J $\mu\text{g/L}$	0.68 J $\mu\text{g/L}$	0.13 J $\mu\text{g/L}$	0.11 J $\mu\text{g/L}$

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

### **Discussion**

These interim sampling results represent the first data set of a planned 12-event program that is designed to provide post-remediation data that are representative of stormwater discharges from the 19-acre Airdock parcel. The objectives of the SAP include addressing certain programmatic elements of the Ohio EPA Voluntary Action Program (VAP) and Division of Surface Water (DSW), as well as the federal PCB rules under the Toxic Substances Control Act (TSCA). As with most environmental data, results from a single sample event are insufficient on which to base conclusions and recommendations. An in-depth evaluation of the data will be performed going forward as additional sampling events occur and data patterns become apparent.

Mr. David Gunnarson  
January 9, 2009  
Page 3 of 3

***Future Activities***

Monitoring is continuing under the current SAP. URS recommends no changes in the program at this time.

**-oOo-**

Please contact me if you have any questions or comments on the stormwater program or if further information is needed.

Sincerely,  
**URS Corporation**



Jennifer J. Krueger, P.G., C.P.  
Project Manager

14947614.03000

Enclosures:     Table 1 – Stormwater Sampling Results – December 9, 2008 Event No. 1  
                      Figure 1 – December 9, 2008 Stormwater Sampling Results  
                      Appendix A – Laboratory Report  
                      Appendix B – Data Review Report

**Table 1**  
**Stormwater Sampling Results- December 9, 2008 Event No. 1**  
**Akron Airdock**  
**Akron, Ohio**

Lab Analyte	Units	On-Property Locations					Off-Property Locations	
		East Side	East Side	East Side	East Side	West Side	Airport	Triplett Blvd.
		LM-SW-CB1462 12/09/2008 14:20	LM-SW-PAE-2 12/09/2008 14:30	LM-SW-PAE-3 12/09/2008 14:40	LM-SW-PAE-5 12/09/2008 14:05	LM-SW-PAW-7 12/09/2008 14:50	LM-SW-601 12/09/2008 15:00	LM-SW-TEMP001 12/09/2008 15:30
Aroclor 1016	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1221	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1232	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1242	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1248	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1254	ug/L	0.20 U	0.20 U	0.20 U	0.14 J	0.15 J	0.20 U	0.20 U
Aroclor 1260	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1268	ug/L	0.20 UJ	0.13 J	0.20 J	0.36 J	0.53 J	0.13 J	0.11 J
Total PCBs	ug/L	0.20 UJ	0.13 J	0.20 J	0.50 J	0.68 J	0.13 J	0.11 J
Total Suspended Solids	mg/L	13	51	31	30	63	28	110
<b>Field Parameters</b>								
pH	S. U.	8.64	7.36	8.00	8.02	8.26	7.95	7.83
Dissolved Oxygen	mg/L	15.15	15.94	15.80	15.40	16.33	16.14	15.87
Temperature	°C	9.31	7.60	7.34	9.34	7.29	7.56	6.94
Conductivity	mS/cm	0.14	1.27	1.79	0.85	1.17	0.003	3.48
Total Dissolved Solids	mg/L	87	751	1120	544	705	3	2230
ORP	mV	159	193	184	323	195	96	244
Turbidity	NTU	126	126	141	76.2	344	187	447
Salinity	%	0.0	0.06	0.09	0.03	0.05	0.01	0.2

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

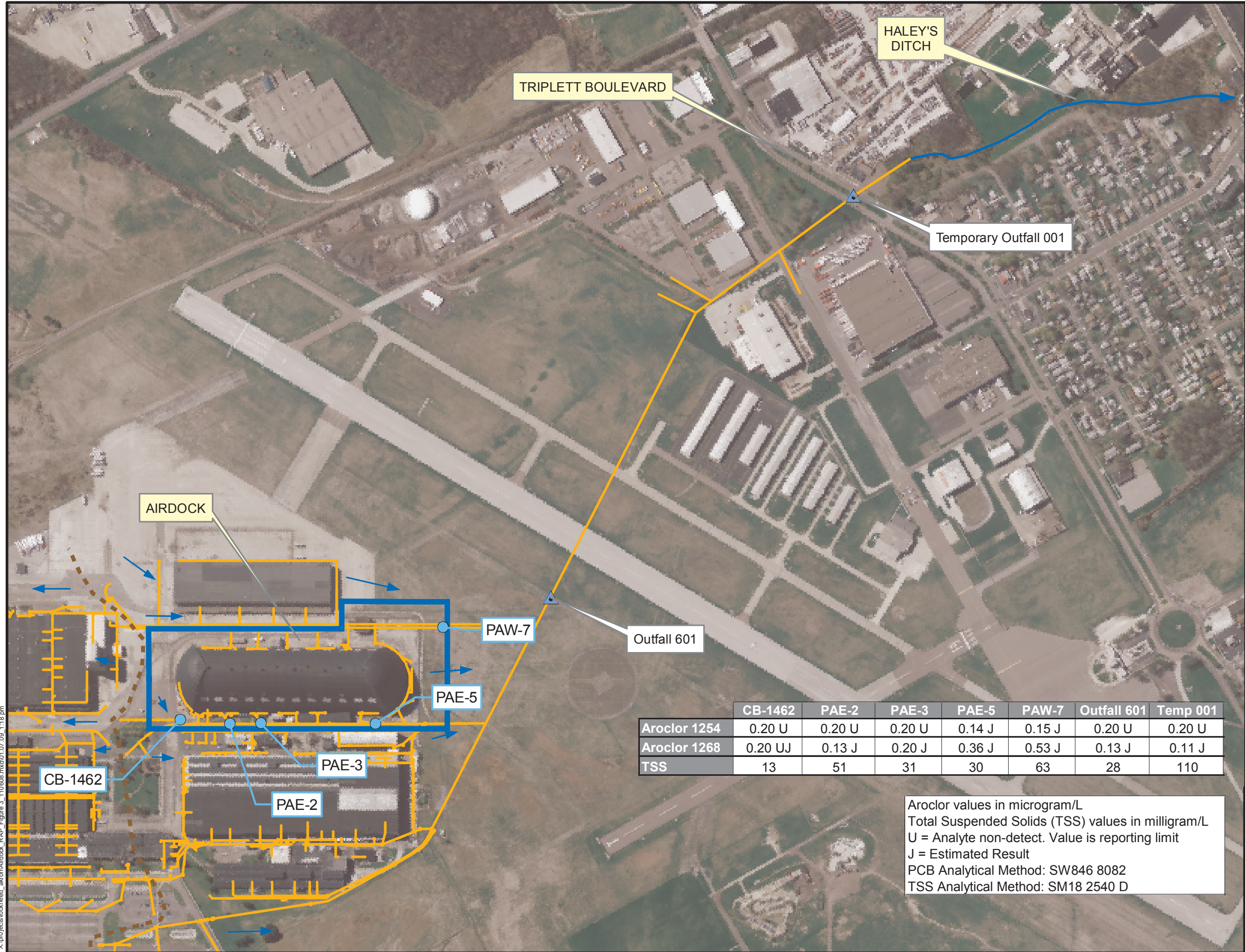
S.U. = Standard Units

ORP= Oxidation Reduction Potential

NTU= Nephelometric Turbidity Units

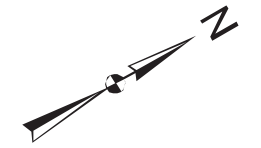
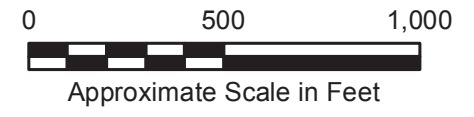
mV= millivolts

mS/cm= microSeimens per centimeter



- LEGEND**
- Outfall Location
  - Voluntary Action Program Stormwater Sampling Point
  - Approximate Watershed Boundary
  - Haley's Ditch
  - Storm Sewer
  - Approximate Airdock Boundary

Note: Other branch lines to sewer system may exist.



	CB-1462	PAE-2	PAE-3	PAE-5	PAW-7	Outfall 601	Temp 001
Aroclor 1254	0.20 U	0.20 U	0.20 U	0.14 J	0.15 J	0.20 U	0.20 U
Aroclor 1268	0.20 UJ	0.13 J	0.20 J	0.36 J	0.53 J	0.13 J	0.11 J
TSS	13	51	31	30	63	28	110

Aroclor values in microgram/L  
 Total Suspended Solids (TSS) values in milligram/L  
 U = Analyte non-detect. Value is reporting limit  
 J = Estimated Result  
 PCB Analytical Method: SW846 8082  
 TSS Analytical Method: SM18 2540 D

SOURCES: MODIFIED FROM SUMMIT COUNTY GIS, 2004, OSIP AERIAL PHOTOGRAPH, 2006, AND TETRA TECH, 2007

AKRON AIRDOCK FACILITY  
 AKRON, OHIO

FIGURE 1  
 DECEMBER 9, 2008  
 STORMWATER SAMPLING RESULTS



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**APPENDIX A**

**LABORATORY REPORT**

## ANALYTICAL REPORT

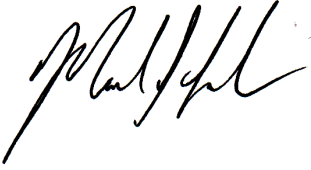
AKRON AIRDOCK/AIRDOCK EXTERIOR

Lot #: A8L120214

David Gunnarson

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TESTAMERICA LABORATORIES, INC.



**Mark J. Loeb**  
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Approved for release.  
Mark J. Loeb  
Project Manager II  
12/23/2008 2:49 PM

December 22, 2008

**TestAmerica Laboratories, Inc.**

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# CASE NARRATIVE

A8L120214

The following report contains the analytical results for seven water samples submitted to TestAmerica North Canton by Lockheed Martin Tactical Defense Systems from the Akron Airdock/Airdock Exterior Site. The samples were received December 10, 2008, according to documented sample acceptance procedures and were analyzed in accordance with Ohio Voluntary Action Program protocols, where applicable.

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 David Gunnarson and Jennifer J. Krueger on December 20, 2008. 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 temperatures of the coolers upon sample receipt were 0.3 and 0.8°C.

#### **POLYCHLORINATED BIPHENYLS-8082**

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

There were no client requested Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples in batch(es) 8348015. 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.

Surrogate recoveries were outside criteria for LCS/LCSD associated with batch(es) 8348015. Since the method criterion is that one of two surrogate compounds must meet acceptance criteria, no corrective action was required.

The opening and closing CCV passed average. Since sample(s) LM-SW-PAE-3, LM-SW-PAE-2, LM-SW-CB1462, LM-SW-601, and LM-SW-TEMP001 were non-detect (or J-flag values), no corrective action was needed.

The LCS/LCSD associated with batch(es) 8348015 failed QC criteria low for 1268. The acceptance limits are advisory due to the solubility issues surrounding Aroclor 1268 in water; therefore, the data has been reported.

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## 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.)

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals ICP-MS</u>	<u>Metals ICP Trace</u>
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



## EXECUTIVE SUMMARY - Detection Highlights

A8L120214

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>LM-SW-PAE-5 12/09/08 14:05 001</b>				
Aroclor 1254	0.14 J	0.20	ug/L	SW846 8082
Aroclor 1268	0.36	0.20	ug/L	SW846 8082
Total Suspended Solids	30	4.0	mg/L	SM18 2540 D
<b>LM-SW-PAE-3 12/09/08 14:40 002</b>				
Aroclor 1268	0.20	0.20	ug/L	SW846 8082
Total Suspended Solids	31	4.0	mg/L	SM18 2540 D
<b>LM-SW-PAE-2 12/09/08 14:30 003</b>				
Aroclor 1268	0.13 J	0.20	ug/L	SW846 8082
Total Suspended Solids	51	4.0	mg/L	SM18 2540 D
<b>LM-SW-CB1462 12/09/08 14:20 004</b>				
Total Suspended Solids	13	4.0	mg/L	SM18 2540 D
<b>LM-SW-PAW-7 12/09/08 14:50 005</b>				
Aroclor 1254	0.15 J	0.20	ug/L	SW846 8082
Aroclor 1268	0.53	0.20	ug/L	SW846 8082
Total Suspended Solids	63	4.0	mg/L	SM18 2540 D
<b>LM-SW-601 12/09/08 15:00 006</b>				
Aroclor 1268	0.13 J	0.20	ug/L	SW846 8082
Total Suspended Solids	28	4.0	mg/L	SM18 2540 D
<b>LM-SW-TEMP001 12/09/08 15:20 007</b>				
Aroclor 1268	0.11 J	0.20	ug/L	SW846 8082
Total Suspended Solids	110	4.0	mg/L	SM18 2540 D

# ANALYTICAL METHODS SUMMARY

A8L120214

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
PCBs by SW-846 8082	SW846 8082
Total Suspended Solids	SM18 2540 D

## References:

- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A8L120214

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
K4LQN	001	LM-SW-PAE-5	12/09/08	14:05
K4LRP	002	LM-SW-PAE-3	12/09/08	14:40
K4LRQ	003	LM-SW-PAE-2	12/09/08	14:30
K4LRV	004	LM-SW-CB1462	12/09/08	14:20
K4LR1	005	LM-SW-PAW-7	12/09/08	14:50
K4LR2	006	LM-SW-601	12/09/08	15:00
K4LR4	007	LM-SW-TEMP001	12/09/08	15:20

## 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.

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAE-5

GC Semivolatiles

Lot-Sample #...: A8L120214-001    Work Order #...: K4LQN1AA    Matrix.....: WG  
 Date Sampled...: 12/09/08 14:05    Date Received...: 12/10/08  
 Prep Date.....: 12/13/08    Analysis Date...: 12/17/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
<b>Aroclor 1254</b>	<b>0.14 J</b>	<b>0.20</b>	<b>ug/L</b>
Aroclor 1260	ND	0.20	ug/L
<b>Aroclor 1268</b>	<b>0.36</b>	<b>0.20</b>	<b>ug/L</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Tetrachloro-m-xylene	102	(35 - 130)
Decachlorobiphenyl	55	(10 - 110)

**NOTE(S):**

J Estimated result. Result is less than RL.



Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAE-5

General Chemistry

Lot-Sample #...: A8L120214-001    Work Order #...: K4LQN    Matrix.....: WG  
Date Sampled...: 12/09/08 14:05    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	30	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAE-3

GC Semivolatiles

Lot-Sample #...: A8L120214-002    Work Order #...: K4LRP1AA    Matrix.....: WG  
 Date Sampled...: 12/09/08 14:40    Date Received...: 12/10/08  
 Prep Date.....: 12/13/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
Aroclor 1254	ND	0.20	ug/L
Aroclor 1260	ND	0.20	ug/L
<b>Aroclor 1268</b>	<b>0.20</b>	<b>0.20</b>	<b>ug/L</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Tetrachloro-m-xylene	50	(35 - 130)
Decachlorobiphenyl	28	(10 - 110)

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAE-3

General Chemistry

Lot-Sample #...: A8L120214-002    Work Order #...: K4LRP    Matrix.....: WG  
Date Sampled...: 12/09/08 14:40    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	31	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAE-2

GC Semivolatiles

Lot-Sample #...: A8L120214-003    Work Order #...: K4LRQ1AA    Matrix.....: WG  
 Date Sampled...: 12/09/08 14:30    Date Received...: 12/10/08  
 Prep Date.....: 12/13/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
Aroclor 1254	ND	0.20	ug/L
Aroclor 1260	ND	0.20	ug/L
<b>Aroclor 1268</b>	<b>0.13 J</b>	<b>0.20</b>	<b>ug/L</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Tetrachloro-m-xylene	79	(35 - 130)
Decachlorobiphenyl	99	(10 - 110)

**NOTE(S):**

J Estimated result. Result is less than RL.

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAE-2

General Chemistry

Lot-Sample #...: A8L120214-003    Work Order #...: K4LRQ    Matrix.....: WG  
Date Sampled...: 12/09/08 14:30    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	51	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-CB1462

GC Semivolatiles

Lot-Sample #...: A8L120214-004    Work Order #...: K4LRV1AA    Matrix.....: WG  
Date Sampled...: 12/09/08 14:20    Date Received...: 12/10/08  
Prep Date.....: 12/13/08    Analysis Date...: 12/16/08  
Prep Batch #...: 8348015  
Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
Aroclor 1254	ND	0.20	ug/L
Aroclor 1260	ND	0.20	ug/L
Aroclor 1268	ND	0.20	ug/L

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Tetrachloro-m-xylene	84	( 35 - 130 )
Decachlorobiphenyl	61	( 10 - 110 )

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-CB1462

General Chemistry

Lot-Sample #...: A8L120214-004    Work Order #...: K4LRV    Matrix.....: WG  
Date Sampled...: 12/09/08 14:20    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	13	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAW-7

GC Semivolatiles

Lot-Sample #...: A8L120214-005    Work Order #...: K4LR11AA    Matrix.....: WG  
 Date Sampled...: 12/09/08 14:50    Date Received...: 12/10/08  
 Prep Date.....: 12/13/08    Analysis Date...: 12/17/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
<b>Aroclor 1254</b>	<b>0.15 J</b>	<b>0.20</b>	<b>ug/L</b>
Aroclor 1260	ND	0.20	ug/L
<b>Aroclor 1268</b>	<b>0.53</b>	<b>0.20</b>	<b>ug/L</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Tetrachloro-m-xylene	112	(35 - 130)
Decachlorobiphenyl	85	(10 - 110)

**NOTE(S):**

J Estimated result. Result is less than RL.



Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-PAW-7

General Chemistry

Lot-Sample #...: A8L120214-005    Work Order #...: K4LR1    Matrix.....: WG  
Date Sampled...: 12/09/08 14:50    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	63	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-601

GC Semivolatiles

Lot-Sample #...: A8L120214-006    Work Order #...: K4LR21AA    Matrix.....: WG  
 Date Sampled...: 12/09/08 15:00    Date Received...: 12/10/08  
 Prep Date.....: 12/13/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
Aroclor 1254	ND	0.20	ug/L
Aroclor 1260	ND	0.20	ug/L
<b>Aroclor 1268</b>	<b>0.13 J</b>	<b>0.20</b>	<b>ug/L</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Tetrachloro-m-xylene	56	(35 - 130)
Decachlorobiphenyl	28	(10 - 110)

**NOTE(S):**

J Estimated result. Result is less than RL.

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-601

General Chemistry

Lot-Sample #...: A8L120214-006    Work Order #...: K4LR2    Matrix.....: WG  
Date Sampled...: 12/09/08 15:00    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	28	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-TEMP001

GC Semivolatiles

Lot-Sample #...: A8L120214-007    Work Order #...: K4LR41AA    Matrix.....: WG  
 Date Sampled...: 12/09/08 15:20    Date Received...: 12/10/08  
 Prep Date.....: 12/13/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 1    Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Aroclor 1016	ND	0.20	ug/L
Aroclor 1221	ND	0.20	ug/L
Aroclor 1232	ND	0.20	ug/L
Aroclor 1242	ND	0.20	ug/L
Aroclor 1248	ND	0.20	ug/L
Aroclor 1254	ND	0.20	ug/L
Aroclor 1260	ND	0.20	ug/L
<b>Aroclor 1268</b>	<b>0.11 J</b>	<b>0.20</b>	<b>ug/L</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Tetrachloro-m-xylene	65	(35 - 130)
Decachlorobiphenyl	54	(10 - 110)

**NOTE(S):**

J Estimated result. Result is less than RL.

Lockheed Martin Tactical Defense Systems

Client Sample ID: LM-SW-TEMP001

General Chemistry

Lot-Sample #...: A8L120214-007    Work Order #...: K4LR4    Matrix.....: WG  
Date Sampled...: 12/09/08 15:20    Date Received..: 12/10/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	110	4.0	mg/L	SM18 2540 D	12/15/08	8350099

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A8L120214  
MB Lot-Sample #: A8L130000-015

Work Order #...: K4M3D1AA

Matrix.....: WATER

Analysis Date...: 12/16/08  
Dilution Factor: 1

Prep Date.....: 12/13/08

Prep Batch #...: 8348015

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Aroclor 1016	ND	0.20	ug/L	SW846 8082
Aroclor 1221	ND	0.20	ug/L	SW846 8082
Aroclor 1232	ND	0.20	ug/L	SW846 8082
Aroclor 1242	ND	0.20	ug/L	SW846 8082
Aroclor 1248	ND	0.20	ug/L	SW846 8082
Aroclor 1254	ND	0.20	ug/L	SW846 8082
Aroclor 1260	ND	0.20	ug/L	SW846 8082
Aroclor 1268	ND	0.20	ug/L	SW846 8082

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Tetrachloro-m-xylene	69	(35 - 130)
Decachlorobiphenyl	72	(10 - 110)

**NOTE(S):**

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

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A8L120214

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Total Suspended Solids	ND	4.0	mg/L	SM18 2540 D	12/15/08	8350099
		Dilution Factor: 1				

**NOTE(S):**

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



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A8L120214      Work Order #...: K4M3D1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A8L130000-015      K4M3D1AD-LCSD  
 Prep Date.....: 12/13/08      Analysis Date...: 12/17/08  
 Prep Batch #...: 8348015  
 Dilution Factor: 5

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Aroclor 1268</b>	<b>49 a</b>	<b>(50 - 150)</b>			<b>SW846 8082</b>
	<b>47 a</b>	<b>(50 - 150)</b>	<b>3.7</b>	<b>(0-30)</b>	<b>SW846 8082</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Tetrachloro-m-xylene	98	(35 - 130)
	90	(35 - 130)
Decachlorobiphenyl	193 *	(10 - 110)
	185 *	(10 - 110)

**NOTE(S):**

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

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8L120214

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>
Total Suspended Solids	98	(73 - 113)	SM18 2540 D	12/15/08	8350099
		Work Order #: K4PN01AC LCS Lot-Sample#: A8L150000-099			
		Dilution Factor: 1			

**NOTE(S):**

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

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

**Client Lot #...**: A8L120214

**Work Order #...**: K4MD9-SMP  
K4MD9-DUP

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

**Date Sampled...**: 11/06/08 16:38

**Date Received..**: 11/07/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Total Suspended Solids	450	440	mg/L	3.2	(0-20)	SM18 2540 D	12/15/08	8350100
Dilution Factor: 1							SD Lot-Sample #: A8L120289-001	

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

**Client Lot #...**: A8L120214

**Work Order #...**: K4MF7-SMP  
K4MF7-DUP

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

**Date Sampled...**: 11/11/08 12:50

**Date Received..**: 11/14/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Total Suspended Solids	150	150	mg/L	0.68	(0-20)	SM18 2540 D	12/15/08	8350100
SD Lot-Sample #: A8L120289-013								
Dilution Factor: 1								

**North Canton**  
4101 Shuffel Street, N. W.

**Chain of Custody Record**

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

North Canton, OH 44720  
phone 330.966.9279 fax 330.497.0772

TestAmerica Laboratories, Inc.

<b>Client Contact</b>	Lockheed Martin - Dave Gunnarson	<b>Project Manager:</b> Jennifer Krueger - URS CN	<b>Site Contact:</b> Craig Matlock - URS Akron	<b>Date:</b> 12-9-08	<b>COC No.:</b> 001734
<b>Address</b>	1210 Massillon Road	<b>Tel/Fax:</b> 513-419-3401/513-419-3452	<b>Lab Contact:</b> Mark Loeb	<b>Carrier:</b> 10004 HERSHA	<b>Job No.:</b> 1 of 1 COCs
<b>City/State/Zip</b>	Akron, Ohio 44315	<b>Calendar (C) or Work Days (W)</b>			
<b>Phone</b>	(330) 796-8751	<input type="checkbox"/> TAT if different from Below			
<b>FAX</b>	(330) 796-2388	<input type="checkbox"/> 2 weeks			
<b>Project Name:</b> Airdock Exterior		<input type="checkbox"/> 1 week			
<b>Site:</b> Akron Airdock		<input type="checkbox"/> 2 days			
<b>P O #</b> 0810130 Line Item 2		<input type="checkbox"/> 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Sample Specific Notes:
LM-SW-PAE-5	12-9-08	2:05	Grab	Water	3	TSS by SM 2540D	
LM-SW-PAE-3		2:40	Grab	Water	3	PCBs plus 1268 by EPA 8082 Low Level	
LM-SW-PAE-2		2:30	Grab	Water	3		
LM-SW-CB1462		2:20	Grab	Water	3		
LM-SW-PAW-7		2:50	Grab	Water	3		
LM-SW-601		3:00	Grab	Water	3		
LM-SW-Temp001		3:20	Grab	Water	3		

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

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

Special Instructions/QC Requirements & Comments: VAP Certified analyses for PCBs with reporting limit of 0.2 ug/L and method detection limit of 0.1 ug/L. Hold Samples Upon Receipt. Jennifer Krueger URS to provide direction on analysis within 36 hours of sample receipt. Provide e-copy of preliminary results and final report to Jennifer\_Krueger@urscorp.com. Level III QA/QC data package with final results.

Relinquished by: *Jessie Hansen* Company: URS Date/Time: 12-10-08  
 Received by: *Mark Loeb* Company: URS Date/Time: 12/10/08

Relinquished by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_

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

**TestAmerica Cooler Receipt Form/Narrative**

Lot Number: A81120214

**North Canton Facility**

Client Lockheed Martin Project \_\_\_\_\_ By: Chris Liza  
 Cooler Received on 12-10-08 Opened on 12-10-08 (Signature)

FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_  
 TestAmerica Cooler # \_\_\_\_\_ 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 \_\_\_\_\_ °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# 031808-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**

<u>Client ID</u>	<u>pH</u>	<u>Date</u>	<u>Initials</u>
<u>Cooler #</u>	<u>Temp. °C</u>	<u>Method</u>	<u>Coolant</u>
A69	0.8	IR	Ice
L939	0.3	IR	Ice

**Discrepancies Cont'd:**

\_\_\_\_\_  
 \_\_\_\_\_  
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***END OF REPORT***



**APPENDIX B**

**DATA REVIEW REPORT**

**DECEMBER 9, 2008 STORMWATER SAMPLING EVENT  
AKRON AIRDOCK  
AKRON, OHIO**

**Data Review Report  
Akron Airdock/Airdock Exterior  
Akron, Ohio**

**Data Package: A8L120214**

**I. INTRODUCTION**

Seven water samples were collected on December 9, 2008, at the Akron Airdock/Airdock Exterior site in Akron, Ohio. The samples were submitted to TestAmerica, Inc. (TestAmerica) in North Canton, Ohio, for analysis of the parameters listed in Table 1.

**Table 1  
Sample ID Summary**

<b>Lab ID</b>	<b>Sample ID<sup>(1)</sup></b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Analyses Requested<sup>(1)</sup></b>
A8L120214001	LM-SW-PAE-5	Water	12/9/2008	PCBs, TSS
A8L120214002	LM-SW-PAE-3	Water	12/9/2008	PCBs, TSS
A8L120214003	LM-SW-PAE-2	Water	12/9/2008	PCBs, TSS
A8L120214004	LM-SW-CB1462	Water	12/9/2008	PCBs, TSS
A8L120214005	LM-SW-PAW-7	Water	12/9/2008	PCBs, TSS
A8L120214006	LM-SW-601	Water	12/9/2008	PCBs, TSS
A8L120214007	LM-SW-TEMP001	Water	12/9/2008	PCBs, TSS

(1) Definitions: PCBs = Polychlorinated Biphenyls as Aroclors [SW846 Method 8082]  
TSS = Total Suspended Solids [SM18 Method 2540D]

References: SW846 = "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition, November 1986 and its updates.  
SM18 = "Standard Methods for the Examination of Water and Wastewater," 18th Edition, 1992.

The PCB analyses were performed in accordance with TestAmerica's Ohio Voluntary Action Program (VAP) certification.

A standard review for data quality was conducted by URS Corporation (URS) for all samples listed in Table 1. A standard review includes assessment of supporting quality control (QC) parameters and a review for compliance with the cited methods, but does not include reconstruction of the analytical data. The following information was reviewed:

- ▶ Case Narrative
- ▶ Chain-of-Custody (COC) documents
- ▶ Laboratory sample ID
- ▶ URS sample ID
- ▶ Sample matrix
- ▶ Sample results by sample, by analytical fraction
- ▶ Analytical method performed
- ▶ Units of measure

- ▶ Analysis detection limits
- ▶ Laboratory data qualifiers
- ▶ Date samples were extracted and/or analyzed
- ▶ Surrogate recoveries
- ▶ Laboratory Check Samples (LCS) results
- ▶ Laboratory Method Blank results
- ▶ Matrix Spike/Matrix Spike Duplicate (MS/MSD) results
- ▶ Electronic Data

Guidance documents for the data review process included the referenced analytical methods and “USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,” (1999).

## **II. DATA REVIEW**

This section describes each data quality element reviewed and discusses any findings. The data qualifiers used in this review are defined in Section III.

### **A. Sample Receiving**

The COC Record and Cooler Receipt Form indicate that samples were collected and transported to the laboratory by URS personnel. Samples were received at TestAmerica packed in wet ice and intact. The temperatures of the coolers were 0.3 and 0.8 degrees Celsius (°C), within the acceptance range of 0 to 6°C.

### **B. Holding Time Criteria**

The analyses were reviewed for compliance with the method-specified holding times. All sample preparation and analysis procedures were performed within the appropriate holding times.

### **C. Blanks**

Blank samples, which can include field blanks and laboratory blanks, are evaluated to determine whether conditions exist resulting in reported sample concentrations which are not native to the sample (i.e., if samples were contaminated from external sources). Sample contamination is demonstrated if an analyte is detected in a blank, and the concentration in an associated sample is not significantly higher. Specifically, if the sample concentration is less than five times the blank concentration (or 10 times for common contaminants such as acetone, methylene chloride, 2-butanone, and phthalate esters), it may be assumed that the sample concentration was due to external contamination and not actually present in the samples. The result is, therefore, qualified as non-detect (U) at the reported concentration or at the laboratory Reporting Limit (RL), whichever is higher. If the sample concentration is greater than five times the associated blank concentration (or 10 times for common contaminants), the amount attributable to contamination is negligible and the sample concentration is reported without qualification.

All blanks associated with the project samples presented in this report were acceptable and no qualifications were required.

### **D. Surrogate Recoveries**

Surrogates are chemicals not normally found in nature, but chemically behave in a similar fashion as the target analytes. Surrogate spikes are added prior to sample preparation for organic analyses and are used to evaluate

the effects of the sample matrix on the extraction efficiency and/or instrument response. Surrogate recoveries are evaluated against QC acceptance limits established by the laboratory.

The surrogate recoveries for all samples were within the laboratory's acceptance criteria. No qualification of data was necessary.

#### **E. Laboratory Control Samples (LCS)**

A LCS is a "contaminant-free matrix" spiked with a known concentration of all analytes of interest or a representative subset of the target analytes. The LCS is carried through the complete sample preparation and analytical procedures and provides information on the method's performance. Percent recoveries are monitored to provide a continuous measure of each method's accuracy. The LCS recoveries are compared with established method performance criteria to determine data acceptability. Recoveries above QC limits indicate a positive bias. Therefore, associated positive concentrations are qualified as estimated (J). If recoveries are below QC limits, a negative bias is assumed. Consequently, associated non-detect and positive concentrations are qualified as estimated. If recoveries are significantly low (i.e., below 10 percent), positive concentrations are estimated and non-detect results are rejected.

An LCS and LCS Duplicate were prepared and analyzed with the project sample batch. The recoveries for Aroclor 1268 in both were slightly below the laboratory's QC acceptance limits. These limits are considered advisory by the laboratory due to the limited solubility of Aroclor 1268 in water. Since the low recoveries may indicate a low bias, however, the results for Aroclor 1268 in all samples are qualified as estimated (flagged "J"). The relative percent difference (RPD) between the two results was within QC acceptance limits.

#### **F. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**

A MS is an aliquot of the matrix (water or soil) spiked with a known concentration of all compounds of interest or a representative subset of compounds. The MS/MSD samples are subjected to the entire analytical procedure in order to determine both accuracy and precision of the method for that matrix. This is accomplished by calculating the percent recovery and the RPD of the two spiked samples. The MS/MSDs do not control the analytical process, but are used to evaluate the effect of the matrix on analytical performance. Associated data (the spiked sample or samples with a like matrix) are qualified following criteria similar to the LCS.

MS/MSD analyses were not requested on project samples and additional volume was not provided. Therefore, the laboratory prepared and analyzed an LCS/LCS Duplicate pair as described above. No additional qualifications were necessary.

#### **G. Duplicate/Replicate Samples**

Duplicate or replicate samples are analyzed to estimate the precision of data generated. Duplicates may be laboratory duplicates, which monitor the precision of the analytical process, or field duplicates, which monitor the precision of the entire sampling and analytical system. If significant differences between analyses are identified, associated data are qualified as estimated.

Laboratory duplicate analyses on unrelated samples were performed for TSS in the batch containing the project samples. Acceptable precision was demonstrated. No field duplicate samples were submitted for analysis.

#### **H. Reporting Limits**

The reporting limit for each Aroclor was sufficiently sensitive to meet the VAP unrestricted potable use standard of 0.5 µg/L for total PCBs. No dilutions were required.

## **J. Miscellaneous Comments**

TestAmerica reported results below their reporting limit but above the method detection limit (MDL) with a qualifier (“J”), in accordance with USEPA Contract Laboratory Program (CLP) conventions. During the data assessment, the “J” qualifiers were retained with the numeric results unless otherwise noted.

## **III. DATA QUALIFIERS AND USABILITY**

The following data qualifiers were used to note data usability:

- U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.
- UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

The complete data set with qualifiers is presented in Table 2. All data are usable for supporting project objectives.

**Table 2**  
**Analytical Data Summary**  
**Akron Airdock/Airdock Exterior**  
**Akron, Ohio**

Analyte	Units	A8L120214001 LM-SW-PAE-5 12/09/2008	A8L120214002 LM-SW-PAE-3 12/09/2008	A8L120214003 LM-SW-PAE-2 12/09/2008	A8L120214004 LM-SW-CB1462 12/09/2008	A8L120214005 LM-SW-PAW-7 12/09/2008	A8L120214006 LM-SW-601 12/09/2008	A8L120214007 LM-SW-TEMP001 12/09/2008
Aroclor 1016	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1221	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1232	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1242	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1248	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1254	ug/L	<b>0.14 J</b>	0.20 U	0.20 U	0.20 U	<b>0.15 J</b>	0.20 U	0.20 U
Aroclor 1260	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor 1268	ug/L	<b>0.36 J</b>	<b>0.2 J</b>	<b>0.13 J</b>	0.20 UJ	<b>0.53 J</b>	<b>0.13 J</b>	<b>0.11 J</b>
Total Suspended Solids	mg/L	<b>30</b>	<b>31</b>	<b>51</b>	<b>13</b>	<b>63</b>	<b>28</b>	<b>110</b>

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.