

1801 Old Highway 8 N.W., Ste. #114, St. Paul, MN 55112 Telephone: 651·639·0913 Facsimile: 651·639·0923 www.CRAworld.com

April 20, 2006

Reference No. 003978-10

Mr. Jeff Gore UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Mr. Gore and Ms. Kramer:

Re: First Quarter 2006 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Ms. Eileen Kramer WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont, Box 4001 Eau Claire, Wisconsin 54702

APR 2 5 2006

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this first quarter 2006 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site (Site). Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

First quarter 2006 samples were collected on January 3, 2006, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to Severn Trent Laboratories (STL) in North Canton, Ohio, for Site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	10	4.8	41,000
cis-1,2-dichloroethene	0.59 J	0.39 J	NA
chloroform	< 1.0	0.19 J	29,000

Notes:

J - estimated value, value is below the reporting limit.

NA - discharge limit not available.

All values are reported in $\mu g/L$.





April 20, 2006

Reference No. 003978-10

The pump operated continuously during the first quarter of 2006, except for one hour on March 20, when it was shut down while some electrical work was completed that was unrelated to EW1 operation. Between January 3, and March 30, 2006, the pump operated at an average flow rate of 835 gpm. A total of 103,351,000 gallons of water were treated by EW1 in the first quarter of 2006 (January 3 to March 30).

2

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Ika R.M

Jason Twaddle

JT/jla/44 Enc.

c.c. Terry Kopplin; Marathon Electric Dave Erickson; City of Wausau Chuck Ahrens; CRA (w/o enc.)

ATTACHMENT A

٤

:

LABORATORY REPORT

ATTACHMENT B

.

.

۰.

•

DATA VALIDATION MEMO

、

ATTACHMENT A

LABORATORY REPORT



Tel: 330 497 9396 Fax: 330 497 0772

STL North Canton

www.stl-inc.com

4101 Shuffel Drive NW North Canton, OH 44720

ANALYTICAL REPORT

REVISED

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978-10 WAUSAU SUPERFUND

SAMPLE SUMMARY

<u>WO #</u>	LABORATORY ID	SAMPLE	IDENTIFICATION
-------------	---------------	--------	----------------

HT37R	A6A040176-001	W060103MT-450	Influent
HT37T	A6A040176-002	W060103MT-451	Effluent
HT37V	A6A040176-003	TRIP BLANK	

SEVERN TRENT LABORATORIES, INC.

λπγ

Project Manager

January 26, 2006

STI

CASE NARRATIVE

The following report contains the analytical results for two water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received January 04, 2006, according to documented sample acceptance procedures.

Sample Trip Blank was received at the laboratory, but not listed on the chain-of-custody. It was analyzed per the sample label.

STL 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. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 21.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 1.9°C.

See STL's Cooler Receipt Form for additional information.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

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.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL 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.

<u>OC BATCH</u>

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. STL 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. These 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.

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. 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 repreparation and reanalysis of all samples in the QC batch. The only exception 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 below.)

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

• for analyses run on TJA Trace ICP, ICPMS or GFAA only

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (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 repreparation 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. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

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.

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 repreped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repreped 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.

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, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

Y:\Barb\STL headers\Qc846-Narrative_060204.doc, Revised06/02/04 DJL

EXECUTIVE SUMMARY - Detection Highlights

A6A040176

PARAMETER	RESULT	REPORTIN LIMIT	G UNITS	ANALYTICAL METHOD	,
W060103MT-450 01/03/06 10:00 001					
Methylene chloride	0.23 J,B	1.0	ug/L	SW846 8260B	
Acetone	1.7 J	10	ug/L	SW846 8260B	
Trichloroethene	10	1.0	ug/L	SW846 8260B	
cis-1,2-Dichloroethene	0.59 J	1.0	ug/L	SW846 8260B	
W060103MT-451 01/03/06 10:00 002				-	
Acetone	1.4 J	10	ug/L	SW846 8260B	
Chloroform	0.19 J	1.0	ug/L	SW846 8260B	
Trichloroethene	4.8	1.0	uα/L	SW846 8260B	
cis-1,2-Dichloroethene	0.39 J	1.0	ug/L	SW846 8260B	
TRIP BLANK 01/03/06 003					
Methylene chloride	0.93 J,B	1.0	ug/L	SW846 8260B	
Acetone	3.1 J	10	ug/L	SW846 8260B	
· ,		•			

STL North Canton

ANALYTICAL METHODS SUMMARY

A6A040176

PARAMETER	ANALYTICAL METHOD		
Volatile Organics by GC/MS	SW846 8260B		
References:			

SW846

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

SAMPLE SUMMARY

A6A040176

WO # SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
HT37R 001 HT37T 002 HT37V 003	W060103MT-450 W060103MT-451 TRIP BLANK	01/03/06 01/03/06 01/03/06	10:00 10:00

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.

STL North Canton

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W060103MT-450

Influent

GC/MS Volatiles

Lot-Sample #:	A6A040176-001	Work Order #:	HT37R1AA	Matrix:	WG
Date Sampled:	01/03/06 10:00	Date Received:	01/04/06		
Prep Date:	01/06/06	Analysis Date:	01/06/06		
Prep Batch #:	6009027				
Dilution Factor:	1 .	Method	SW846 8260B		

	•	REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Vinyl chloride	ND	1.0	ug/L
Methylene chloride	0.23 J,B	1.0	ug/L
Acetone	1.7 J	10	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Trichloroethene	10	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	0.59 J	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	106	(73 - 122)	
1,2-Dichloroethane-d4	103	(61 - 128)	
Toluene-d8	96	(76 - 110)	
4-Bromofluorobenzene	90	(74 - 116)	

NOTE (S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W060103MT-451

Effluent

GC/MS Volatiles

Lot-Sample #:	A6A040176-002	Work Order #: HT37T1AA
Date Sampled:	01/03/06 10:00	Date Received: 01/04/06
Prep Date:	01/06/06	Analysis Date: 01/06/06
Prep Batch #:	6009027	

Matrix..... WG

Method....: SW846 8260B

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Vinyl chloride	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	1 .4 J	10	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroform	0.19 J	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Trichloroethene	4.8	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene .	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	0.39 J	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	103	(73 - 122)	
1,2-Dichloroethane-d4	100	(61 - 128)	
Toluene-d8	98	(76 - 110)	
4-Bromofluorobenzene	89	(74 - 116)	

NOTE (S):

J Estimated result. Result is less than RL.

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A6A040176-003	Work Order #: HT37V1AA	Matrix WQ	
Date Sampled: 01/03/06	Date Received: 01/04/06	_	
Prep Date: 01/06/06	Analysis Date: 01/06/06		
Prep Batch #: 6009027	·		
Dilution Factor: 1	Method SW846 8260B		

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Vinyl chloride	ND	1.0	ug/L
Methylene chloride	0.93 J,B	1.0	ug/L
Acetone	3.1 J	10	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	104	(73 - 122)	
1,2-Dichloroethane-d4	103	(61 - 128)	
Toluene-d8	99	(76 - 110)	
4-Bromofluorobenzene	89	(74 - 116)	

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.



QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: MB Lot-Sample #:	A6A040176 A6A090000-027	Work Order	ŧ:	HT9WM1AA	Matrix:	WATER
Analysis Date: Dilution Factor:	01/06/06 1	Prep Date Prep Batch	••••• #••••	01/06/06 6009027 -		

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	0.55 J	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Acetone	ND .	10 .	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	103	(73 - 12	22)	
1,2-Dichloroethane-d4	100	(61 - 12	28)	
Toluene-d8	102	(76 - 1)	10)	
4-Bromofluorobenzene	94	(74 - 1)	16)	
	• •			

NOTE (S):

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

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A6A040176	Work Order #:	HT9WM1AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A6A090000-027		HT9WM1AD-LCSD		
Prep Date:	01/06/06	Analysis Date:	01/06/06		
Prep Batch #:	6009027	-			
Dilution Factor:	1		,		

	PERCENT	RECOVERY		RPD			
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHO)	
1,1-Dichloroethene	100	(63 - 130)		· · · · ·	SW846	8260B	
	111	(63 - 130)	11	(0-20)	SW846	8260B	
Trichloroethene	96	(75 - 122)			SW846	8260B	
	· 101	(75 - 122)	4.8	(0-20)	SW846	8260B	
Benzene	98	(80 - 116)			SW846	8260B	
	101	(80 - 116)	3.1	(0-20)	SW846	8260B	
Toluene	99.	(74 - 119)			SW846	8260B	
	100	(74 - 119)	1.6	(0-20)	SW846	8260B	
Chlorobenzene	100	(76 - 117)			SW846	8260B	
	101	(76 - 117)	1.0	(0-20)	SW846	8260B	
		PERCENT	RECOV	'ERY			
SURROGATE		RECOVERY	LIMII	'S			
Dibromofluoromethane		99	(73 -	122)			,
		107	(73 -	122)			
1,2-Dichloroethane-d4		101	(61 -	128)			
		102	(61 -	128)			
Toluene-d8		100	(76 -	110)			•
		103	(76 -	110)			
4-Bromofluorobenzene		. 101	(74 -	116)			
		100	(74 -	116)			·

NOTE (S) :

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A6A040176Work Order #...: HT9WM1AC-LCSMatrix....: WATERLCS Lot-Sample#: A6A090000-027HT9WM1AD-LCSDPrep Date....: 01/06/06Analysis Date..: 01/06/06Prep Batch #...: 6009027Dilution Factor: 1

SPIKE	MEASURED)	PERCENT		
AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
10	10	ug/L	100		SW846 8260B
10	11	ug/L	111	11	SW846 8260B
10	9.6	ug/L	96		SW846 8260B
10	10	ug/L	101	4.8	SW846 8260B
. 10	9.8	ug/L	98		SW846 8260B
10	10	ug/L	101	3.1	SW846 8260B
10	9.9	ug/L	99		SW846 8260B
10	10	ug/L	100	1.6	SW846 8260B
10	10	ug/L	100		SW846 8260B
· 10	10	ug/L	101	1.0	SW846 8260B
	SPIKE AMOUNT 10 10 10 10 10 10 10 10 10 10 10 10	SPIKE MEASURED AMOUNT AMOUNT 10 10 10 11 10 9.6 10 10 10 9.8 10 10 10 9.9 10 10 10 10 10 9.9 10 10 10 10	SPIKE MEASURED AMOUNT AMOUNT UNITS 10 10 ug/L 10 11 ug/L 10 9.6 ug/L 10 10 ug/L 10 9.6 ug/L 10 10 ug/L 10 9.8 ug/L 10 10 ug/L	SPIKE MEASURED PERCENT AMOUNT AMOUNT UNITS RECOVERY 10 10 ug/L 100 10 11 ug/L 111 10 9.6 ug/L 96 10 10 ug/L 101 10 9.6 ug/L 98 10 10 ug/L 101 10 9.8 ug/L 98 10 10 ug/L 101 10 9.9 ug/L 101 10 10 ug/L 100 10 10 ug/L 100 10 10 ug/L 100 10 10 ug/L 101	SPIKE MEASURED PERCENT AMOUNT AMOUNT UNITS RECOVERY RPD 10 10 ug/L 100 10 11 11 10 11 ug/L 111 11 11 11 10 9.6 ug/L 96 10 10 4.8 10 9.6 ug/L 98 10 10 4.8 10 9.8 ug/L 98 3.1 10 9.9 10.1 3.1 10 9.9 ug/L 100 1.6 10 10 1.6 10 10 ug/L 100 1.6 10 1.0 1.0

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	99	(73 - 122)
	107	(73 - 122)
1,2-Dichloroethane-d4	101	(61 - 128)
	102	(61 - 128)
Toluene-d8	100	(76 - 110)
	103	(76 - 110)
4-Bromofluorobenzene	1.01	(74 - 116)
	100	(74 - 116)

NOTE (S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A6A040176
 Work Order #...: HT3M81AC-MS
 Matrix....: WATER

 MS Lot-Sample #: A6A040101-001
 HT3M81AD-MSD
 Matrix....: WATER

 Date Sampled...: 01/03/06 12:50
 Date Received..: 01/03/06
 Prep Date....: 01/06/06

 Prep Date....: 01/06/06
 Analysis Date..: 01/06/06
 Prep Batch #...: 6009027

 Dilution Factor: 1.67
 HT3M81AD-MSD

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	102	(62 - 130)			SW846 8260B
	102	(62 - 130)	0.04	(0-20)	SW846 8260B
Trichloroethene	97	(62 - 130)			SW846 8260B
	99	(62 - 130)	2.0	(0-20)	SW846 8260B
Benzene	100	(78 - 118)			SW846 8260B
	101	(78 - 118)	1.4	(0-20)	SW846.8260B
Toluene	100	(70 - 119)	•		SW846 8260B
	98	• (70 - 119)	1.2	(0-20)	SW846 8260B
Chlorobenzene	99	(76 - 117)			SW846 8260B
	98	(76 - 117)	0.99	(0-20)	SW846 8260B
		PERCENT		RECOVERY	
SURROGATE	· ·	RECOVERY		LIMITS	· ·
Dibromofluoromethane		97		(73 - 12	2)
		103		(73 - 12	2)
1,2-Dichloroethane-d4		98		(61 - 12	8)
		102		(61 - 12	8)
Toluene-d8	•	97		(76 - 11	0)
		96		(76 - 11	0)
4-Bromofluorobenzene		92		(74 - 11	6)
		90		(74 - 11	6)

NOTE (S):

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

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A6A040176
 Work Order #...: HT3M81AC-MS
 Matrix....: WATER

 MS Lot-Sample #: A6A040101-001
 HT3M81AD-MSD

 Date Sampled...: 01/03/06 12:50
 Date Received..: 01/03/06

 Prep Date....: 01/06/06
 Analysis Date..: 01/06/06

 Prep Batch #...: 6009027
 Dilution Factor: 1.67

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD)
1,1-Dichloroethene	ND	17	17	ug/L	102		SW846	8260B
	ND	17	17	ug/L	102	0.04	SW846	8260B
Trichloroethene	1.8	17	18	ug/L	97		SW846	8260B
	1.8	17	18	ug/L	99	2.0	SW846	8260B
Benzene	ND	17	17	ug/L	100		SW846	8260B
	ND	17	17	ug/L	101	1.4	SW846	8260B
Toluene	ND	17	17	ug/L .	100		SW846	8260B
	ND	17	16	ug/L	98	1.2	SW846	8260B
Chlorobenzene	ND	17	17	ug/L	99		SW846	8260B
	ND	17	16	ug/L	98	0.99	SW846	8260B

	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	97	(73 - 122)	
	103	(73 - 122)	
1,2-Dichloroethane-d4	98	(61 - 128)	
	102	(61 - 128)	
Toluene-d8	97	(76 - 110)	
	96	(76 - 110)	
4-Bromofluorobenzene	92	(74 - 116)	
	90	(74 - 116)	
		•	

NOTE(S):

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

Chain of **Custody Record**



Severn Trent Laboratories, Inc.

3TL-4124 (0901)																											
MARTHON ELEC. MG.	COR	Projec	il Mar T	nager EK	RY	<u>/</u>	K	σŀ	P	LI	$\overline{\boldsymbol{\lambda}}$)					Da 1	/3	10	6		Cha	in of C		Numbe	ar }	
Address On You All <		Telepi	hone l		ber (Ai	na Co	ode)/Fa	ax Nu	imbe V	r 	7.	1					Lal	Num	ber					,		,	
City State Zi	D Code	Site C	//	\underline{e}		01		Cor	0 nterret	2	14			T				/ 4 14-	ah lis			Pag	<u> 70</u>		0		==
WAUSAU LUI	54401			•					nau					_		 	re spa	(Alla ice is	need	stir led)							
Project Name and Location (State)		Carrie	r/Way	vbill N	lumbe	r																	-				
Contract/Purchase Order/Quote No.				Ņ	Aatrix				Con Pres	ntaini serva	ers a Itive	<u>ቆ</u> 95		V) V									Co	pecial onditic	insin ons of	Receip	
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	ž	Aqueous	Sed.	ĵ8j	saudun	HZSON	HN03	ΨC	HOBN	ZnAc/ NaOH		\geq													
D060103 MT- 450	01/03/06	AM Kido								X		•	1	x									3-	40	mi	11.0	~~
															+	+		+-			+		50	2			د <u>ت</u> سر
		···· ,-··			+-	+	+-									┼╌┼		+	┟─┤		+		<u></u>	ap	\sim	YMPL	<u><u></u></u>
			┼╴┧											┞╌╄		┥┥			\square								
			╞╴╏											\vdash	4	┼╷			\square	-+							_
		1.00	$\left - \right $		+				-				L	\downarrow		\downarrow							*				
W060103MT- 451	01/03/06	0:00		$ \downarrow$			\square			×				x								3	3-40	SM	<u> </u>	VIAL	
																						6	a	B.	SA	nat	$\overline{\mathbf{c}}$
																					\square		Di,	112	Ω, IV		2
					-												-+-	+	┝╼╌┟	+			<u>, , , , , , , , , , , , , , , , , , , </u>		<u>.</u>		-
	<u>}</u>		+		-+-	+				-+				┟╌┼╴		╉╍╋		+			+						
			$\left\{ - \right\}$	-+	+		+		_							+					+						
······································					· .						_																
	<u> </u>																										
			Sa	umple 1 – 1) Dispo	osai		- -					_						(A 10	e may	be ass	essed if	f samp	les are	retaine	đ	
Turn Around Time Required		_ Unknown		j Hel	turn To	o Ciler	<u>, אר</u>		Reo.	sal By Jirem	/ Lai	5 (Soe		Archiv	e For		Mo	nths	longe	er than	1 mon	th)					
24 Hours 48 Hours 7 Days 14 Da	ays 🔲 21 Days	Oth	er				_					1000	, c., y /														d
1. Relinquished By		Date	3/0	6	Time 10:1	w.	200	I. Re		/ed B	v v		<u>م ،</u>									Date	e	~!~	Time		ntoj
2. Relinquished By		Date	7	<u></u>	Time		- (2. Re	eceiv	red B	Y	<u> </u>	¥	<u>~ \</u>	<u> </u>							Date	e	<u>Q</u> e		<u></u>	_പ്പ പ
3. Relinquished By	· · · · · · · · · · · · · · · · · · ·	Date		ہـــــ	Time			3. Re	əceiv	ed B	y											Date	0		Time	·	rth
Comments		· ·		l															<u> </u>						L		X
·																											ې
STRIBUTION: WHITE - Returned to Client with Report; (CANARY - Stays wi	th the Samp	ole: P	INK -	Field	Сору																					툾

ω 1

STL Cooler Recei	of Form/Narrative	mber: 4/6/ 6/017/	$\boldsymbol{\varphi}$
North Canton Hac	lity		
Client: Marathon	zere men Project: 21 3978	Quote#: <u>50476</u>	e
Cooler Received on:		by: Lisab	Signature)
Feax Client Drop U		ier 🔄	
Stetson US Cargo	Uther:		
SIL Cooler No# NO	Foam Box Client Coo	oler Other	
1. were custody seals o	in the outside of the cooler? Yes No X	Intact? Yes [] No	
IT YES, Quantity			67 1
2 Shinner's neglying ali	ns signed and dated?		
2. Shipper's packing sh	p attached to this form?	Tes X NO NA	
A Did you sign the quet	adv namers in the appropriate place?	Keiinquisnea by client?	
4. Did you sight the cust	di Dubble Wree ZA Free ZA Nore		
5. Facking material used	non recoint (G °C (and heads of from for much		·
METHOD Temp Visi	pon receipt <u>1.9</u> C (see back of form for mu	tiple coolers/temp)	
COOLANT. Wet Ice	Blue Ice Dry Ice Water		
7 Did all hottles arrive	in good condition (Unbroken)?		
8. Could all hottle label	s and/or tags be reconciled with the COC?		
9. Were samples at the	correct nH? (record below/on beck)		
10 Were correct bottles	used for the tests indicated?		
11. Were air bubbles >6	mm in any VOA vials?		
12 Sufficient quantity re	eceived to perform indicated analyses?		
13 Was a Trip Blank pro	esent in the cooler? Ves $\sqrt{2}$ No $\sqrt{2}$ Were VOA	$\frac{1}{1} \cos \frac{1}{10} = \frac{1}{10} \cos \frac{1}{10} \cos \frac{1}{10} \sin \frac{1}{10} \sin$	
14 Does the trip blank n	umber match the cooler number in which it was n	$\frac{1}{2} = \frac{1}{2} = \frac{1}$	
Contacted PM H/LN	f Date: IIO IO(hy: f yia	Voice Mail Verbal	1 Other
Concerning:	$T = R \cdot $	Voice Mail Verbal] Other
Concerning:	<u>T.B.</u> via	Voice Mail Verbal] Other []
Contacted PM Concerning:	<u>T·B</u> . via	Voice Mail Verbal] Other
Concerning: V I. CHAIN OF CUSTOL The following discr	Date: 10406 by: 4 via T.B.	Voice Mail Verbal] Other
Contacted PM <u>HLM</u> Concerning: <u>1. CHAIN OF CUSTOL</u> The following discr	Date: 10406 by: 6 via T.B. Dy epancies occurred:	Voice Mail Verbal] Other
Contacted PM Concerning: 1. CHAIN OF CUSTOL The following discr	Date: 104106 by: An via T.B. Dy epancies occurred: Received IX40ml. T.B. not	Voice Mail Verbal] Other []
Contacted PM Concerning: 1. CHAIN OF CUSTOL The following discr	Date: 10406 by: Am via T.B. DF epancies occurred: Received IX40ml. T.B. Act	Voice Mail Verbal] Other []
Contacted PM Concerning: <i>I. CHAIN OF CUSTOL</i> The following discr	Date: 10406 by: An via T.B. DY epancies occurred: Keceived IX40ml. T.B. pot	Voice Mail Verbal] Other []
Contacted PM Concerning: 1. CHAIN OF CUSTOL The following discre 2. SAMPLE CONDITIC	Date: 10406 by: Am via T.B. or epancies occurred: Received IX40ml. T.B. pot	Voice Mail Verbal] Other []
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s)	Date: 10406 by: 4 via T.B. oF epancies occurred: Keceived IX40ml. T.B. not DN were received after the second	Voice Mail Verbal] Other
Contacted PM <u>HLM</u> Concerning: V I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) Sample(s)	Date: 10406 by: 4 via T.B. epancies occurred: Keceived IX40ml. T.B. of DN were received after twee received after twee received after the second after the	Voice Mail Verbal] Other
Contacted PM Concerning:	Date: 10406 by: 4 via T.B. or epancies occurred: Received 1X40ml. T.B. Aot ON were received after the were received after the were received in a ATION	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV. Sample(s)	Date: 10406 by: 4 via T.B. oF epancies occurred: Received IX40ml. T.B. Aot ON were received after were received after were received in a ATION were further	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV Sample(s) recommended pH let	Date: 10406 by: 4 via T.B. epancies occurred: Keceived IX40ml. T.B. of DN were received after were received after were received in a ATION were furthe evel(s). Nitric Acid Lot # 100405-HN03; Sulfurle Acid Lot # 100405-HN0	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV. Sample(s) recommended pH le Hydrochloric Acid Lot # 10	Date: 10406 by: 4 via T.B. via T.B. via T.B. via T.B. via Dy epancies occurred: Keceived IX40ml. T.B. of were received after were received after were received in a ATION were further evel(s). Nitric Acid Lot # 100405-HNO3; Sulfuric Acid Lot # 1000504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-00	Voice Mail Verbal] Other
Contacted PM Concerning: V I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV. Sample(s) recommended pH le Hydrochloric Acid Lot # 10 Sample(s)	Date: 10406 by: 4 via T.B. via T.B. via T.B. via T.B. via T.B. via Dy epancies occurred: Keceived IX40ml. T.B. Act were received after to were received after to were received in a ATION were further evel(s). Nitric Acid Lot # 100405-HNO3; Sulfuric Acid Lot # 100 00504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-C were received with bub	Voice Mail Verbal] Other
Contacted PM Concerning:	Date: 10406 by: 4 via T.B. via T.B. via T.B. via T.B. via T.B. vere received after were received after were received in a ATION were further vere further vere further vere further vere received with bub ack)	Voice Mail Verbal] Other
Contacted PM <u>HLM</u> Concerning:	Date: 10406 by: 4 via T.B. epancies occurred: Keceived 1X40ml. T.B. of were received after were received after were received in a ATION were further evel(s). Nitric Acid Lot # 100405-HNO3; Sulfuric Acid Lot # 10 00504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-C were received with bub ack)	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV Sample(s) recommended pH le Hydrochloric Acid Lot # 10 Sample(s) 4. Other (see below or be	Date: 10406 by: 4 via T.B. via T.B. epancies occurred: Keceived IX40ml. T.B. of were received after were received after were received in a ATION were further evel(s). Nitric Acid Lot # 100405-HN03; Sulfurle Acid Lot # 10 00504-HCl; Sodium Hydroxide and Zine Acetate Lot # 071604-c were received with bub ack)	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV. Sample(s) recommended pH le Hydrochloric Acid Loi # 10 Sample(s) 4. Other (see below or back Client ID	Date:	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) 3. SAMPLE PRESERV Sample(s) recommended pH le Hydrochloric Acid Lot # 10 Sample(s) 4. Other (see below or bo	Date:	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITIC Sample(s) Sample(s) 3. SAMPLE PRESERV. Sample(s) recommended pH le Hydrochloric Acid Lot # 10 Sample(s) 4. Other (see below or backlossic) Client ID	Date:	Voice Mail Verbal] Other
Contacted PM Concerning: I. CHAIN OF CUSTOL The following discr 2. SAMPLE CONDITION Sample(s) 3. SAMPLE PRESERVA Sample(s) recommended pH le Hydrochloric Acid Lot # 10 Sample(s) 4. Other (see below or bo	Date:	Voice Mail Verbal] Other

•

· ·

	STL Cooler Receipt Form/Nar North Canton Facility,	rative	
<u>Client ID</u>	ner og som en som e DH	<u>Date</u>	Initial
·		······································	
· · · · · · · · · · · · · · · · · · ·			
			•
oler Ten	որ	Method	Coolant
crepancies Cont			
- particula Cont			
· ·			
······		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
		· .	
	· · · ·		·····
		•	
· · ·			
	. f		

STL North Canton

SOP: NC-SC-0005. Sample Receiving



END OF REPORT

STL North Canton

·

ATTACHMENT B

DATA VALIDATION MEMO

C	CONESTOGA-ROVERS & ASSOCIATES	1801 Old Highwa St. Paul, Minneso Telephone: (65 www.CRAworld.c	y 8 NW, Suite ota 55112 I) 639-0913 com	Fax: (651) 639-0923
	MEMORA	NDUM		
To:	Jason Twaddle		Ref. No.:	3978-10
From:	Ruth L. Mickle		Date:	March 14, 2006
C.C.:	Analytical Data File			
RE:	Data Quality Assessment January 3, 2006, Sampling Event Wausau Superfund Site - Wausau, Wiscon	sin (COC 245613)		

The following details a data quality assessment for groundwater samples collected January 3, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W060103MT-450 and W060103MT-451 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank yielded a methylene

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

CRA MEMORANDUM

chloride detection (0.55 μ g/L). The associated methylene chloride detection for sample W060103MT-450 should be qualified as nondetect (1.0U).

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded acetone (3.1 μ g/L), methylene chloride (0.93 μ g/L), and 2-butanone (0.49 μ g/L) detections. Since there were no associated 2-butanone detections in the project samples, no qualification was required based on trip blank results. The associated methylene chloride detection was previously qualified as nondetect (1U) based on method blank results. The associated acetone detections for samples W060103MT-450 and W060103MT-451 should be qualified as nondetect (1U).

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualifications noted.

RLM/jla/68



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

April 24, 2008

Reference No. 003978-10

Mr. Jeff Gore UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604 Ms. Eileen Kramer WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont, Box 4001 Eau Claire, Wisconsin 54702

Dear Mr. Gore and Ms. Kramer:

Re: Second Quarter 2006 through Fourth Quarter 2007 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site (Site). Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

This report provides a summary of the monitoring and discharge data for the seven quarters, from the second quarter of 2006 through the fourth quarter of 2007.

Water samples were collected each quarter from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to Test America Laboratories in North Canton, Ohio, for Site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

A summary of the detected parameters is presented in Table 1. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed. As shown on the table, the VOCs detected in the effluent are well below the discharge limits. Copies of the data validation memos are attached as Attachment A.

There were two major maintenance items that occurred during the time period of this report that affected the operation of the extraction system. First, the flow meter failed and had to be replaced. This resulted in an estimate of the total volume of water pumped between May 2, 2006 and August 28, 2006. The estimate was based on the last measured flow rate on May 2, 2006 (meter was found to be defective on June 8, 2006, when a flow meter reading was attempted), and the measured flow rate when a new meter was installed on August 28, 2006.





April 24, 2008

Reference No. 003978-10

The second major maintenance item was cleaning the well screen to increase pumping capacity. A variety of cleaning methods were used including physical, chemical, and biological. Other maintenance was also completed on the pump while the extraction well was shut off. The pump was shut down for 27 days and 9 hours beginning January 25, 2007 to complete this work.

2

There were several other minor, short-term shut downs that occurred from March 30, 2006, through January 3, 2008, many of them due to electrical failures at the facility. Those shut downs are summarized below:

Second Quarter 2006

- March 31, 2006 7.5 hours Shut down while electrical work completed at the facility.
- June 9, 2006 5 minutes Shut down to remove defective flow meter

Third Quarter 2006

- August 1, 2006 -4.3 hours Shut down while electrical maintenance completed in shop.
- August 25, 2006 4.5 hours Shut down while electrical maintenance completed in shop.
- August 28, 2006 3 hours Shut down to install new flow meter, clean strainer, and change oil in pump motor.
- August 29, 2006 3 hours Power outage caused by lightning.

Fourth Quarter 2006

- October 10, 2006 1 hour Shut down during flow meter testing.
- November 17, 2006 5 minutes Shut down for electrical testing in shop.
- December 23, 2006 9 hours Power outage caused by snow storm.

First Quarter 2007

- January 17, 2007 -6.25 hours Power outage caused by underground utility line damage.
- January 25, 2007 27 days 9.5 hours Shut down for well cleaning and maintenance as discussed above (restarted February 21, 2007).
- March 7, 2007 4 hours Shut down to replace flow meter and clean strainer.

Second Quarter 2007

- July 3, 2007 4 hours Power outage at facility.
- July 10, 2007 2.5 hours Power outage in Engineering Lab.



April 24, 2008

Reference No. 003978-10

Third Quarter 2007

• August 4, 2007 - 7.3 hours - Shut down while electrical maintenance completed in shop.

3

Fourth Quarter 2007

- October 20, 2007 1.3 hours Power outage caused by tree falling on power line.
- November 27, 2007 1 hour Power outage.

A total of 674,146,000 gallons of water were treated and discharged by EW1 from the second quarter of 2006 through the fourth quarter of 2007 (March 30, 2006 through January 3, 2008). The individual quarterly flow rates and gallons pumped are summarized below.

Quarter	Dates	Total Gallons Pumped	Flow Rate (gpm)
Second Quarter 2006	March 30 - July, 1, 2006	106,180,000	793
Third Quarter 2006	July 1 - October 2, 2006	93,017,000	694
Fourth Quarter 2006	October 2 - January 2, 2007	109,188,000	823
First Quarter 2007	January 2 - April 2, 2007	67,881,000	526
Second Quarter 2007	April 2 - July 2, 2007	106,121,000	809
Third Quarter 2007	July 2 - October 2, 2007	102,011,000	771
Fourth Quarter 2007	October 2 - January 3, 2008	89,748,000	670

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

or R. M

Jason Twaddle

MR/jla/47 Enc.

c.c. Terry Kopplin; Marathon Electric Dave Erickson; City of Wausau

TABLE 1

EW1 DETECTED PARAMETERS (ug/L) SECOND QUARTER 2006 - FOURTH QUARTER 2007 MARATHON ELECTRIC WAUSAU WATER SUPPLY NPL SITE



Notes:

J - estimated value, value is below the reporting limit.

NA - discharge limit not available.

ATTACHMENT A

DATA VALIDATION MEMOS

	CONESTOGA-ROVERS & ASSOCIATES
--	---

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Jason Twaddle	Ref. No.:	003978-10
FROM:	Ruth Mickle Andrea	Date:	May 26, 2006
C.C.:	Analytical Data File		
RE:	Data Quality Assessment March 30, 2006, Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 269667)		

The following details a data quality assessment for water samples collected on March 30, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W060330MT-452 and W060330MT-453 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).²

HOLDING TIME PERIOD & SAMPLE PRESERVATION

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period. The samples were properly preserved to a pH less than 2.

METHOD BLANK SAMPLE

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank yielded a methylene chloride ($0.53 \mu g/L$) detection. However, since the associated investigative sample data were nondetect for this parameter, no data qualification was required. The remaining method blank results were free of target analytes.

² Application of relevant quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW 846, Third Edition, November 1986 and updates.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored by surrogate recoveries. The surrogate recoveries were within acceptance criteria, indicating that individual sample performance was adequate.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance for the analyses was monitored by means of a LCS/LCSD. LCS/LCSD results were within acceptance criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded methylene chloride (7.1 μ g/L) and acetone (5.0 μ g/L) detections. Since the associated sample data were nondetect for methylene chloride, no methylene chloride data qualification was required.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used without qualification.

RLM/jla/69


1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Jason Twaddle	Ref. NO.:	003978-10
FROM:	Ruth Mickle	DATE:	August 30, 2006
C.C.:	Analytical Data File		
RE:	Data Quality Assessment July 20, 2006, Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 305984)		

The following details a data quality assessment for water samples collected on July 20, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W060720MT-454 and W060720MT-455 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

METHOD BLANK SAMPLE

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank sample yielded several detections. The associated methylene chloride and vinyl chloride data for sample W060720MT-454 should be qualified as nondetect (1U).

² Application of relevant quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW 846, Third Edition, November 1986 and updates.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored by surrogate recoveries. The surrogate recoveries were within acceptance criteria, indicating that individual sample performance was adequate.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance for the analyses was monitored by means of a LCS/LCSD. The percent recoveries were within acceptance criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. The percent recovery and RPD data were within acceptance criteria.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank sample yielded methylene chloride and vinyl chloride detections. However, since the associated samples were previously qualified as nondetect, no data qualification was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used with the qualifications noted.

RLM/jla/70

COLOR & A	NESTOGA-ROVERS SSOCIATES	
-----------	-----------------------------	--

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

84584			1184
	UKAN	ID	UIVI

TO:	Jason Twaddle	Ref. No.:	003978-10
FROM:	Ruth Mickle	Date:	December 15, 2006
C.C.:	Analytical Data File		
RE:	Data Quality Assessment October 11, 2006, Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 4680)		

The following details a data quality assessment for water samples collected on October 11, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W-061011-RA-32 and W-061011-RA-33 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

METHOD BLANK SAMPLE

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank sample was free of target analytes.

² Application of relevant quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW 846, Third Edition, November 1986 and updates.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored by surrogate recoveries. The surrogate recoveries were within acceptance criteria, indicating that individual sample performance was adequate.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance for the analyses was monitored by means of a LCS/LCSD. The percent recoveries were within acceptance criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. The percent recovery and RPD data were within acceptance criteria.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank sample was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used without qualification.

RLM/jla/73

GRA	CONESTOGA-ROVERS & ASSOCIATES
-----	---

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

TO:	Jason Twaddle	REF. NO.:	003978-10
FROM:	Ruth L. Mickle	DATE:	February 7, 2007
C.C.:	Analytical Data File		
RE:	Data Quality Assessment January 22, 2007, Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 335155)		

The following details a data quality assessment for groundwater samples collected January 22, 2007, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W070122MT-460 and W070122MT-461 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank yielded a methylene chloride detection ($2.5 \mu g/L$). There were no associated methylene chloride detections.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded acetone (5.6 μ g/L), methylene chloride (1.0 μ g/L) and 2-butanone (0.56 μ g/L) detections. Since there were no associated methylene chloride or 2-butanone detections in the project samples, no qualification was required based on trip blank results. The associated acetone detection in sample W070122MT-461 should be qualified as nondetect (10U) based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualification noted.

RLM/jla/74



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 www.CRAworld.com

Fax: (651) 639-0923

MEMORANDU	JM
-----------	----

To:	Jason Twaddle	Ref. No.:	003978-10
FROM:	Ruth L. Mickle	DATE:	May 10, 2007
C.C.:	Analytical Data File		
RE:	Data Quality Assessment April 18, 2007 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 330960)		

The following details a data quality assessment for groundwater samples collected April 18, 2007, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W070418MT-464 and W070418MT-465 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT **RECOVERIES (SURROGATE RECOVERIES)**

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

METHOD BLANK SAMPLE

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", 1 SW-846, Third Edition, November 1986 and updates.

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank yielded a methylene chloride detection (0.49 μ g/L). The associated samples were free of methylene chloride and, therefore, no data qualification was required.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a methylene chloride (0.90 μ g/L) detection. Since there were no associated methylene chloride detections in the project samples, no qualification was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

RLM/jla/75

C	CONESTOGA-ROVERS & ASSOCIATES	1801 Old Highway 8 NW, Suite St. Paul, Minnesota 55112 Telephone: (651) 639-0913 www.CRAworld.com	e #114 Fax: (651)639-0923
	MEMOR	ANDUM	
TO:	Jason Twaddle; CRA	Ref. No.:	003978-10
FROM:	Ruth L. Mickle	DATE:	September 5, 2007
C.C.:	Analytical Data File		
RE:	Data Quality Assessment July 11, 2007 Sampling Event Wausau Superfund Site - Wausau, Wiscor	usin (COC 331921)	

The following details a data quality assessment for groundwater samples collected July 11, 2007, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W070711MT-466 and W070711MT-467 were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

• • • •

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

CRA MEMORANDUM

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank was free of target analytes.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

RLM/plh/76

C	& ASSOCIATES	l elephone: (651) 639-0913 www.CRAworld.com	Fax: (651)639-0923
	MEMOR	ANDUM	
TO:	Jason Twaddle; CRA	Ref. No.:	003978-10
FROM:	Ruth L. Mickle	DATE:	April 15, 2008
C.C.:	Analytical Data File		
RE:	Data Quality Assessment October 2, 2007 Sampling Event Wausau Superfund Site - Wausau, Wiscor	nsin (COC 266773)	

CONESTOGA-ROVERS

1801 Old Highway 8 NW, Suite #114

St. Paul, Minnesota 55112

The following details a data quality assessment for groundwater samples collected October 2, 2007, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W071002MT-468 (Influent) and W071002MT-469 (Effluent) were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Test America in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

CRA MEMORANDUM

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank was free of target analytes.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded an acetone detection. Since the associated sample data were nondetect for this parameter, no data qualification was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

RLM/jla/80



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 6516390913 Facsimile: 6516390923 www.CRAworld.com

Reference No. 003978-10

April 30, 2008

Mr. Jeff Gore UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Mr. Gore and Ms. Kramer:

Re: First Quarter 2008 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Ms. Eileen Kramer WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont, Box 4001 Eau Claire, Wisconsin 54702

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this first quarter 2008 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site (Site). Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

First quarter 2008 samples were collected on January 3, 2008, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for Site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	9	4.8	41,000
cis-1,2-dichloroethene	0.46 J	0.31 J	NA

Notes:

J - estimated value, value is below the reporting limit. NA - discharge limit not available.

All values are reported in $\mu g/L$.





April 30, 2008

Reference No. 003978-10

The pump operated continuously during the first quarter of 2008, except for two days, 3 hours on February 26, when it was shut down while updating the motor controls of the pump. Between January 3 and March 31, 2008, the pump operated at an average flow rate of 790 gpm. A total of 100,315,000 gallons of water were treated by EW1 in the first quarter of 2008 (January 3 to March 31).

2

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Iton R. M.

Jason Twaddle

JT/rb/48 Enc.

c.c. Terry Kopplin; Marathon Electric Dave Erickson; City of Wausau Chuck Ahrens; CRA (w/o enc.)

ATTACHMENT A

LABORATORY REPORT

. .

ANALYTICAL REPORT

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 WAUSAU SUPERFUND

SAMPLE SUMMARY

SAMPLE IDENTIFICATION

WO #LABORATORY IDKE3L5.A8A040152-001KE3M9.A8A040152-002KE3ND.A8A040152-003

1.1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

W080103MT-470 Influent W080103MT-471 Effluent TRIP BLANK

TESTAMERICA LABORATORIES, INC.

Amy L. McCormick

Project Manager

January 18, 2008

TestAmerica North Canton

1

CASE NARRATIVE A8A040152

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received January 04, 2008, according to documented sample acceptance procedures.

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. 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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 23.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.4°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

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(s) 8009199. 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.

3

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.

<u>QC BATCH</u>

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 repreparation 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.)

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

4

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 repreparation 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,

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 061807.doc

EXECUTIVE SUMMARY - Detection Highlights

A8A040152

PARAMETER	RESULT	REPORTIN	IG UNITS	ANALYTICAL METHOD	
W080103MT-470 01/03/08 09:00 001					
Trichloroethene	9.0	1.0	ug/L	SW846 8260B	
cis-1,2-Dichloroethene	0.46 J	1.0	ug/L	SW846 8260B	
W080103MT-471 01/03/08 09:00 002					
Trichloroethene	4.8	1.0	ug/L	SW846 8260B	
cis-1,2-Dichloroethene	0.31 J	1.0	ug/L	SW846 8260B	
TRIP BLANK 01/03/08 003					
Methylene chloride	0.77 J	1.0	ug/L	SW846 8260B	
Acetone	6.1 J	10	ug/L	SW846 8260B	

ANALYTICAL METHODS SUMMARY

A8A040152

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B
References:	

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

SAMPLE SUMMARY

A8A040152

WO # SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KE3L5 001 KE3M9 002 .KE3ND 003	W080103MT-470 W080103MT-471 TRIP BLANK	01/03/08 01/03/08 01/03/08	09:00 09:00

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.

Client Sample ID: W080103MT-470

Influent

GC/MS Volatiles

Lot-Sample #:	A8A040152-001	Work Order #:	KE3L51AA
Date Sampled:	01/03/08 09:00	Date Received:	01/04/08
Prep Date:	01/09/08	Analysis Date:	01/09/08
Prep Batch #:	8009199		
Dilution Factor:	1	Method:	SW846 8260B

Matrix....: WG

Method.....: SW846 8260B

PARAMETERRESULTLIMITUNITSChloromethaneND1.0ug/LBromomethaneND1.0ug/LVinyl chlorideND1.0ug/LChloroethaneND1.0ug/LMethylene chlorideND1.0ug/LAcetoneND1.0ug/LAcetoneND1.0ug/L1, 1-DichloroethaneND1.0ug/L1, 1-DichloroethaneND1.0ug/L1, 1-DichloroethaneND1.0ug/L1, 2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1, 2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1, 2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L2-ButanoneND1.0ug/L1, 2-DichloropethaneND1.0ug/L1, 2-DichloropethaneND1.0ug/L1, 2-DichloropropaneND1.0ug/L1, 2-DichloropropaneND1.0ug/L1, 1, 2-TrichloroethaneND1.0ug/LDibromochloromethaneND1.0ug/L1, 1, 2-TrichloroethaneND1.0ug/L1, 1, 2-TrichloroethaneND1.0ug/L2-HexanoneND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/L2-			REPORTING	
ChloromethaneND1.0ug/LBromomethaneND1.0ug/LVinyl chlorideND1.0ug/LChloroethaneND1.0ug/LChloroethaneND1.0ug/LAcetoneND1.0ug/LAcetoneND1.0ug/L1.1-DichloroetheneND1.0ug/L1.1-DichloroethaneND1.0ug/L1.1-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1.1.1-TrichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1.2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1.2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1.2-DichloropropaneND1.0ug/L1.2-DichloropropaneND1.0ug/L1.2-DichloropropeneND1.0ug/LDibromochloromethaneND1.0ug/LEnzeneND1.0ug/LBenzeneND1.0ug/LBromoformND1.0ug/LBromoformND1.0ug/LBromoformND1.0ug/LBromoformND1.0ug/LBromoformND1.0ug/LChloroethaneND1.0ug/LBromoform <td< th=""><th>PARAMETER</th><th>RESULT</th><th>LIMIT</th><th>UNITS</th></td<>	PARAMETER	RESULT	LIMIT	UNITS
BromomethaneND1.0ug/LVinyl chlorideND1.0ug/LChloroethaneND1.0ug/LMethylene chlorideND1.0ug/LAcetoneND10ug/LCarbon disulfideND1.0ug/L1.1-DichloroetheneND1.0ug/L1.1-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1.1.1-TrichloroethaneND1.0ug/L2-BordichloromethaneND1.0ug/L1.2-DichloropropaneND1.0ug/L1.2-DichloropropaneND1.0ug/L1.1.2-TrichloroethaneND1.0ug/L1.1.2-TrichloroethaneND1.0ug/L1.1.2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/LHethyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/L1.1.2-TrichloroethaneND1.0ug/LBromoformND1.0ug/LChlorobenzeneND1.0ug/LChloroetheneND1.0ug/LChlorobenzeneND1.0ug/LChlor	Chloromethane	ND	1.0	ug/L
Vinyl chloride ND 1.0 ug/L Chloroethane ND 1.0 ug/L Methylene chloride ND 1.0 ug/L Acetone ND 1.0 ug/L Carbon disulfide ND 1.0 ug/L 1,1-Dichloroethene ND 1.0 ug/L 1,1-Dichloroethane ND 1.0 ug/L 1,1-Dichloroethane ND 1.0 ug/L 1,2-Dichloroethane ND 1.0 ug/L 1,2-Dichloroethane ND 1.0 ug/L 1,1.1-Trichloroethane ND 1.0 ug/L 2-Butanone ND 1.0 ug/L 1,1.1-Trichloroethane ND 1.0 ug/L Carbon tetrachloride ND 1.0 ug/L Bromodichloromethane ND 1.0 ug/L 1,2-Dichloropropane ND 1.0 ug/L Dibromochloromethane ND 1.0 ug/L 1,1,2-Trichloroethane ND 1.0 ug/L Benzene ND 1.0	Bromomethane	ND	1.0	ug/L
ChloroethaneND1.0ug/LMethylene chlorideND1.0ug/LAcetoneND10ug/LCarbon disulfideND1.0ug/L1,1-DichloroetheneND1.0ug/L1,1-DichloroethaneND1.0ug/LChloroformND1.0ug/L1,2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1,1-TrichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1,1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/LCis-1,3-DichloropropaneND1.0ug/LDibromochloromethaneND1.0ug/LLtrans-1,3-DichloropropeneND1.0ug/LEnzeneND1.0ug/LLtrans-1,3-DichloropropeneND1.0ug/LPromoformND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/L2-HexanoneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/LChlo	Vinyl chloride	ND	1.0	ug/L
Methylene chlorideND1.0ug/LAcetoneND10ug/LAcetoneND1.0ug/LCarbon disulfideND1.0ug/L1.1-DichloroetheneND1.0ug/L1.1-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L1.2-DichloroethaneND1.0ug/L2-ButanoneND10ug/L2-ButanoneND1.0ug/L1.1.1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/Lcis-1,3-DichloropropaneND1.0ug/LDibromochloromethaneND1.0ug/L1.1.2-TrichloroethaneND1.0ug/LEnzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LPromoformND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/L1.1,2,2-TetrachloroethaneND1.0ug/L1.1,2,2-TetrachloroethaneND1.0ug/L1.1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0 <td>Chloroethane</td> <td>ND .</td> <td>1.0</td> <td>ug/L</td>	Chloroethane	ND .	1.0	ug/L
AcetoneND10ug/LCarbon disulfideND1.0ug/L1.1-DichloroetheneND1.0ug/L1.1-DichloroethaneND1.0ug/L1.1-DichloroethaneND1.0ug/LChloroformND1.0ug/L1.2-DichloroethaneND1.0ug/L2-ButanoneND10ug/L2-ButanoneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1.2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropaneND1.0ug/LDibromochloromethaneND1.0ug/L1.1,1.2-TrichloroethaneND1.0ug/LEnzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LEnzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LPercanderND1.0ug/L1.1,2,2-TetrachloroethaneND1.0ug/L1.1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/LChlorobenzeneND1.0ug/L <t< td=""><td>Methylene chloride</td><td>ND</td><td>1.0</td><td>ug/L</td></t<>	Methylene chloride	ND	1.0	ug/L
Carbon disulfideND1.0ug/L1,1-DichloroetheneND1.0ug/L1,1-DichloroethaneND1.0ug/LChloroformND1.0ug/L1,2-DichloroethaneND1.0ug/L2-ButanoneND1.0ug/L1,1,1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropaneND1.0ug/LTrichloroethaneND1.0ug/LDibromochloromethaneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LChlorobetheneND1.0ug/Lterachloroethene <td< td=""><td>Acetone</td><td>ND</td><td>10</td><td>ug/L</td></td<>	Acetone	ND	10	ug/L
1,1-DichloroetheneND1.0ug/L1,1-DichloroethaneND1.0ug/LChloroformND1.0ug/L1,2-DichloroethaneND1.0ug/L2-ButanoneND10ug/L1,1-TrichloroethaneND1.0ug/L1,1.1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloroethaneND1.0ug/Ltrans-1,3-DichloroethaneND1.0ug/Ltrans-	Carbon disulfide	ND	1.0	ug/L
1,1-DichloroethaneND1.0ug/LChloroformND1.0ug/L1,2-DichloroethaneND1.0ug/L2-ButanoneND10ug/L1,1,1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/L1,2-DichloropropaneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LPreseneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloroethaneND1.0ug/Ltrans-1,3-DichloroethaneND1.0ug/Ltrans-1,3-DichloroethaneND1.0ug/Ltrans-1,3-Dichloroethane<	1,1-Dichloroethene	ND	1.0	ug/L
ChloroformND1.0ug/L1,2-DichloroethaneND1.0ug/L2-ButanoneND10ug/L1,1,1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LTrichloroethane9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/LBromoformND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3	1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane ND 1.0 ug/L 2-Butanone ND 10 ug/L 1,1,1-Trichloroethane ND 1.0 ug/L Carbon tetrachloride ND 1.0 ug/L Bromodichloromethane ND 1.0 ug/L 1,2-Dichloropropane ND 1.0 ug/L cis-1,3-Dichloropropene ND 1.0 ug/L Trichloroethene 9.0 1.0 ug/L Dibromochloromethane ND 1.0 ug/L 1,1,2-Trichloroethane ND 1.0 ug/L Benzene ND 1.0 ug/L trans-1,3-Dichloropropene ND 1.0 ug/L Bromoform ND 1.0 ug/L trans-1,3-Dichloropropene ND 1.0 ug/L 4-Methyl-2-pentanone ND 1.0 ug/L 2-Hexanone ND 1.0 ug/L 1,1,2,2-Tetrachloroethane ND 1.0 ug/L Toluene ND 1.0 ug/L Chlorobenzene ND <	Chloroform	ND	1.0	'ug/L
2-ButanoneND10ug/L1,1,1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LChethyl-2-pentanoneND1.0ug/LtetrachloroetheneND1.0ug/LChlorobenzeneND1.0ug/LtetrachloroethaneND1.0ug/LtetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	1,2-Dichloroethane	ND	1.0	ug/L
1,1,1-TrichloroethaneND1.0ug/LCarbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LTomoformND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LtetrachloroetheneND1.0ug/LtetrachloroetheneND1.0ug/LtolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	2-Butanone	ND	10	ug/L
Carbon tetrachlorideND1.0ug/LBromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	1,1,1-Trichloroethane	ND	1.0	ug/L
BromodichloromethaneND1.0ug/L1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Carbon tetrachloride	ND	1.0	ug/L
1,2-DichloropropaneND1.0ug/Lcis-1,3-DichloropropeneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Bromodichloromethane	ND	1.0	ug/L
cis-1,3-DichloropropeneND1.0ug/LTrichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND1.0ug/L2-HexanoneND1.0ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	1,2-Dichloropropane	ND .	1.0	ug/L
Trichloroethene9.01.0ug/LDibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND1.0ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	cis-1,3-Dichloropropene	ND	1.0	ug/L
DibromochloromethaneND1.0ug/L1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Trichloroethene	9.0	1.0	ug/L
1,1,2-TrichloroethaneND1.0ug/LBenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Dibromochloromethane	ND	1.0	ug/L
BenzeneND1.0ug/Ltrans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	1,1,2-Trichloroethane	ND	1.0	ug/L
trans-1,3-DichloropropeneND1.0ug/LBromoformND1.0ug/L4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Benzene	ND	1.0	ug/L
BromoformND1.0ug/L4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	trans-1,3-Dichloropropene	ND	1.0	ug/L
4-Methyl-2-pentanoneND5.0ug/L2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Bromoform	ND	1.0	ug/L
2-HexanoneND10ug/LTetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	4-Methyl-2-pentanone	ND	5.0	ug/L
TetrachloroetheneND1.0ug/L1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	2-Hexanone	ND	10.	ug/L
1,1,2,2-TetrachloroethaneND1.0ug/LTolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Tetrachloroethene	ND	1.0	ug/L
TolueneND1.0ug/LChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
ChlorobenzeneND1.0ug/LEthylbenzeneND1.0ug/L	Toluene	ND	1.0	ug/L
Ethylbenzene ND 1.0 ug/L	Chlorobenzene	ND	1.0	ug/L
1.0 1.0	Ethylbenzene	ND	1.0 .	ug/L
Styrene, ND 1.0 ug/L	Styrene.	ND	1.0	ug/L
Xylenes (total) ND 1.0 ug/L	Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene 0.46 J 1.0 ug/L	cis-1,2-Dichloroethene	0.46 J	1.0	ug/L
trans-1,2-Dichloroethene ND 1.0 ug/L	trans-1,2-Dichloroethene	ND	1.0	ug/L
		DEBOENT	ΰεοοιπον	
	SURROGATE	RECOVERY		
Dibromofluoromethane 98 (73 - 122)	Dibromofluoromethane	98	<u>173 - 173</u>	
1.2 - Dichloroethane-d4 96 (61 = 122)	1.2-Dichloroethane-d4	96	(61 - 122) (61 - 120)	
Toluene-d8 90 $(76 = 110)$	Toluene-d8	90	(01 - 120)	
4-Bromofluorobenzene 86 (74 - 116)	4-Bromofluorobenzene	86	(70 - 110)	

(Continued on next page)

9

Client Sample ID: W080103MT-470

GC/MS Volatiles

Lot-Sample #...: A8A040152-001 Work Order #...: KE3L51AA

Matrix....: WG

NOTE(S):

J Estimated result. Result is less than RL.

Effluent

Client Sample ID: W080103MT-471

GC/MS Volatiles

Lot-Sample #:	A8A040152-002	Work Order #:	KE3M91AA
Date Sampled:	01/03/08 09:00	Date Received:	01/04/08
Prep Date:	01/09/08	Analysis Date:	01/09/08
Prep Batch #:	8009199		
Dilution Factor:	1	Method:	SW846 8260B

Matrix....: WG

Method.....: SW846 8260B

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	4.8	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	0.31 J	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND ·	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	99	(73 - 122)	
1,2-Dichloroethane-d4	99	(61 - 128)	
Toluene-d8	88	(76 - 110)	
4-Bromofluorobenzene	84	(74 - 116)	

(Continued on next page)

Client Sample ID: W080103MT-471

GC/MS Volatiles

Lot-Sample #...: A8A040152-002 Work Order #...: KE3M91AA

Matrix....: WG

NOTE(S):

J Estimated result. Result is less than RL.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A8A0	40152-003 Work Order	#: KE3ND1AA	Matrix: WQ
Date Sampled: 01/0	3/08 Date Receiv	red: 01/04/08	
Prep Date: 01/0	9/08 Analysis Da	ate: 01/09/08	
Prep Batch #: 8009	199	•	
Dilution Factor: 1	Method	: SW846 8260B	

. .

		REPORTIN	İG
PARAMETER	RESULT	LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	0.77 J	1.0	ug/L
Acetone	6.1 J	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND.	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND .	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
	PERCENT	RECOVERY	2

	TUCOVERIE
RECOVERY	LIMITS
98	(73 - 122)
99	(61 - 128)
88	(76 - 110)
80	(74 - 116)
	RECOVERY 98 99 88 80

(Continued on next page)

. .

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A8A040152-003 Work Order #...: KE3ND1AA Matrix..... WQ

NOTE(S):

J Estimated result. Result is less than RL.



THE LEADER IN ENVIRONMENTAL DESTING

QUALITY CONTROL SECTION

TestAmerica North Canton

METHOD BLANK REPORT

GC/MS Volatiles

Prep Batch #...: 8009199

Client Lot #: A8A040152 MB Lot-Sample #: A8A090000-3	Work Order #: KE9DG1AA 199	Matrix WATER
	Prep Date: 01/09/08	

Analysis Date..: 01/09/08 Dilution Factor: 1

		REPORTIN	G	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	10	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	. 1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	92	(73 - 122	2)	
1,2-Dichloroethane-d4	93	(61 - 12)	8)	
Toluene-d8	90	(76 - 11)))	
4-Bromofluorobenzene	86	(74 - 11)	5)	

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A8A040152

Work Order #...: KE9DG1AA

Matrix..... WATER

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 #:	A8A040152	Work Order #:	KE9DG1AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A8A090000-199		KE9DG1AD-LCSD		
Prep Date:	01/09/08	Analysis Date:	01/09/08		
Prep Batch #:	8009199				
Dilution Factor:	1		•		

	PERCENT	RECOVERY	RPD	
PARAMETER	RECOVERY	LIMITS	RPD LIMITS	METHOD
1,1-Dichloroethene	86	(63 - 130)		SW846 8260B
	96	(63 - 130)	10 (0-20)	SW846 8260B
Trichloroethene	87	(75 - 122)		SW846 8260B
	98	(75 – 122)	11 (0-20)	SW846 8260B
Benzene	82	(80 - 116)		SW846 8260B
	94	(80 - 116)	13 (0-20)	SW846 8260B
Toluene	88	(74 - 119)		SW846 8260B
	94	(74 - 119)	7.0 (0-20)	SW846 8260B
Chlorobenzene	89	(76 – 117)		SW846 8260B
	95	(76 - 117)	6.7 (0-20)	SW846 8260B
		PERCENT	RECOVERY	
SURROGATE		RECOVERY	LIMITS	
Dibromofluoromethane		95	(73 - 122)	
		95	(73 - 122)	·
1,2-Dichloroethane-d4	·	92	(61 - 128)	
		93	(61 - 128)	
Toluene-d8		98	(76 - 110)	
		93	(76 - 110)	
4-Bromofluorobenzene		101	(74 - 116)	
		95	(74 - 116)	
			•••••	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

TestAmerica North Canton

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A8A040152
 Work Order #...: KE9DG1AC-LCS
 Matrix....: WATER

 LCS Lot-Sample#: A8A090000-199
 KE9DG1AD-LCSD

 Prep Date....: 01/09/08
 Analysis Date..: 01/09/08

 Prep Batch #...: 8009199
 Dilution Factor: 1

	SPIKE	MEASURE	D	PERCENT			
PARAMETER	AMOUNT	<u>AMOUNT</u>	UNITS	RECOVERY	RPD	METHO	D
1,1-Dichloroethene	10	8.6	ug/L	86 [·]		SW846	8260B
	10	9.6	ug/L	96	10	SW846	8260B
Trichloroethene	10	8.7	ug/L	87		SW846	8260B
	10	9.8	ug/L	98	11	SW846	8260B
Benzene	10	8.2	ug/L	82		SW846	8260B
	10	9.4	ug/L	94	13	SW846	8260B
Toluene	10	8.8	ug/L	88		SW846	8260B
	10	9.4	ug/L	94	7.0	SW846	8260B
Chlorobenzene	10	8.9 <u>.</u>	ug/L	89		SW846	8260B
	10	9.5	ug/L	95	6.7	SW846	8260B
			PERCENT	RECOVERY			
SURROGATE	_		<u>RECOVERY</u>	LIMITS			
Dibromofluoromethane ,			95 ·	(73 - 122)		
			95	(73 - 122)		
1,2-Dichloroethane-d4			92	(61 - 128)		
			93	(61 - 128)		
Toluene-d8			98 .	(76 - 110)		
			93	(76 - 110)		
4-Bromofluorobenzene			101	(74 - 116)		
			95	(74 - 116)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

Chain of Custody Record

•

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0807) Client MARATHON ELEC. MFG, (Copp	Projec	t Mar	nagei	, Ri	er		Ko	P	P2	.//	j					Date Ol	10		08	3	Cha	in of <u>Custo</u> 374	45	^{imber}	
Address 100 EAST RANDOLIA	ST.	Telepi	10ne 7/	Num	ber (Al	rea fcc 73	vde)/Fi		mber 2	, 74							Lab N	limbe	~/			Pa	ge		of	
WAUSAU WI	54401	Site C	ontac				Lai	b Con	lact				ŀ			Analy 10re :	rsis (/ space	Attacl	h list i Bodec	if <u>1)</u>	1 - 1					
Project Name and Location (State)		Carrie	r/Way	rbill N	lumbe	r																				
Contract/Purchase Order/Quote No.		·			Aatrix		T	(F	Cont Pres	taine erva	rs & tives		- ~, e										Spec Condi	ition:	nstruc s of F	tions/ 'eceipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	*	Aqueous	Sed	Zof	Unpres	H2SO4	EONH	Ŷ	HOW	HORN	- \$													
W080103MT-470	01/03/08	9:00								×			X									•	3-40.	ML	L V	AL
									-	_		+	+				$\left - \right $			_	$\left \right $		<u> </u>	σT	S	IMPLO
<u></u>						+	+			-		+	+		_	╀	$\left[- \right]$	-+	+		┢─┼	+				
W080103MT - 471	01/03/08	9:00								X			×										3-400	12	VIE	76
· · · · · · · · · · · · · · · · · · ·						+	$\left \right $			+	╡	+	+		_	-			_				<u>Shur</u> San	An	/ "(E	RAB
																							_ ,,,,,,			
· · · · · · · · · · · · · · · · · · ·						+				_	-						$\left \right $									
	·····					+			╡	+									+	+		-				
					·				ĺ																	
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Turn Around Time Required Image: Skin Irritant Skin Irritant	Poison B	Unknown		ampk] Re	e Disp turn T	osal o Clier	<u>nt [</u>] Di QC F	spos Requi	al By ireme	Lab	Specify	Arch	ive Fo	<u>*</u>		Monti	(/ ns la	A lee i onger l	nay be than 1	e asse monti	essed . h)	I samples a	are re	tained	
24 Hours 48 Hours 7 Days 14 Da	ays 🔲 21 Days		er		Time		_	1 De		od D.															- .	<u> </u>
MARLIN THUOT		01/0	<u>3 d</u>	8	9:0	BA	m	1. 110	R	eu e,	ne-	h	1.0	Qa	<u>~~</u> ~		- <u></u>						4/08	,	ווות: יו אר:	>
2. Helinquished By		Datte			Time	•		2. Re	eceivo	ed By	,											Da	e /		Time	
3. Relinquished By	<u> </u>	Date			Time			3. Re	Ceive	ed By	,											Da	le		Time	
Comments		k , <u>, , , , , , , , , , , , , , , , , </u>					}										-					1				
DISTRIBUTION: WHITE - Returned to Client with Report; (CANARY - Stays w	rith the Sam	Xe: F	PINK	- Field	Сору																				

	t Form/Narrative	Lot Number: A8A0	41152
North Canton Facility			
Client Matathon	Project	Quote #2	176
Cooler Received on <u>1/4/08</u>	Opened on <u>//// • 8</u>	By <u></u>	- h/Daman
FedEx 🔀 Client Drop Off 🗌 UPS 🗍	DHL FAS / / TestAme	rica Courier	Signature)
TestAmerica Cooler #	Ecom Box Clie	ant Cooler 🕅 Other	
 Were custody seals on the outside of If XES, Quantity 	f the cooler? Yes No 🗓	Intact? Yes No	
Were custody seals on the outside of	f cooler signed and dated?	Yes 🔲 No 🛄 NA	
Were custody seals on the bottles?		Yes 🗌 No 🕅	
2 Shipper's packing slip attached to thi	is form?	Yes X No	
3. Did custody papers accompany the s	ample(s)? Yes 🖾 No 🗔	Relinguished by client	? Yes 🕅 No 🗌
4. Did you sign the custody papers in th	ne appropriate place?	Yes 🕅 No 🗍	
5. Packing material used: Bubble Wrap	X Foam None	Other	· · ·
6. Cooler temperature upon receipt	$\frac{1}{2}$ °C (see back of form for	multiple coolers/temps)	
COOLANT: Wet Ice 🕅 Blue ice	Dry Ice Wate	r 🗌 None 🗌	
7. Did all bottles arrive in good condition	n (Unbroken)?	Yes 🕅 No 🗌	
8. Could all bottle labels and/or tags be	reconciled with the COC?		
 Were correct bottles used for the test 	ts indicated?		
11. Were air bubbles >6 mm in any VOA	vials?	Yes 🗌 No 🖾 N	
12. Sufficient quantity received to perfor	rm indicated analyses?	Yes 🕅 No 🗍	
13. Was a Trip Blank present in the cool	ler? Yes 🗶 No 🗌 Were V	OAs on the COC? Yes 🔯	
Contacted PM <u>ALIS</u> Date	$(-4-\delta Y)$ by $\sum \Delta \geq$	via Voice Mail [] V	erbal 🔟 Other 📋
14. CHAIN OF CUSTODY			·····
The following discrepancies occurre	ed:		
	4. 4		
Recontro trip blank you	coc, will log at end	oflot	
Reconstructs in blank wow	coc, will log at end	oflat	· · · · · · · · · · · · · · · · · · ·
Reconstructs planking on	coc, will log at end	of lot	· · · · · · · · · · · · · · · · · · ·
Recidence trip blank wow	coc, will log at end	oflct	
Recidence trip blanking on	coc, will log at end	of lot	· · · · · · · · · · · · · · · · · · ·
Recidence + s. jp blank "g and	coc, will log at end	of lc+	
15. SAMPLE CONDITION	coc, will log at end	of lot	
15. SAMPLE CONDITION Sample(s)	coc, will log at end	of 1c+	time had expired.
15. SAMPLE CONDITION Sample(s)	coc, will log at end	of 1c+ er the recommended holding were received in a	time had expired. broken container.
15. SAMPLE CONDITION Sample(s) 16. SAMPLE PRESERVATION	coc, will log at end	of Ic+	time had expired. broken container.
15. SAMPLE CONDITION Sample(s)	were received after were received after were fu	of 1c.+ er the recommended holding were received in a rther preserved in sample re	time had expired. broken container. ceiving to meet
Image: Argent of the second	were received after were received after were fu d Lot #071707-HNO3 - Sulfunc Act \$ 092006-HCI; Sodium Hydroxide a	of 1c.+ er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVATION Sample(s) recommended pH level(s). Nitric Acid 122805 -NaOH; Hydrochloric Acid Lot # What time was preservative added	were received afte were received afte were fu d Lot #071707-HNO3 - Sulfuric Ac to sample(s)?	er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVATION Sample(s) recommended pH level(s). Nitric Acid 122805 -NaOH; Hydrochloric Acid Lot # What time was preservative added Sample(s) Clippet LD	were received after were received after were fu d Lot #071707-HNO3 - Sulfuric Act \$ 092006-HCI; Sodium Hydroxide a to sample(s)? were receive	of 1c.+ er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 ind with bubble > 6 mm in dia	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVATION Sample(s) recommended pH level(s). Nitric Acid 12805 -NaOH; Hydrochloric Acid Lot # What time was preservative added Sample(s) Client ID	were received after were received after were fu d Lot #071707-HNO3 - Sulfuric Act to sample(s)? were receive pH	of 1c.+ er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 ed with bubble > 6 mm in dia: Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
Image: Argent of the second state o	were received after were received after were fu d Lot #071707-HNO3 - Sulfuric Act to sample(s)? were receive pH	er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 id with bubble > 6 mm in dias Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
12.2.0 12.2.0 12.2.0 13.0 15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVATION Sample(s) recommended pH level(s). Nitric Acid 122805 - NaOH; Hydrochloric Acid Lot # What time was preservative added Sample(s) Client ID	were received afte were received afte were fu d Lot #071707-HNO3 - Sulfunc Act to sample(s)? were receive <u>pH</u>	of 1c.+ er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 ed with bubble > 6 mm in dia: Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
Image: Argence of the second structure	were received afte were received afte were fu d Lot #071707-HNO3 - Sulfunc Ac to sample(s)? were receive pH	of 1c.+ er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 ed with bubble > 6 mm in dia Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
Image: Argent of the second state o	<u>coc</u> , will log at end were received afte were fu d Lot #071707-HNO3 - Sulfunc Ac # 092006-HCI; Sodium Hydroxide a to sample(s)? were receive <u>pH</u>	of 1c.+ er the recommended holding were received in a rther preserved in sample re bid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 red with bubble > 6 mm in dia: Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
Image: Argent of the second state o	<u>coc</u> , will log at end were received afte were fu <u>d Lot #071707-HNO3 - Sulfunc Ac</u> to sample(s)? <u>were receive</u> <u>pH</u>	er the recommended holding were received in a rther preserved in sample re cid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 id with bubble > 6 mm in dia: Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
Image: Argence of the second secon	<u>were received afte</u> <u>were received afte</u> <u>were fu</u> <u>d Lot #071707-HNO3 - Sulfunc Ac</u> <u>t 092006-HCI; Sodium Hydroxide a</u> <u>to sample(s)?</u> <u>were receive</u> <u>pH</u>	of 1c.+ er the recommended holding were received in a rther preserved in sample re bid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 rd with bubble > 6 mm in dian Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials
Image: Argent of the second state o	<u>coc</u> , will log at end were received afte were fu d Lot #071707-HNO3 - Sulfunc Ac to sample(s)? <u>were receive</u> <u>pH</u>	of 1c.+ er the recommended holding were received in a rther preserved in sample re sid Lot # 092006-H2SO4; Sodiu and Zinc Acetate Lot # 050205-0 ed with bubble > 6 mm in dia: Date	time had expired. broken container. ceiving to meet m Hydroxide Lot # CH3COO2ZN/NaOH meter (Notify PM) Initials

SOP: NC-SC-0005, Sample Receiving Ncansvr10\public\QAQC\NARRATIVITestAmerica\Cooler Receipt TestAmerica\COOLER_TestAmerica_Rev 65 103007.doc

TestAmerica North Canton

21
		: •	<u>-</u>
	TestAmerica Cooler Receipt Form/Na North Canton Facility	rrative	
<u>Client ID</u>	<u>p번</u>	Date	<u>Initials</u>
			· · · · · · · · · · · · · · · · · · ·
Cooler			
		Method	Coolant
			· · · · · · · · · · · · · · · · · · ·
crepancies Cont'd			· · · · · ·
	· · · · · · · · · · · · · · · · · · ·		
		······	
		· · · · · · · · · · · · · · · · · · ·	
		· · · · · ·	
·			

SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Somple Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-0005, Somple Receiving SOP: NC-SC-0005, Sample Receiving SOP: NC-SC-005, Sample Re

あるが



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

DATA VALIDATION MEMO

MEMORANDUM

CONESTOGA-ROVERS

& ASSOCIATES

1801 Old Highway 8 NW, Suite #114

Fax: (651) 639-0923

St. Paul, Minnesota 55112

Telephone: (651) 639-0913

www.CRAworld.com

TO:	Jason Twaddle; CRA	REF. NO.:	003978-10
FROM:	Ruth L. Mickle	DATE:	February 21, 2008
C.C.:	Analytical Data File		
RE:	Data Quality Assessment January 3, 2008 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 374455)		

The following details a data quality assessment for groundwater samples collected January 3, 2008, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W080103MT-470 (Influent) and W080103MT-471(Effluent) were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Test America in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank was free of target analytes.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded acetone and methylene chloride detections. Since the associated sample data were nondetect for these parameters, no data qualification was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

RLM/jla/79



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

August 29, 2008

SEP 2 2008

Mr. Jeff Gore UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Mr. Gore and Ms. Kramer:

Re: Second Quarter 2008 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Reference No. 003978-10

Ms. Eileen Kramer WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont, Box 4001 Eau Claire, Wisconsin 54702

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this second quarter 2008 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site (Site). Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Second quarter 2008 samples were collected on April 1, 2008, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for Site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	6.7	4.9	41,000
cis-1,2-dichloroethene	0.47 J	0.34 J	NA

Notes:

J - estimated value, value is below the reporting limit. NA - discharge limit not available.

All values are reported in μ g/L.





August 29, 2008

2

The pump operated continuously during the second quarter of 2008, except for the following dates:

- April 3rd for 12 minutes, when it was shut down in order to measure the static head.
- June 2nd for 1 hour 30 minutes, when is it was shut down to clean the strainer screen.
- June 6th for 3 hours 30 minutes, due to loss of power from power plant.

Between April 23 and July 3, 2008, the pump operated at an average flow rate of 795 gpm. A total of 107,783,000 gallons of water were treated by EW1 in the second quarter of 2008 (April 23 to July 3).

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

-72,10

Jason Twaddle

MR/sb/49 Enc.

c.c. Terry Kopplin; Marathon Electric Dave Erickson; City of Wausau Chuck Ahrens; CRA (w/o enc.)

ATTACHMENT A

LABORATORY REPORT

1



THE LEADER IN ENVIRONMENTAL TESTING ANALYTICAL REPORT

REVISED

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 WAUSAU SUPERFUND

SAMPLE SUMMARY

<u>WO #</u>	LABORATORY ID	SAMPLE IDENTIFI	CATION
KKKHO	A8D020174-001	W080401MT-472	Influent Effluent
KKKJQ	A8D020174-002	TRIP BLANK	Linuent
	•		

TESTAMERICA LABORATORIES, INC.

. McCormick Amy

Project / Manager

April 23, 2008

North Canton

.

.. . .

CASE NARRATIVE A8D020174

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received April 02, 2008, according to documented sample acceptance procedures.

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. 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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 21.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.6°C.

CASE NARRATIVE (continued)

SAMPLE RECEIVING (continued)

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

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.

<u>QC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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,

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 061807.doc

EXECUTIVE SUMMARY - Detection Highlights

A8D020174

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
W080401MT-472 04/01/08 10:30 0	001			
Trichloroethene cis-1,2-Dichloroethene	6.7 0.47 Ј	1.0 1.0	ug/L ug/L	SW846 8260B SW846 8260B
W080401MT-473 04/01/08 10:25 0	102			
Trichloroethene cis-1,2-Dichloroethene	4.9 0.34 J	1.0 1.0	ug/L ug/L	SW846 8260B SW846 8260B
TRIP BLANK 04/01/08 003				
Methylene chloride	0.81 J	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A8D020174

PARAMETER		ANALYTICAL METHOD	
Volatile (Organics by GC/MS	SW846 8260B	
References	s:		
SW846	"Test Methods for Evaluating Solid	Waste Physical (Chomica)	٦

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

,

SAMPLE SUMMARY

A8D020174

<u>wo #</u>	SAMPLE#	CLIENT SAMPLE ID	SAMPLED <u>DATE</u>	SAMP <u>TIME</u>
KKKHO KKKJP KKKJQ	001 002 003	W080401MT-472 W080401MT-473 TRIP BLANK	04/01/08 04/01/08 04/01/08	10:30 10:25

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.

Conestoga-Rovers & Associates, Inc.

Influent

.: WG

Client Sample ID: W080401MT-472

GC/MS Volatiles

Lot-Sample #:	A8D020174-001	Work Order #:	KKKH01AA	Matrix
Date Sampled:	04/01/08 10:30	Date Received:	04/02/08	
Prep Date:	04/08/08	Analysis Date:	04/08/08	
Prep Batch #:	8100093			
Dilution Factor:	1	Method	SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Vinyl chloride	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroform	ND a	1.0	ug/L
Carbon tetrachloride	ND ·	1.0	ug/L
Trichloroethene	6.7	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	uq/L
cis-1,2-Dichloroethene	0.47 J	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	93	(73 - 122)	
1,2-Dichloroethane-d4	95	(61 - 128)	
Toluene-d8	91	(76 - 110)	
4-Bromofluorobenzene	83	(74 - 116)	

NOTE(S):

J Estimated result. Result is less than RL.

.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W080401MT-473

Effluent

GC/MS Volatiles

Lot-Sample #:	A8D020174-002	Work Order #:	KKKJP1AA	Matrix	WG
Date Sampled:	04/01/08 10:25	Date Received:	04/02/08		
Prep Date:	04/08/08	Analysis Date:	04/08/08		
Prep Batch #:	8100093				
Dilution Factor:	1	Method	SW846 8260B		

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Vinyl chloride	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroform	ND .	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Trichloroethene	4.9	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	0.34 J	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	98	(73 - 122)	
1,2-Dichloroethane-d4	102	(61 - 128)	
Toluene-d8	96	(76 - 110)	
4-Bromofluorobenzene	86	(74 - 116)	

.

4-Bromofluorobenzene

NOTE(S):

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A8D020174-00 Date Sampled: 04/01/08 Prep Date: 04/08/08 Prep Batch #: 8100093	Work Order #: KKKJQ1AA Date Received: 04/02/08 Analysis Date: 04/08/08	Matrix WQ
Dilution Factor: 1	Method SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Vinyl chloride	ND	1.0	ug/L
Methylene chloride	0.81 J	1.0	ug/L
Acetone	ND	10	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	101	(73 - 122)	
1,2-Dichloroethane-d4	100	(61 - 128)	
Toluene-d8	98	(76 - 110)	
4-Bromofluorobenzene	87 .	(74 - 116)	

NOTE(S):

.

.

J Estimated result. Result is less than RL.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A8 MB Lot-Sample #: A8	8D020174 Work 8D090000-093	Order #:	KKXR61AA	Matrix:	WATER
	Prep	Date:	04/08/08		
Analysis Date: 04	4/08/08 Prep	Batch #:	8100093		
Dilution Factor: 1					

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	95	(73 - 122)	
1,2-Dichloroethane-d4	96	(61 - 128)	
Toluene-d8	90	(76 - 110)	
4-Bromofluorobenzene	83	(74 - 116)	
· · · · · · · · · · · · · · · · · · ·				

.

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 #: A8D020174	4 Work Order	r #: KKXR62	LAC-LCS Matr	ix WATER
LCS Lot-Sample#: A8D090000	0-093	KKXR6	lAD-LCSD	
Prep Date: 04/08/08	Analysis H	Date: 04/08,	/08	
Prep Batch #: 8100093				
Dilution Factor: 1				•
	PERCENT	RECOVERY	RPD	
PARAMETER	<u>RECOVERY</u>	LIMITS	<u>RPD</u> LIMITS	METHOD
1,1-Dichloroethene	91	(63 - 130)		SW846 8260B
	100	(63 - 130)	9.1 (0-20)	SW846 8260B
Trichloroethene	85	(75 - 122)		SW846 8260B
	104	(75 – 122)	20 (0-20)	SW846 8260B
Benzene	87	(80 - 116)		SW846 8260B
	98	(80 - 116)	12 (0-20)	SW846 8260B
Toluene	89	(74 - 119)		SW846 8260B
	103	(74 - 119)	15 (0-20)	SW846 8260B
Chlorobenzene	87	(76 - 117)		SW846 8260B
	102	(76 - 117)	16 (0-20)	SW846 8260B
		PERCENT	RECOVERY	
SURROGATE		RECOVERY	LIMITS	
Dibromofluoromethane	-	97	(73 - 122)	
	(100	(73 - 122)	
1,2-Dichloroethane-d4		94	(61 - 128)	
		99	(61 - 128)	
Toluene-d8		98	(76 - 110)	
		100	(76 - 110)	
4-Bromofluorobenzene		92	(74 - 116)	
		100	(74 - 116)	

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A8D020174
 Work Order #...: KKXR61AC-LCS
 Matrix....: WATER

 LCS Lot-Sample#: A8D090000-093
 KKXR61AD-LCSD

 Prep Date....: 04/08/08
 Analysis Date..: 04/08/08

 Prep Batch #...: 8100093
 Dilution Factor: 1

	SPIKE	MEASURE	D	PERCENT				
PARAMETER	AMOUNT	<u>AMOUNT</u>	UNITS	<u>RECOVERY</u>	RPD	METHO	2	
1,1-Dichloroethene	10	9.1	ug/L	91		SW846	8260B	•
	10	10	ug/L	100	9.1	SW846	8260B	
Trichloroethene	10	8.5	ug/L	85		SW846	8260B	
	10	10	ug/L	104	20	SW846	8260B	
Benzene	10	8.7	ug/L	87		SW846	8260B	
	10	9.8	ug/L	98	12	SW846	8260B	
Toluene	10	8.9	ug/L	89		SW846	8260B	
	10	10	ug/L	103	15	SW846	8260B	
Chlorobenzene	10	8.7	ug/L	87		SW846	8260B	
	10	10	ug/L	102	16	SW846	8260B	
			PERCENT	RECOVERY				
SURROGATE			<u>RECOVERY</u>	LIMITS				
Dibromofluoromethane			97	(73 - 122)			
			100	(73 - 122)			
1,2-Dichloroethane-d4			94	(61 - 128)			
			99	(61 - 128)			
Toluene-d8			98	(76 - 110)			
			100	(76 - 110)			

92

100

(74 - 116)

(74 - 116)

NOTE(S):

4-Bromofluorobenzene

.

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A8D020174
 Work Order #...: KKMNN1CA-MS
 Matrix..... WATER

 MS Lot-Sample #: A8D030126-012
 KKMNN1CC-MSD

 Date Sampled...: 04/02/08 14:20
 Date Received..: 04/03/08

 Prep Date.....: 04/08/08
 Analysis Date..: 04/08/08

 Prep Batch #...: 8100093
 Dilution Factor: 22.22

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Trichloroethene	93	(62 - 130)			SW846 8260B
	93	(62 - 130)	0.05	(0-20)	SW846 8260B
Benzene	92	(78 - 118)			SW846 8260B
	91	(78 - 118)	1.4	(0-20)	SW846 8260B
Toluene	90	(70 - 119)			SW846 8260B
	93	(70 - 119)	3.0	(0-20)	SW846 8260B
1,1-Dichloroethene	93	(62 - 130)			SW846 8260B
	104	(62 - 130)	11	(0-20)	SW846 8260B
Chlorobenzene	92	(76 - 117)			SW846 8260B
	92	(76 - 117)	0.03	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	103	(73 - 122)
	103	(73 - 122)
1,2-Dichloroethane-d4	103	(61 - 128)
	102	(61 - 128)
Toluene-d8	100	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	95	(74 - 116)

NOTE (S) :

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A8D020174
 Work Order #...: KKMNN1CA-MS
 Matrix..... WATER

 MS Lot-Sample #: A8D030126-012
 KKMNN1CC-MSD

 Date Sampled...: 04/02/08 14:20
 Date Received..: 04/03/08

 Prep Date.....: 04/08/08
 Analysis Date..: 04/08/08

 Prep Batch #...: 8100093
 Dilution Factor: 22.22

PARAMETER AMOUNT AMT AMOUNT UNITS RECVRY RPD METHOD Trichloroethene ND 220 210 ug/L 93 Sw846 8260B ND 220 210 ug/L 93 0.05 Sw846 8260B Benzene ND 220 200 ug/L 92 Sw846 8260B ND 220 200 ug/L 91 1.4 Sw846 8260B Toluene ND 220 200 ug/L 91 1.4 Sw846 8260B	
Trichloroethene ND 220 210 ug/L 93 SW846 8260B ND 220 210 ug/L 93 0.05 SW846 8260B Benzene ND 220 200 ug/L 92 SW846 8260B ND 220 200 ug/L 91 1.4 SW846 8260B Toluene ND 220 200 ug/L 91 1.4 SW846 8260B	
ND 220 210 ug/L 93 0.05 SW846 8260B Benzene ND 220 200 ug/L 92 SW846 8260B ND 220 200 ug/L 91 1.4 SW846 8260B ND 220 200 ug/L 91 1.4 SW846 8260B	
Benzene ND 220 200 ug/L 92 SW846 8260B ND 220 200 ug/L 91 1.4 SW846 8260B Toluene ND 220 200 ug/L 91 1.4 SW846 8260B	
ND 220 200 ug/L 91 1.4 SW846 8260B	
101uene ND 220 200 ug/L 90 SW846 8260B	
ND 220 210 ug/L 93 3.0 SW846 8260B	
1,1-Dichloroethene ND 220 210 ug/L 93 SW846 8260B	
ND 220 230 ug/L 104 11 SW846 8260B	
Chlorobenzene ND 220 200 ug/L 92 SW846 8260B	
ND 220 200 ug/L 92 0.03 SW846 8260B	

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	103	(73 - 122)
	103	(73 - 122)
1,2-Dichloroethane-d4	103	(61 - 128)
	102	(61 - 128)
Toluene-d8	100	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	95	(74 - 116)

NOTE(S):

.

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

Bold print denotes control parameters

Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0907)		Projec	t Mar	19/19/												Data		·					
MARATHON EVER MGG	Poll		T	ayar Z	D.	11		0l	21	11)						bi	100	>		22		
Address		Telept	none l	Numb	er (Ale	a Cod	e)/Fa	x Nun	nber		~					Lab N	umber	100	2	- 31	<u> </u>	<u>, </u>	
100 EAST RANDOLPH	ST.		71	5	-6	7	5-	-8	2	70	4									Page		_ a _	,
City State Zip	Code	Site Co	ontac	t			Lab	Cont	act	_					Anal	ysis (A	Attach	list if		1			
WHEISAM WIS	54401				<u>.</u>								┢┯	_	more	space	<u>is nee</u>	9 <i>0ea)</i>		r l'			
Project Name and Location (State)		Carrier	r/Way	bill Nu	umber																		
Contract/Purchase Order/Quote No.			T				<u> </u>						-12							Sp	ecial l	Instructio	ns/
· · · · · · · · · · · · · · · · · · ·				М	latrix			P	Cont Prese	aine erva	ers å tive:	i S	1.								nonior	is of Hec	eipt
Sample I.D. No. and Description	0.00	Time		8	.		Ś	8	2		Ŧ	5.F	18										
(Containers for each sample may be combined on one line)	Date	i ime	Air	2 V	No Red	3	đun Cun	H2S	N.	Ŷ	080	Na0 Na0	^	+									
i lao la constructione			b		+				_	-	_		++			╀╌┨	_					·····-	
WB0401111-472	04/01/08	0:30M				\perp			\dashv	X			X							3-4	lan.	<u>2 Vi</u> ,	AL
									ł											SPI	9 <i>6</i> 7	SAN	nAE
					-																		
				+		1			1	-	- [-†-	╉╋	┼┤	+	╉╉		╀┼					
WagodoIMT-413	alpilos	1250	И						1	x	-		x	╉			_	$\left\{ \right\}$		3-4	 m1	- Vic	<u> </u>
	- 42.722	<u>u - 10 mi 1</u>							+			-+-		++	-+-	11	-+	\uparrow		S.C.	1.30		200
	{		┞╴╏	+		+		+	+	-+	-+		┽╌╄┙	╉╌┤	_	╉╌┼		╋		MILL R	<u>.ин</u>		HÐ
		· · · · · · · · ·		_				\square	$ \rightarrow$								_			SA	me	ĽE_	
					1																		
																	+						
	· · · ·			+		+			-+	+	+		┿╸┾╸	+		╉╌╁		╉┈╂					
					_	┾╌┥		-+	-		-	_+_	┥┥	+-+		+		┢╌╽			<u></u>		
					·																		
Possible Hazard Identification		_	St	ample	Dispos	sal	_										(A	fee ma	ly be assi	essed if samp	les are i	etained	
Non-Hazard Flammable Skin Irritant	Poison B	Unknown		Ret	um To	Client	[Dis	spos	al By	Lat		Archive	For		Month	ns lon	iger tha	in 1 mon	ih)			
					•			QC H	lequi	ireme	ents	(Specif	ſy) . 1∎	1		1							
1 Belinguished By	iys 21 Days	Date			Time		=+	1 80	coid	6d h	1	\mathcal{H}		4—		μ_{-}	20			Data		Time Zi)
MARLINTHUOT		oyt	2/0	28						Ľ		1	W.	1	~		Am	en	UCA .	ZAA	108	9	H)
2. Relinquišhed By		Date	/		Time			2. Re	ceive	éd Bj	/	V	П	-	Τ					Date		Time	
3. Relinquished By	·	Date		۲ ا	Time			3. Re	ceive	ed B	Y		-A						<u></u>	Date	ا ــــــــــــــــــــــــــــــــــــ	Time	
Comments					-																		
: DISTRIBUTION: WHITE - Returned to Client with Report: (CANARY - Stays wil	th the Samo	ole; F	NK -	7 Field (Сору							······································										

18

		· · · · · · · · · · · · · · · · · · ·
TestAmerica Coole	r Receipt Form/Narrative	ot Number: $H_{2020174}$
North Canton Facili	iv ,	
Client MANA 17-	NALELEC Project	By VIAand
Cooler Received on 2	ADR TOKIS Opened on 1 ADR TO	PAS (Signature)
	FAS Statson Client Drop Off TestAm	
	Nulliple Coolers [] Foam box [] (
If YES, Quantity		
Were custody seals of	on the outside of cooler(s) signed and dated?	Yes 🗌 No 🗋 NA 📴
Were custody seals of	on the bottle(s)?	Yes 🗌 No 🕰
If YES, are there any	exceptions?	
2. Shippers' packing slip	p attached to the cooler(s)?	Yes 🛃 No 🗍
3. Did custody papers a	ccompany the sample(s)? Yes	Relinquished by client? Yes
4. Were the custody par	pers signed in the appropriate place?	Yes 73 No
5 Packing material use	d: Bubble Wran 🗲 Foam 🖘 None 🗌 Oth	BAGICE
6 Cooler temperature u	$G_{1}^{(1)}$	
	in good condition (Linberton)?	
	h good condition (Unbroken)?	
s. vvere sample(s) at the		
10. Were correct bottle(s)) used for the test(s) indicated?	Yes 🛃 No 📋
11. Were air bubbles >6 i	mm in any VOA vials?	Yes 📋 No 🕰 NA 🛄 🛛
12. Sufficient quantity rec	ceived to perform indicated analyses?	Yes 🛃 No 🗌
13. Was a trip blank pres	ent in the cooler(s)?, Yes 🖅 No 🔲 Were VOAs	on the COC? Yes 💽 No
Contacted PM	<u>γ_{1} Date $4/z/q$ by M</u>	_ via Verbal 🔲 Voice Mail 🔀 Other 🔲 丨
Concerning 14	/ /	— —
14. CHAIN OF CUSTOD)Y	
The following discrepanci	ies occurred:	<u> </u>
- NECELVE	> 1x40 TRID FAIL OF	- ou coc. will lace at
end of lot USIN	& late of preirous sample	
	V	
· · · · · · · · · · · · · · · · · · ·		
	·····	
	·	
15 SAMPLE CONDITIO		tinun herbier besterheiten stellt in sich einer ereiten stellten sich
The second states and		a part a natalarten der dere bereiten die Hittigen Hereiten.
Sample(s)		commonded holding time had avaired I
Sample(s)	were received after the re-	ecommended holding time had expired.
Sample(s) Sample(s) Sample(s)	were received after the re	were received in a broken container.
Sample(s) Sample(s) Sample(s)	were received after the rewere received with	were received in a broken container. bubble >6 mm in diameter. (Notify PM)
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV	were received after the rewere received with	were received in a broken container. bubble >6 mm in diameter. (Notify PM)
Sample(s) Sample(s) Sample(s) Sample(s) Sample(s)	were received after the rewere received with	were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving
Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) to meet recommended pl	were received after the received with ATION were received with ATION were t level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot	were received in a broken container. bubble >6 mm in diameter. (Notify PM) re further preserved in sample receiving # 071707-H ₂ SO ₄ ; Sodium Hydroxide Lot#
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended ph 073007 -NaOH; Hydrochlorid What time	were received after the received with ATION Were received with ATION were received with ATION wer t level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Aceta	were received in a broken container. bubble >6 mm in diameter. (Notify PM) re further preserved in sample receiving # 071707-H ₂ SO ₄ ; Sodium Hydroxide Lot# the Lot# 050205-CH ₃ COO ₂ ZN/NaOH.
Sample(s) Sample(s) 36 SAMPLE PRESERV Sample(s) to meet recommended ph 073007 -NaOH; Hydrochlorid What time was preservati	were received after the re- were received with ATION	ecommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving # 071707-H ₂ SO ₄ ; Sodium Hydroxide Lot# the Lot# 050205-CH ₃ COO ₂ ZN/NaOH.
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservation Client ID	were received after the re were received with ATTON Were received with Were I level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Aceta ive added to sample(s)? 	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) re further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# the Lot# 050205-CH3COO2ZN/NaOH. Date Initials
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservati <u>Client ID</u>	were received after the received with ATTON were vere were vere vere vere vere ver	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) re further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# the Lot# 050205-CH3COO2ZN/NaOH. Date
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservati Client ID	were received after the received with <u>ATION</u> were received with <u>ATION</u> were I level(s). Nitric Acid Lot# 113007-HNO ₃ ; Sulfuric Acid Lot c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Aceta ive added to sample(s)? pH	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# the Lot# 050205-CH3COO2ZN/NaOH. Date
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservati Client ID	were received after the received with were received with ATTON were received with ATTON were Hevel(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Aceta ive added to sample(s)? pH	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# te Lot# 050205-CH3COO2ZN/NaOH. Date
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservati Client ID	were received after the received after the received with ATTON Were received with ATTON Were Hevel(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Aceta ive added to sample(s)? pH	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# te Lot# 050205-CH3COO2ZN/NaOH. Date
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservati Client ID	were received after the received after the received with ATTON were received with ATTON were Hevel(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Aceta ive added to sample(s)? pH	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# the Lot# 050205-CH3COO2ZN/NaOH. Date Initials
Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended pl 073007 -NaOH; Hydrochlorid What time was preservati Client ID	were received after the received after the received with ATION were received with ATION pere perevolution	accommended holding time had expired. were received in a broken container. bubble >6 mm in diameter. (Notify PM) e further preserved in sample receiving # 071707-H2SO4; Sodium Hydroxide Lot# the Lot# 050205-CH3COO2ZN/NaOH.
Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended ph 073007 -NaOH; Hydrochlorid What time was preservati <u>Client ID</u>	were received after the received after the received with ATION Were received with ATION Were received with ATION Were received with ATION Were received with ATION PH	accommended holding time had expired.
Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended ph 073007 -NaOH; Hydrochlorid What time was preservati <u>Client ID</u>	were received after the received after the received with ATION were received with ATION were received with ATION were received with ATION were received with ATION pere pere pere pere pere pere pere per	accommended holding time had expired.

SOP: NC-SC-0005, Sample Receiving N:\QAQC\NARRATIV\TestAmerica\Cooler Receipt TestAmerica\COOLER_TestAmerica_Rev 66 033108.doc

North Canton

19

· · · · · · · · · · · · · · · · · · ·	101100		
•			
· · · · · · · · · · · · · · · · · · ·			
	TestAmerica Cooler Receipt Form/Narr	rative	
	North Canton Facility		
Client ID			
	Hq	Date	Initials
· · · · · · · · · · · · · · · · · · ·			
· · · · · · · · · · · · · · · · · · ·			
			· · · ·
			<u> </u>
			<u> </u>
Cooler	Temp °C		
<u>Cooler</u>	Temp °C	Method	<u>Coolant</u>
<u>Cooler</u>	Temp °C	Method	<u>Coolant</u>
<u>Cooler</u>	Temp °C	<u>Method</u>	<u>Coolant</u>
<u>Cooler</u>	Temp °C	<u>Method</u>	<u>Coolant</u>
<u>Cooler</u>	Temp °C	Method	<u>Coolant</u>
<u>Cooler</u>	Temp °C	<u>Method</u>	<u>Coolant</u>
<u>Cooler</u>	Temp °C	Method	<u>Coolant</u>
<u>Cooler</u>	Temp °C	Method	<u>Coolant</u>
		Method	<u>Coolant</u>
<u>Cooler</u>		Method	Coolant
<u>Cooler</u>		<u>Method</u>	Coolant
<u>Cooler</u>		Method	Coolant
<u>Cooler</u>			Coolant
<u>Cooler</u>			Coolant
<u>Cooler</u>			

North Canton

20



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

North Canton

ATTACHMENT B

DATA VALIDATION MEMO

WWW.CRAworld.com

CONESTOGA-ROVERS

& ASSOCIATES

TO:	Jason Twaddle; CRA	Ref. No.:	003978-10
FROM:	Grant Anderson	DATE:	April 28, 2008
C.C.:	Analytical Data File		
RE:	Data Quality Assessment April 1, 2008 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 372331)		

1801 Old Highway 8 NW, Suite #114

Fax: (651) 639-0923

St. Paul, Minnesota 55112

Telephone: (651) 639-0913

The following details a data quality assessment for water samples collected April 1, 2008, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W080401MT-472 (Influent) and W071002MT-473 (Effluent) were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Test America Laboratories, Inc. (Test America) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

CRA MEMORANDUM

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The VOC method blank was reported to be free from detectable concentrations of target analytes, indicating that laboratory contamination was unlikely.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a methylene chloride detection. However, methylene chloride was not detected in any of the associated samples; therefore, no qualification of data was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

GDA/ma/81



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMOR	ANDUM
-------	-------

TO:	Jason Twaddle; CRA	Ref. No.:	003978-10
FROM:	Grant Anderson	Date:	April 28, 2008
C.C.:	Analytical Data File		
RE:	Data Quality Assessment April 1, 2008 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 372331)	• •	

The following details a data quality assessment for water samples collected April 1, 2008, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W080401MT-472 (Influent) and W071002MT-473 (Effluent) were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Test America Laboratories, Inc. (Test America) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The VOC method blank was reported to be free from detectable concentrations of target analytes, indicating that laboratory contamination was unlikely.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a methylene chloride detection. However, methylene chloride was not detected in any of the associated samples; therefore, no qualification of data was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

GDA/ma/81



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651·639·0913 Facsimile: 651·639·0923 www.CRAworld.com

October 23, 2008

Reference No. 003978-10

Mr. Jeff Gore UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Mr. Gore and Ms. Kramer:

Re: Third Quarter 2008 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Ms. Eileen Kramer WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont, Box 4001 Eau Claire, Wisconsin 54702

DNK - WD

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this third quarter 2008 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site (Site). Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Third quarter 2008 samples were collected on July 9, 2008, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for Site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	9.0	4.1	41,000
cis-1,2-dichloroethene	0.49 J	0.31 J	NA
chloroform	<1.0	0.60J	29,000

Notes:

J - estimated value, value is below the reporting limit. NA - discharge limit not available.

All values are reported in $\mu g/L$.





October 23, 2008

2

The pump operated continuously during the second quarter of 2008, except for the following dates:

- August 22nd for 1 1/2 hours shut down to check for ground fault and clean well screen.
- September 6th for 1/2 hour shut down to check for ground fault.
- September 8th for 1 1/2 hours shut down to repair a leaking seal on pump and change the oil for the motor.

Between July 3, and October 1, 2008, the pump operated at an average flow rate of 798 gpm. A total of 103,095,000 gallons of water were treated by EW1 in the third quarter of 2008 (July 3 to October 1).

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

3 R. lk

Jason Twaddle

MR/sb/50 Enc.

c.c. Wally Mattson; Marathon Electric Dave Erickson; City of Wausau Chuck Ahrens; CRA (w/o enc.)
ATTACHMENT A

LABORATORY REPORT



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 WAUSAU SUPERFUND

SAMPLE SUMMARY

WO	#	LABOR	ATORY	ID	SAMPLE	IDENTIFICATION

 KRA7K
 A8G100249-001

 KRA79
 A8G100249-002

 KRA8C
 A8G100249-003

W080709RL-475 Influent W080709RL-474 Effluent TRIP BLANK

TESTAMERICA LABORATORIES, INC.

 σ :

Amy L. McCormick Project Manager

July 23, 2008

CASE NARRATIVE A8G100249

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received July 10, 2008, according to documented sample acceptance procedures.

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. 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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 21.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.3°C.

CASE NARRATIVE (continued)

SAMPLE RECEIVING (continued)

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

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.

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.

OC 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 repreparation 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.)

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

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 repreparation 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

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 061807.doc

EXECUTIVE SUMMARY - Detection Highlights

A8G100249

		REPORTING		ANALYTICAL
PARAMETER	RESULT	LIMIT	UNITS	METHOD
W080709RL-475 07/09/08 14:10 001				
cis-1,2-Dichloroethene	0.49 J	1.0	ug/L	SW846 8260B
Toluene	0.46 J,B	1.0	ug/L	SW846 8260B
Trichloroethene	9.0	1.0	ug/L	SW846 8260B
Xylenes (total)	0.96 J,B	1.0	ug/L '	SW846 8260B
W080709RL-474 07/09/08 13:55 002				
cis-1,2-Dichloroethene	0.31 J	1.0	ug/L	SW846 8260B
Chloroform	0.60 J	1.0	ug/L	SW846 8260B
Toluene	0.45 J,B	1.0	ug/L	SW846 8260B
Trichloroethene	4.1	1.0	ug/L	SW846 8260B
Xylenes (total)	0.95 J,B	1.0	ug/L	SW846 8260B
TRIP BLANK 07/09/08 003				
Acetone	7.4 J	10	ug/L	SW846 8260B
Toluene	0.48 J,B	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A8G100249

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

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

SAMPLE SUMMARY

A8G100249

WO # SAMPLE# CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
KRA7K 001 W080709RL-475	07/09/08 14:10
KRA79 002 W080709RL-474	07/09/08 13:55
KRA8C 003 TRIP BLANK	07/09/08

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.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W080709RL-475

Influent*

GC/MS Volatiles

Lot-Sample #:	A8G100249-001	Work Order #: KRA7K1A	A Matrix WG
Date Sampled:	07/09/08 14:10	Date Received: 07/10/0	8
Prep Date:	07/14/08	Analysis Date: 07/14/0	8
Prep Batch #:	8198360		
Dilution Factor:	1	Method SW846 8	260B

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	
cis-1,2-Dichloroethene	0.49 J	1.0	ug/L	
Acetone	ND	10	ug/L	
Benzene	ND	1.0	ug/L	
Carbon tetrachloride	ND	1.0	ug/L	
Chloroform	ND	1.0	ug/L	
1,1-Dichloroethene	ND	1.0	ug/L	
Ethylbenzene	ND	1.0	ug/L	
Methylene chloride	ND	1,0	ug/L	
Tetrachloroethene	ND	1.0	ug/L	
Toluene	0.46 J,B	1.0	ug/L	
1,1,2-Trichloroethane	ND	1.0	ug/L	
Trichloroethene	9.0	1.0	ug/L	
Vinyl chloride	ND	1.0	ug/L	
Xylenes (total)	0.96 J,B	1.0	ug/L	
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	101 .	(73 - 122)		
1,2-Dichloroethane-d4	103	(61 - 128)		
Toluene-d8	92	(76 - 110)		
4-Bromofluorobenzene	81	(74 - 116)		

NOTE (S):

.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Conestoga-Rovers & Associates, Inc.

Effluent .

Client Sample ID: W080709RL-474

GC/MS Volatiles

Lot-Sample #:	A8G100249-002	Work Order #:	KRA791AA	Matrix V	٨G
Date Sampled:	07/09/08 13:55	Date Received:	07/10/08		
Prep Date:	07/14/08	Analysis Date:	07/14/08	а. С	
Prep Batch #:	8198360				
Dilution Factor:	1	Method:	SW846 8260B		

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.31 J	1.0	ug/L
Acetone	ND .	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.60 J	1.0	u g/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.45 J,B	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	4.1	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	0.95 J,B	1.0	ug/L
	PERCENT	RECOVERY	r
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	109	(73 - 12	22)
1,2-Dichloroethane-d4	108	(61 - 12	28)
Toluene-d8	90	(76 - 1)	10)
4-Bromofluorobenzene	81	(74 - 1)	16)

NOTE (S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #:	A8G100249-003	Work Order #:	KRA8C1AA	Matrix WQ
Date Sampled:	07/09/08	Date Received:	07/10/08	
Prep Date	07/14/08	Analysis Date:	07/14/08	
Prep Batch #:	8198360			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	7.4 J	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND ·	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	0.48 J,B	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
· ·	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	105	(73 - 122)	
1,2-Dichloroethane-d4	104	(61 - 128)	
Toluene-d8	90	(76 - 110)	
4-Bromofluorobenzene	79	(74 ~ 116)	

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A8G100249	Work Order #: KRL1H1AA	Matrix WATER
MB Lot-Sample #: A8G160000-360		
	Prep Date: 07/14/08	

Analysis Date..: 07/14/08 Dilution Factor: 1

Prep	Date	:	07/14/08
Prep	Batch	ŧ:	8198360

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	0.36 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	0.46 J	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	0.97 J	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	99	(73 - 1)	22)	
1,2-Dichloroethane-d4	101	(61 - 1)	28)	
Toluene-d8	94	(76 - 1	10)	
4-Bromofluorobenzene	83	(74 - 1)	16)	

NOTE (S):

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

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A8G100249	Work Order #	.: KRL1H1AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A8G160000-360		KRL1H1AD-LCSD		
Prep Date:	07/14/08	Analysis Date.	.: 07/14/08		
Prep Batch #:	8198360				
Dilution Factor:	1				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1.1-Dichloroethene	99	(63 - 130)			SW846 8260B
	99	(63 - 130)	0.0	(0-20)	SW846 8260B
Trichloroethene	96	(75 - 122)			SW846 8260B
	96	(75 - 122)	0.22	(0-20)	SW846 8260B
Benzene	95	(80 - 116)			SW846 8260B
benzene	96	(80 - 116)	1.2	(0-20)	SW846 8260B
Toluene	88	(74 - 119)			SW846 8260B
10100.00	86	(74 - 119)	2.8	(0-20)	SW846 8260B
Chlorobenzene	96	(76 - 117)			SW846 8260B
0112010201100110	95	(76 - 117)	.1.8	(0-20)	SW846 8260B
		PERCENT	RECO\	/ERY	
SUBBOGATE		RECOVERY	LIMI	rs	
Dibromofluoromethane		98	(73 -	- 122)	
DIDIOMOTINOTOMOTIN		98	(73 -	- 122)	
1 2-Dichloroethane-d4		96	(61 -	- 128)	
1/2 510.1010000.000 01		95	(61 -	- 128)	
Toluene-d8		99	(76 -	- 110)	· ,
ioracine do		95	(76	- 110)	
4-Bromofluorobenzene		105	(74 -	- 116)	

99

(74 - 116)

NOTE (S):

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

.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #:	A8G100249	Work Order #:	KRL1H1AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A8G160000-360		KRL1H1AD-LCSD		
Prep Date:	07/14/08	Analysis Date:	07/14/08		
Prep Batch #:	8198360				
Dilution Factor:	1				

	SPIKE	MEASURED	1	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
1,1-Dichloroethene	10	9.9	ug/L	99		SW846 8260B
·	10	9.9	ug/L	99	0.0	SW846 8260B
Trichloroethene	10 '	9.6	ug/L	96		SW846 8260B
	10	9.6	ug/L	96	0.22	SW846 8260B
Benzene	10	9.5	ug/L	95		SW846 8260B
	10	9.6	ug/L	96	1.2	SW846 8260B
Toluene	10	8.8	ug/L	88		SW846 8260B
	10	8.6	ug/L	86	2.8	SW846 8260B
Chlorobenzene	10	9.6	ug/L	96		SW846 8260B
	10	9.5	uq/L	95	1.8	SW846 8260B

	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	98	(73 - 122)	
	. 98	(73 - 122)	·
1,2-Dichloroethane-d4	96	(61 - 128)	
	95	(61 - 128)	
Toluene-d8	99	(76 - 110)	
	95	(76 - 110)	
4-Bromofluorobenzene	105	(74 - 116)	
·	99	(74 - 116)	

NOTE (S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A8G100249	Work Order #:	KQ6G01AD-MS	Matrix:	WATER
MS Lot-Sample # :	A8G080146-002	•	KQ6G01AE-MSD		
Date Sampled:	07/03/08	Date Received:	07/08/08		
Prep Date:	07/14/08	Analysis Date:	07/14/08		
Prep Batch #:	8198360				
Dilution Factor:	20				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	102	(62 - 130)			SW846 8260B
•	106	(62 - 130)	4.4	(0-20)	SW846 8260B
Trichloroethene	100	(62 - 130)			SW846 8260B
	97	(62 - 130)	2.4	(0-20)	-SW846 8260B
Benzene	101	(78 - 118)			SW846 8260B
	98	(78 - 118)	2.6	(0-20)	SW846 8260B
Toluene	89	(70 - 119)			SW846 8260B
	87	(70 - 119)	2.4	(0-20)	SW846 8260B
Chlorobenzene	98	(76 - 117)	•		SW846 8260B
	99	(76 - 117)	1.0	(0-20)	SW846 8260B
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	
Dibromofluoromethane		106		(73 - 122)	2)
		103		(73 - 122	2)
1,2-Dichloroethane-d4		99		(61 - 128	B)
_,		96		(61 - 128	8)
Toluene-d8		98		(76 - 110	0)

96

98

102

(76 - 110)

(74 - 116) (74 - 116)

NOTE (S) :

4-Bromofluorobenzene

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #:	A8G100249	Work Order #:	KQ6G01AD-MS	Matrix: WATER
MS Lot-Sample #:	A8G080146-002		KQ6G01AE-MSD	
Date Sampled:	07/03/08	Date Received:	07/08/08	
Prep Date:	07/14/08	Analysis Date:	07/14/08	
Prep Batch #:	8198360			
Dilution Factor:	20			

	SAMPLE	SPIKE	MEASRD		PERCNT		
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD
1,1-Dichloroethene	ND	200	200	ug/L	102		SW846 8260B
	ND	200	210	ug/L	106	4.4	SW846 8260B
Trichloroethene	ND	20 0	200	ug/L	100		SW846 8260B
	ND	200	190	ug/L	97	2.4	SW846 8260B
Benzene	ND	200	200	ug/L	101		SW846 8260B
	ND	200	200	ug/L	98	2.6	SW846 8260B
Toluene	ND	200	180	ug/L	89		SW846 8260B
	ND	200	170	ug/L	87	2.4	SW846 8260B
Chlorobenzene	ND	200	200	ug/L	98		SW846 8260B
	ND	200	200	ug/L	99	1.0	SW846 8260B

PERCENT	RECOVERY		
RECOVERY	LIMITS		
106	(73 - 122)		
103	(73 - 122)		
99	(61 - 128)		
96	(61 - 128)		•
98	(76 - 110)		
96	(76 - 110)		
98	(74 - 116)		
102	(74 - 116)		
	PERCENT <u>RECOVERY</u> 106 103 99 96 98 96 98 96 98 102	PERCENT RECOVERY RECOVERY LIMITS 106 (73 - 122) 103 (73 - 122) 99 (61 - 128) 96 (61 - 128) 98 (76 - 110) 96 (74 - 116) 102 (74 - 116)	PERCENT RECOVERY RECOVERY LIMITS 106 (73 - 122) 103 (73 - 122) 99 (61 - 128) 96 (61 - 128) 98 (76 - 110) 98 (74 - 116) 102 (74 - 116)

NOTE (S):

.

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

Chain of Custody Record

Į,

TestAmerica

18

THE LEADER IN ENVIRONMENTAL TESTING

Client RECOIT Call Address $IOU \in Rankelphst$. City State $IOU \in Rankelphst$. City $UrwSGu$ $Vi State Zip Code Wi Strw/$ Project Name and Location (State) Contract/Purchase Order/Quote No. Contract/Purchase Order/Quote No. Sample I.D. No. and Description (Containers for each sample may be combined on one line) $Date$ 1 VISOTOGNL-475 $7/g/os$ 14 VISOTOGNL-475 $7/g/os$ 14 VOSOTOGNL-474 $7/g/os$ 13	Telephone Nu Site Contact Carrier/Waybl	mber (Area Coo 71	to y K.O.J. to y Fax Number (5.675 Lab Contact	11.n 8274	An moi	2-09-08 Lab Number alysis (Attach list if re snace is needed)	012767 Page_/
Address IDD É Randelphst. City State Zip Code Wasshu Wi S440 Project Name and Location (State) Contract/Purchase Order/Quote No. Contract/Purchase Order/Quote No. Sample I.D. No. and Description Date (Contrainers for each sample may be combined on one line) Date 1 W & OTOGN_475 7/9/08 14 W & O80709N_475 7/9/08 13 W & O80709N_474 7/9/08 13	Telephone Nu Site Contact Carrier/Waybl	mber (Area Cod 71 Il Number	te)/Fax Number 15_675 Lab Contact	8274	An moi	Lab Number . Alysis (Attach list if snaces is needed)	Page of
$\frac{100 \text{ C} \text{ ILPM kelphst,}}{\text{State}} \frac{100 \text{ C} \text{ ILPM kelphst,}}{\text{Zip Code}}$ $\frac{100 \text{ Contractive and State}}{\text{Wh}} \frac{100 \text{ Code}}{100 \text{ Contractive and Location (State)}}$ Contractive and Location (State) Contractiv	Site Contact Carrier/Waybl	1 Number	Lab Contact	8274	An mol	alysis (Attach list if	Page of
City U as Side V	Site Contact Carrier/Waybl	ll Number	Lab Contact		An moi	alysis (Attach list if re space is needed)	
$\frac{W \wedge S 40}{Project Name and Location (State)}$ Contract/Purchase Order/Quote No. Sample I.D. No. and Description (Containers for each sample may be combined on one line) $Date$ $\frac{W \otimes 0709 \% - 475}{W \otimes 80709 \% - 474} \frac{7/9/08}{19}$	Carrier/Waybl	"Number	<u> </u>				
Project Name and Location (State) Contract/Purchase Order/Quote No. Sample I.D. No. and Description (Containers for each sample may be combined on one line) Date $W \otimes O709 M - 475$ 7/9/08 14 $W \otimes 80709 M - 474$ 7/9/08 13							
Contract/Purchase Order/Quote No. Sample I.D. No. and Description (Containers for each sample may be combined on one line) V(807091-475) 7/9/0814 V0807091-475 7/9/0814 V0807091-474 7/9/0814							Special Instructions/
Sample I.D. No. and Description (Containers for each sample may be combined on one line) Date $W(8070914-475)$ $\frac{7}{9}/08$ 14 $W08070914-475$ $\frac{7}{9}/08$ 14 $W08070914-474$ $\frac{7}{9}/8$ 13		Matrix	Containe	ers & etives	5		Conditions of Receipt
Containers for each sample may be combined on one line) W(807091-475) $7/9/0814$ $W08070914-475$ $7/9/0814$.		888	5 23	2		
W80709RL-475 7/9/08 14 W080709RL-474 7/9/08 13	11778	8 8	HAN HEN	12 K 2	┝╶╞╌╿╌╿		
W& 070912-475 7/9/08 14 W08070912-474 7/9/08 13			8				
W08070914-474 7/9/08 13	410		X				3. yang Und INF
W08070914-474 7/9/08 13				ć 📃 –			
	3-55		X				3.40 " EFF
				ľ			
	•						
Possible Hazard Identification	Sen	nple Disposal Betum To Clien		Sv Lab	Archive For	(A fee may be as Months ionger than 1 mg	 sessed if samples are retained with)
Non-Hazard Flammable Skin Immaint Folson B O			QC Requirem	ments (Specity	y		
24 Hours 48 Hours 7 Days 14 Days 21 Days	Other		[!]				
1. Relinquished By RL presen	Date 17.4.08	Time / 430	1. Received		Hauss		7/10/08 910
2. Relinguished By	Date	Time	2. Received	Ву	7		Dite V Time
3. Relinquished By	Date	 	3. Received	By	· · · ·		Date Time
	L.					,	
Comments							

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

TestAmerica Cooler	Receipt Form/Narrative Lot Num	ber: A8G100249					
North Canton Facilit							
Client Regal Belait	Comp Project / B	· Alaina Mana					
Cooler Received on 7/	Opened on 7/18/08	(Signature)					
FedEx II UPS DHI	FAS Stetson Client Drop Off TestAmerica Cou						
TestAmerica Cooler #							
I. WEE CUSIOUS Seals OF							
Non evetedu ecele er							
Were custody seals on the outside of cooler(s) signed and dated? Yes I No I NA X							
Were custody seals on the bottle(s)?							
If YES, are there any e	If YES, are there any exceptions?						
2. Shippers' packing slip	attached to the cooler(s)?	es 💋 No 🔲 💦 🔰					
3. Did custody papers ac	company the sample(s)? Yes 🖾 No 🗔 🛛 🛛 Relingu	iished by client? Yes 🖾 No 🔲 🛛					
4. Were the custody pape	ers signed in the appropriate place? Yes	es 🕅 No 🗂 🔨 🦳					
5. Packing material used	: Bubble Wrap 🕅 Foam 🕅 None 🗍 Other						
6. Cooler temperature up	con receipt 3.3 °C See back of form for multiple	coolers/temps					
METHOD: IR	Other						
COOLANT: Wet Ic							
7. Did all bottles arrive in	a condicion (Unbroken)?						
8 Could all bottle tabels	he reconciled with the COC2						
Q Were sample(s) at the							
3. Were sample(s) at the	vend for the text(a) indicated 9						
	used for the test(s) indicated?						
11. Were air bubbles >6 m	nm in any VOA viais? Ye						
12. Sufficient quantity rece	eived to perform indicated analyses? Ye	s X No L					
13. Was a trip blank prese	ent in the cooler(s)? Yes 🛕 No 🔲 Were VOAs on the C	OCZ/Yes 🔼 No 🛄 🛛 🛛					
Contacted PM	<u>ا</u>	bal 🖾 Voicé Mail 🗌 Other 🔲 🛛					
Concerning 14							
Concerning 14							
14 CHAIN OF CUSTOD	Yana kalin dipang selekan paginanan ana ang diti dalam apati kalin sa kalingan ang selekan selekan s						
14 CHAIN OF CUSTOD	Y						
14. CHAIN OF CUSTOD	es occurred:	Lot Adam					
The following discrepancie	es occurred: ecked Ar samples, will log per-	ests listed of per					
The following discrepancies	es occurred: ked for samples, will log per-	ests listed & per					
The following discrepancies <u>OC = no desta ell</u> <u>OC = no desta ell</u> <u>OC = no desta ell</u>	es occurred: ked for samples, will log per-	ests listed of per					
The following discrepancies <u>DC = no desids ela</u> <u>past</u> <u>PC</u>	v black wat bord on the COC will have a to	tests listed of per					
14 CHAIN OF CUSTOD The following discrepancie DC = no desits el past. <u>PC</u> - 11068 <u>Recoved</u> 1×40 tr	y black not listed on the COC, will log of	the end of this					
14 CHAIN OF CUSTOD The following discrepancie DC = no dests el past. <u>DC</u> an risks <u>Receved</u> 1×40 tr 10t.	es occurred: ked Dr samples, will log per	the end of this					
14 CHAIN OF CUSTOD The following discrepancie DC = no desits el past. DC = no desits el past. DC = no desits el past.	e black not listed on the COC, will log of	the end of this					
14 CHAIN OF CUSTOD The following discrepancie DC = no desits el past. <u>DC</u> -an-710/08 <u>Receved</u> 1×40 tr 10t.	ve black not listed on the COC, will log at	the end of this					
14 CHAIN OF CUSTOD The following discrepancie DC = no desits el past. <u>PC</u> -an-710/08 <u>Receved</u> 1×40 tr 107. 15. SAMPLE CONDITION Sample(2)	v black not listed on the COC, will log at	the end of this					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits ell past. <u>Pec</u> -an-710/08 <u>Recawed</u> 1×40 tr 107. 15. SAMPLE CONDITION Sample(s)	vere received after the recomment	the end of this ided holding time had expired.					
14 CHAIN OF CUSTOD The following discrepancie DC = no desids el past. PC	Y black not listed on the COC, will log of were received after the recommen- were received after the recommen- were received after the recommen-	the end of this ided holding time had expired.					
14 CHAIN OF CUSTOD The following discrepancie DC = no desids ell past. <u>PC</u> - 11068 <u>Recawed</u> 1x40 tr 15. SAMPLE CONDITION Sample(s) Sample(s)	Y black not listed on the COC, will log of were received after the recomment were received with bubble >1	the end of this ded holding time had expired. acceived in a broken container. 5 mm in diameter. (Notify PM)					
14 CHAIN OF CUSTOD The following discrepancie DC = no desta el past. <u>PC</u>	Y black not listed on the COC, will log of were received after the recommen- were received with bubble >1 Were received with bubble >1	the end of this ded holding time had expired. eccived in a broken container. 3 mm in diameter. (Notify PM)					
14 CHAIN OF CUSTOD The following discrepancie DC = no desta ell past. <u>PC</u>	Y black not listed on the COC, will log of were received after the recommen- were received with bubble >1 AT/ON were further	the end of this ded holding time had expired. eceived in a broken container. 3 mm in diameter. (Notify PM) preserved in sample receiving					
14 CHAIN OF CUSTOD The following discrepancie (DC = no dests ell past. <u>ACC</u> and tests ell <u>past.</u> <u>ACC</u> and tests ell <u>past.</u> <u>15</u> SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) to meet recommended pH	Y black not listed on the COC, will log of the mere received after the recomment were received after the recomment were received with bubble >0 ATION were further I level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot# 031808-	the end of this ded holding time had expired. acceived in a broken container. 3 mm in diameter. (Notify PM) preserved in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot#					
14 CHAIN OF CUSTOD The following discrepancie (DC = no dests ell past. <u>Acc</u> and tests ell <u>past.</u> <u>Acc</u> and tests ell <u>past.</u> <u>Acc</u> and tests ell <u>past.</u> <u>Acc</u> and tests ell <u>past.</u> <u>100</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>101</u> <u>10</u>	Viewere received after the recommen- were received after the recommen- were received after the recommen- were received with bubble > ATION Mere further 1 level(s). Nitric Acid Lot# 113007-HNO3; Suffuric Acid Lot# 031808. C Acid Lot# 092006-HCI; Socium Hydroxide and Zinc Acetate Lot# 05	the end of this ded holding time had expired. eceived in a broken container. 5 mm in diameter. (Notify PM) preserved in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot# 50205-(CH ₃ COO) ₂ ZIN/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no dests ell past. <u>OC</u> and tests ell <u>DC</u> and tests ell <u>Dast.</u> <u>DC</u> and tests ell <u>DC</u> and test	Y black not listed on the COC, will log of the were received after the recomment were received after the recomment were received with bubble >1 ATION were further t level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot# 031808 c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ve added to sample(s)?	ded holding time had expired. Deceived in a broken container. The served in sample receiving H_2SO4; Sodium Hydroxide Lot# 50205-(CH_3COO)_2ZN/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no dests ell past. <u>Dec</u> -an left <u>Received</u> 1x40 th <u>Ist.</u> 15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) to meet recommended pH 073007 -NaOH; Hydrochloric What time was preservativ <u>Client ID</u>	View of the cocycle of the cocycle of the second for the cocycle of the cocycle o	ded holding time had expired. Seceived in a broken container. The second in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot# 50205-(CH ₃ COO) ₂ ZN/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no dests ell past. <u>Dec</u> -an low <u>Received</u> 1x40 tr <u>Ist.</u> 15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) to meet recommended pH 073007 -NaOH; Hydrochloric What time was preservativ <u>Client ID</u>	View of the cocycle of the cocycle of the recomment were received after the recomment were received after the recomment were received with bubble >1 ATION t level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot# 031808 c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ve added to sample(s)? 	Listed d per the end of this ided holding time had expired. acceived in a broken container. 3 mm in diameter. (Notify PM) preserved in sample receiving H2SO4; Sodium Hydroxide Lot# 50205-(CH3COO)2ZN/NaOH. Date Initials					
14 CHAIN OF CUSTOD The following discrepancie (DC = no dests ell past. <u>Dec</u> -an lielos <u>Receved</u> 1x40 th <u>Ist.</u> 15. SAMPLE CONDITION Sample(s) Sample(s) 18. SAMPLE PRESERVA Sample(s) to meet recommended pH 073007 - NaOH; Hydrochloric What time was preservativ <u>Client ID</u>	Y black for samples, will log quest y black not listed on the COC, will log at were received after the recommen- were received with bubble > Were received with bubble > Were further t level(s). Nitric Acid Lot# 113007-HNO3; Sutfuric Acid Lot# 031808 c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ye added to sample(s)? 	the end of this ided holding time had expired. Exceived in a broken container. 3 mm in diameter. (Notify PM) preserved in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot# 50205-(CH ₃ COO) ₂ ZN/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits of past. <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u>	Y black for samples, will log quest y black not listed on the COC, will log at were received after the recommen- were received with bubble > (ATION	the end of this ided holding time had expired. Experimentation in the end of the end o					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits of past. <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u>	Y Image: Second for Semples, will log performed: Y black not listed on the COC, will log at the second for the recomment were received after the recomment were received with bubble > Were received with bubble > ATION were further I level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot# 031808: Acid Lot# 092006-HCi; Socium Hydroxide and Zinc Acetate Lot# 05 Y PH	the end of this ided holding time had expired. Experimentation in diameter. (Notify PM) preserved in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot# 50205-(CH ₃ COO) ₂ ZN/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits of past. <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u>	Y black not listed on the COC, will log get were received after the recommer were received after the recommer were received with bubble > ATION Mere further I level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot# 031808- C Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ve added to sample(s)? 	the end of this ided holding time had expired. Deceived in a broken container. 3 mm in diameter. (Notify PM) preserved in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot# 50205-(CH ₃ COO) ₂ ZN/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits of past. <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u>	Y blauk not listed on the COC, will log of were received after the recommer were received after the recommer were received with bubble > ATION Level(s). Nitric Acid Lot# 113007-HNO3; Suffuric Acid Lot# 031808 C Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ve added to sample(s)? 	the end of this ided holding time had expired. Deceived in a broken container. 3 mm in diameter. (Notify PM) preserved in sample receiving H ₂ SO ₄ ; Sodium Hydroxide Lot# 50205-(CH ₃ COO) ₂ ZIV/NaOH.					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits of past. <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u> <u>Past.</u>	Y blauk not listed on the COC, will log of were received after the recommer were received after the recommer were received after the recommer were received with bubble > AT/ON AT/ON At level(s). Nitric Acid Lot# 113007-HNO3; Suffuric Acid Lot# 031808 C Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ve added to sample(s)? 	Listed d per He end of this Ided holding time had expired. Seceived in a broken container. B mm in diameter. (Notify PM) preserved in sample receiving H2SO4; Sodium Hydroxide Lot# 50205-(CH3COO)2ZN/NaOH. Date Initials					
14 CHAIN OF CUSTOD The following discrepancie (DC = no desits of past. <u>PCC</u> -an 1068 <u>Recawed</u> 1x40 th 1st. 15 SAMPLE CONDITION Sample(s) Sample(s) 16 SAMPLE PRESERVA Sample(s) 16 SAMPLE PRESERVA Sample(s) 16 SAMPLE PRESERVA Sample(s) 16 SAMPLE DESERVA Sample(s) 17 Sample(s) 18 Chained and a second Client 1D	Y black as for samples, will log pro- y black not listed on the COC, will log at y were received after the recommer were received after the recommer were received with bubble > ATION ATION were further t level(s). Nitric Acid Lot# 113007-HNO3; Sulfuric Acid Lot# 031808- c Acid Lot# 092006-HCI; Sodium Hydroxide and Zinc Acetate Lot# 05 ve added to sample(s)? pH	Listed d per He end of this Ided holding time had expired. Seceived in a broken container. B mm in diameter. (Notify PM) preserved in sample receiving H2SO4; Sodium Hydroxide Lot# 50205-(CH3COO)2ZN/NaOH. Date Initials					

. .

۰.

TestAmerica Cooler North Canton Facilit	Receipt Form/Narrative v		
Client ID	рН	Date	Initials
			· · · ·
. "			·
·			<u> </u>
			·
······································			
		•	
and the second diversion of th		84othod	Coolant
Cooler #	Temp. °C	Method	<u>Coolant</u>
Cooler #	Temp. °C	<u>Method</u>	<u>Coolant</u>
Cooler #	Temp. °C	<u>Method</u>	<u>Coolant</u>
Cooler #	Temp. °C	Method	<u>Coolant</u>
Cooler #	Temp. °C	Method	
	Temp. °C	Method	Coolant
	Temp. °C	Method	
Cooler #			
Cooler #		Method	
Cooler #		Method	
Cooler #			
Cooler #		Method	
Cooler #		Method	
Cooler #			

SOP: NC-SC-0005, Sample Receiving N:VQAQCWARRATIV/TestAmerica/Cooler Receipt TestAmerica/COOLER_TestAmerica_Rev 67 052708.doc 2 0



THE LEADER IN ENVIRONMENTAL TESTING

•

END OF REPORT

· · ·

North Canton

ATTACHMENT B

DATA VALIDATION MEMO

.

· .	
CRA	CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Jason Twaddle; CRA	REF. NO.:	003978-10
FROM:	Ruth L. Mickle Apor	DATE:	October 14, 2008
C .C.:	Analytical Data File		
RE:	Data Quality Assessment July 9, 2008 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 012767)		

The following details a data quality assessment for water samples collected July 9, 2008, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W080709RL-474 (Effluent) and W080709RL-475 (Influent) were analyzed for volatile organic compounds (VOCs).¹ The analyses were performed by Test America Laboratories, Inc. (Test America) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The VOC method blank yielded methylene chloride, toluene and xylenes detections. There were no associated methylene chloride detections in project samples. Therefore, no data qualification of methylene chloride data was required. The associated toluene and xylenes detections in samples identified in Table 1 should be qualified as nondetect (U).

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded acetone and toluene detections. Acetone was not detected in any of the associated samples; therefore, no qualification of acetone data was required based on trip blank results. The associated toluene detections were previously qualified as nondetect (U) based on method blank results; therefore, no qualification of toluene data was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualifications noted.

RLM/sb/82 Enc.

TABLE 1

RESULTS QUALIFIED BASED ON METHOD BLANK DETECTIONS WAUSAU SUPERFUND SITE JULY 2008 SAMPLING EVENT

Blank ID	Parameter	Blank Conc	Assoc Samples	Qualifier*
8198360	Toluene	0.46 ug/l	W080709RL-PS-474	1.0U
			W080709RL-PS-475	1.0U
8198360	Xylenes	0.97 ug/l	W080709RL-PS-474	1.0U
			W080709RL-PS-475	1.0U

*Sample result should be qualified as:

U -The analyte was analyze for, but not detected above the reported sample quantitation limit.



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

January 23, 2009

Reference No. 003978-10

Mr. Jeff Gore UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Mr. Gore and Ms. Kramer:

Re: Fourth Quarter 2008 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Ms. Eileen Kramer WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont, Box 4001 Eau Claire, Wisconsin 54702

RECEIVED

JAN 2 6 2009 WC/RINANCE RR 40

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this fourth quarter 2008 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Fourth quarter 2008 samples were collected on October 8, 2008, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	8.4	4.2	41,000
cis-1,2-dichloroethene	0.43 J	0.25	NA
chloroform	<1.0	1.6J	29,000

Notes:

J - estimated value, value is below the reporting limit.

NA - discharge limit not available.

All values are reported in $\mu g/L$.





January 23, 2009

Reference No. 003978-10

The pump operated continuously during the fourth quarter of 2008, except for being shut down for 1 ½ hours on October 4, 2008, for some electrical work in the Engineering Lab. Between October 1 and December 30, 2008, the pump operated at an average flow rate of 763 gpm. A total of 98,927,000 gallons of water were treated by EW1 in the fourth quarter of 2008 (October 1 to December 30).

2

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

you R.M

Jason Twaddle

MR/ma/51 Enc.

c.c. Wally Mattson; Marathon Electric Dave Erickson; City of Wausau Chuck Ahrens; CRA (w/o enc.)

ATTACHMENT A

.

LABORATORY REPORT



TestAmerica Laboratories, Inc.

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 WAUSAU SUPERFUND

SAMPLE SUMMARY

SAMPLE IDENTIFICATION

WO # LABORATORY ID KOGMP A8J090169-001

KOGMV (A8J090169-002

K0GM0- A8J090169-003

....

W081008MV-476 W081008MV-477 TRIP BLANK

TESTAMERICA LABORATORIES, INC.

Amy L. McCormick Project Manager

October 20, 2008

CASE NARRATIVE A8J090169

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received October 09, 2008, according to documented sample acceptance procedures.

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. 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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 23.

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.5°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

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.

OC 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 repreparation 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.)

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

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 repreparation 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

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 061807.doc

EXECUTIVE SUMMARY - Detection Highlights

A8J090169

PARAMETER	RESULT	REPORTING	UNITS	ANALYTICAL METHOD
W081008MV-476 10/08/08 13:35 001				· ·
cis-1,2-Dichloroethene	0.25 J	1.0	ug/L	SW846 8260B
Chloroform	1.6	1.0	ug/L	• SW846-8260B
Trichloroethene	4.2	1.0	ug/L	SW846 8260B
W081008MV-477 10/08/08 13:37 002				
cis-1,2-Dichloroethene	0.43 J	1.0	ug/L	SW846 8260B
Trichloroethene	8.4	1.0	ug/L	SW846 8260B
TRIP BLANK 10/08/08 003				
Acetone	2.8 J	10	ug/L	SW846 8260B

سبر راجبر

North Canton

ANALYTICAL METHODS SUMMARY

A8J090169

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B
References:	

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

A8J090169

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
		· · ·		
KOGMP	: 001	W081008MV-476	10/08/08	13:35
KOGMV	.002	W081008MV-477	10/08/08	13:37
K0GM0	- 003	TRIP BLANK	10/08/08	
	_			

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.

Client Sample ID: W081008MV-476

GC/MS Volatiles

Lot-Sample #:	A8J090169-001	Work Order #:	K0GMP1AA	Matrix WG
Date Sampled:	10/08/08 13:35	Date Received:	10/09/08	
Prep Date:	10/13/08	Analysis Date:	10/13/08	
Prep Batch #:	8288196		•	
Dilution Factor:	1	Method	SW846 8260B	

		REPORTIN	G		
PARAMETER	RESULT	LIMIT	UNITS		
cis-1,2-Dichloroethene	0.25 J	1.0	ug/L		
Acetone	ND	10	ug/L		
Benzene	ND	1.0	ug/L		
Carbon tetrachloride	ND	1.0	ug/L		
Chloroform	1.6	1.0	ug/L		
1,1-Dichloroethene	ND	1.0	ug/L		
Ethylbenzene	ND	1.0	ug/L		
Methylene chloride	ND	1.0	ug/L		
Tetrachloroethene	ND	1.0	ug/L		
Toluene	ND	1.0	ug/L		
1,1,2-Trichloroethane	ND	1.0	ug/L		
Trichloroethene	4.2	1.0	ug/L		
Vinyl chloride	ND	1.0	ug/L		
Xylenes (total)	ND	1.0	ug/L		
	PERCENT	RECOVERY			
SURROGATE	RECOVERY	LIMITS			
Dibromofluoromethane	95	(73 - 12	2)		
1,2-Dichloroethane-d4	91	(61 - 12	(61 - 128)		
Toluene-d8	97	(76 - 11	0)		
4-Bromofluorobenzene	91	(74 - 11	6)		

NOTE (S):

Client Sample ID: W081008MV-477

GC/MS Volatiles

Lot-Sample #:	A8J090169-002	Work Order #:	K0GMV1AA	Matrix WG
Date Sampled:	10/08/08 13:37	Date Received:	10/09/08	
Prep Date:	10/13/08	Analysis Date:	10/13/08	
Prep Batch #:	8288196			
Dilution Factor:	1.	Method:	SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.43 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	'ug/L ·
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND ·	1.0	ug/L
1,1,2-Trichloroethane	ND .	1.0	ug/L
Trichloroethene	8.4	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Dibromofluoromethane	94	(73 - 122)	-
1,2-Dichloroethane-d4	92	(61 - 128)	
Toluene-d8	97	(76 - 110)	
4-Bromofluorobenzene	92	(74 - 116)	

NOTE (S):

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #:	A8J090169-003	Work Order #:	KOGM01AA	Matrix WQ
Date Sampled:	10/08/08	Date Received:	10/09/08	
Prep Date:	10/13/08	Analysis Date:	10/13/08	
Prep Batch #:	8288196			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	2.8 J	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	2
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	92	(73 - 12	22)
1,2-Dichloroethane-d4	94	(61 - 128)	
Toluene-d8	98	(76 - 11	LO)
4-Bromofluorobenzene	93	(74 - 11	16)

NOTE (S) :



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A8J090169 MB Lot-Sample #: A8J140000-196	Work Order #: KORNW1AA	Matrix WATER
-	Prep Date: 10/13/08	
Analysis Date: 10/13/08	Prep Batch #: 8288196	

Analysis Date..: 10/13/08 Dilution Factor: 1

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Carbon tetrachloride	ND .	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	0.71 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVERY	,	,
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	97	(73 - 122)	
1,2-Dichloroethane-d4	92	(61 - 128)		
Toluene-d8	99	(76 - 110)	
4-Bromofluorobenzene	93	(74 - 116)	

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 #:	A8J090169	Work Order #:	KORNW1AC-LCS	Matrix WATER
LCS Lot-Sample # :	A8J140000-196		KORNW1AD-LCSD	
Prep Date:	10/13/08	Analysis Date:	10/13/08 ,	
Prep Batch #:	8288196			
Dilution Factor:	1			

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	93	(63 - 130)			SW846 8260B
•	92	(63 - 130)	0.93	(0-20)	SW846 8260B
Trichloroethene	90	(75 – 122)			SW846 8260B
	95	(75 - 122)	5.5	(0-20)	SW846 8260B
Benzene	84	(80 - 116)			SW846 8260B
	88	(80 - 116)	4.5	(0-20)	SW846 8260B
Toluene	84	(74 - 119)			SW846 8260B
	88	(74 - 119)	4.3	(0-20)	SW846 8260B
Chlorobenzene	84	(76 - 117)			SW846 8260B
	90	(76 - 117)	7.9	(0-20)	SW846 8260B
	·	PERCENT	RECOV	ERY	
SURROGATE		RECOVERY	LIMIT	S	
Dibromofluoromethane		98	(73 -	122)	
		99	(73 -	122)	
1,2-Dichloroethane-d4		98	(61 -	128)	
·		94	(61 -	128)	

97

98

97

99

(76 - 110)

(76 - 110)

(74 - 116)

(74 - 116)

4-Bromofluorobenzene

NOTE (S) :

Toluene-d8

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A8J090169
 Work Order #...: K0RNW1AC-LCS
 Matrix....: WATER

 LCS Lot-Sample#: A8J140000-196
 K0RNW1AD-LCSD

 Prep Date.....: 10/13/08
 Analysis Date..: 10/13/08

 Prep Batch #...: 8288196
 Dilution Factor: 1

	SPIKE	MEASUREI	2	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
1,1-Dichloroethene	10	9.3	ug/L	93		SW846 8260B
	10	9.2	ug/L	92	0.93	SW846 8260B
Trichloroethene	10	9.0	ug/L	90		SW846 8260B
	10	9.5	ug/L	95	5.5	SW846 8260B
Benzene	10	8.4	ug/L	84		SW846 8260B
	10	8.8	ug/L	88	4.5	SW846 8260B
Toluene	10	8.4	uġ/L	84		SW846 8260B
	10	8.8	ug/L	88	4.3	SW846 8260B
Chlorobenzene	· 10	8.4	ug/L	84		SW846 8260B
•	10	9.0	ug/L	90	7.9	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	98	(73 - 122)
	99	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
	94	(61 - 128)
Toluene-d8	97	(76 - 110)
	98	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	99	(74 - 116)

NOTE (S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A8J090169
 Work Order #...: KX4T31AD-MS
 Matrix....: WATER

 MS Lot-Sample #: A8J030143-018
 KX4T31AE-MSD
 Matrix....: WATER

 Date Sampled...: 10/02/08 11:15
 Date Received..: 10/03/08
 Matrix....

 Prep Date.....: 10/13/08
 Analysis Date..: 10/13/08
 Matrix....

 Prep Batch #...: 8288196
 Dilution Factor: 1
 Matrix

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	90	(62 - 130)			SW846 8260B
	90	(62 - 130)	0.24	(0-20)	SW846 8260B
Trichloroethene	90	(62 - 130)			SW846 8260B
	93	(62 - 130)	2.3	(0-20)	SW846 8260B
Benzene	87	(78 - 118)			SW846 8260B
	90	(78 - 118)	3.5	(0-20)	SW846 8260B
Toluene	86	(70 - 119)			SW846 8260B
	88	(70 - 119)	1.7	(0-20) .	SW846 8260B
Chlorobenzene	85	(76 - 117)			SW846 8260B
	88	(76 - 117)	3.0	(0-20)	SW846 8260B
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	
Dibromofluoromethane		97		(73 - 12)	2)
		96		(73 - 12)	2)
1,2-Dichloroethane-d4		94		(61 - 12)	8)
		95		(61 - 12)	8)
Toluene-d8		97		(76 - 11)	0)
		98		(76 - 11	0)
4-Bromofluorobenzene		97		(74 - 11)	6)

96

(74 - 116)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD	
1,1-Dichloroethene	ND	10	9.0	ug/L	90		SW846 826	0B
	ND	10	9.0	ug/L	90	0.24	SW846 826	0 B
Trichloroethene	ND	10 [`]	9.0	ug/L	90		SW846 826	0 B
	ND	10	9.3	ug/L	93	2.3	SW846 826	0 B
Benzene	ND	10	8.7	ug/L	87		SW846 826	0 B
	ND	10	9.0	ug/L	90	3.5	SW846 826	0 B
Toluene	0.26	10	8.9	ug/L	86		SW846 826	0 B
	0.26	10	9.1	ug/L	88	1.7	SW846 826	0 B
Chlorobenzene	ND	10	8.5	ug/L	85		SW846 826	0B
	ND	10	8.8	ug/L	88	3.0	SW846 826	0B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	- 95	(61 - 128)
Toluene-d8	97	(76 - 110)
	98	(76 - 110)
4-Bromofluorobenzene	· 97	(74 - 116)
	96	(74 - 116)

NOTE (S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A8J090169
 Work Order #...: K0H6G1AC-MS
 Matrix....: WATER

 MS Lot-Sample #: A8J090313-005
 K0H6G1AD-MSD

 Date Sampled...: 10/07/08 12:10
 Date Received..: 10/09/08

 Prep Date.....: 10/13/08
 Analysis Date..: 10/13/08

 Prep Batch #...: 8288196
 Dilution Factor: 4

	PERCENT	RECOVERY		RPD		
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD	
1,1-Dichloroethene	94	(62 - 130)			SW846 8260B	
	91	(62 - 130)	3.6	(0-20)	SW846 8260B	
Trichloroethene	7 9	(62 - 130)			SW846 8260B	
	69	(62 - 130)	2.2	(0-20)	SW846 8260B	
Benzene	88	(78 - 118)			SW846 8260B	
	-88	(78 - 118)	0.23	(0-20)	SW846 8260B	
Toluene	88	(70 - 119)			SW846 8260B	
	90	(70 - 119)	2.4	(0-20)	SW846 8260B	
Chlorobenzene	89	(76 - 117)			SW846 8260B	
	88	(76 - 117)	0.21	(0-20)	SW846 8260B	
		PERCENT		RECOVERY		
SURROGATE		RECOVERY		LIMITS		
Dibromofluoromethane		96		(73 - 122	2)	
		96		(73 - 122	2)	
1,2-Dichloroethane-d4		93		(61 - 128	3)	
		-				

94

97 [`]

97

95

95

(61 - 128)

(76 - 110)

(76 - 110)

(74 - 116)

(74 - 116)

4-Bromofluorobenzen	е

NOTE (S):

Toluene-d8

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

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #:	A8J090169	Work Order #:	KOH6G1AC-MS	Matrix: WATER
MS Lot-Sample # :	A8J090313-005		K0H6G1AD-MSD	
Date Sampled:	10/07/08 12:10	Date Received:	10/09/08	
Prep Date:	10/13/08	Analysis Date:	10/13/08	
Prep Batch #:	8288196			
Dilution Factor:	4			

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD	
1,1-Dichloroethene	1.3	40	39	ug/L	94		SW846	8260B
	1.3	40	38	ug/L	91	3.6	SW846	8260B
Trichloroethene	160	40	190	ug/L	79		SW846	8260B
	160	40	190	ug/L	69	2.2	SW846	8260B
Benzene	ND	40	35	ug/L	88		SW846	8260B
	ND .	40	35	ug/L	88	0.23	SW846	8260B
Toluene	ND	40	35	ug/L	88		SW846	8260B
	ND	40	36	ug/L	90	2.4	SW846	8260B
Chlorobenzene	ND	40	35	ug/L	89		SW846	8260B
	ND	40	35	ug/L	88	0.21	SW846	8260B

7,

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
	94	(61 - 128)
Toluene-d8	97	(76 - 110)
	97 .	(76 - 110)
4-Bromofluorobenzene	95	(74 - 116)
	95	(74 - 116)

NOTE (S):

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

Chain of Custody Record

.

١

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

tress _ P /// 4	2		- 7 *	41	10	1	19	9 / I	50	54					2						'	0000	45
100 E KEndolph JT		. Tekapi	hone	Num	ber (A	Area C	ode)/	ax M	umbe	r	<u>.</u>				· <u></u>		Lab N	umber				Page	_ of
Waysau Wi	54401	She C	ontac	a			4	b Co	ntact		• •				, , ,	Anal) nore	vsis (/ space	Attach is no	list if oded,	, , ,		- :	
vject Name and Location (State)		Carrie	ar/Waj	yddill /	Vumb	er																Spotia/	Instructions
ntract/Purchase Orden/Quote No.					Matri	ör -			Con Pres	teine serva	ns å tivæs											Conditio	ns of Receip
Sample I.D. No. and Description ontainers for each sample may be combined on one N	ne) Date	Time	*	Value	Sect	8	1	188	80NH	ş	NON I	Š										· .	
J081008MJ-476	10/8/08	13:35	1	<u> </u>		$ \downarrow \downarrow$	-	-		X		-			┟╌┠		<u> </u>		+-	$\left \right $		3-70~1	Hel Eff
		· ·		+				+			+	-+	+		┝╌┝╴	+	╆╌┥		+-	┼╴╂		···	
J081008MV-477	10/8/08	13:31	/							V		1			┟╌┼╸			-				3-40ml	Hel Int
			┢				_	 -			-+					+			+-	╄╌			
			┼╼	\vdash	ŀ			:	•			·											
······································								-	1		_	_		_		-				┟╌┤	_		
		 	+	-				-			\dashv			╉	┢╌╁╴	+	+		-	╉┨	-		
			+		+	┟─┤		-															
			Ţ																				
pssible Hazard Identification → Non-Hazard □ Flammable □ Sidn Imbant	Poison B	🗆 Unitanoi	en [ne Da Return	n To C	liant			osa(E Winan	ly Lei nents) (Spe	AI	chhe.	For		Mon	ths k	A tee l onger	may be than 1	9 8898 monti	ssed if samples an h)	
Im Around Time Required 24 Hours 48 Hours 7 Days 1	4 Daiya 🗌 21 Da	nys 🗆 C	Other_		**		<u>.</u>	ļ	Dene	the second of	Rv							`				Date	Time
Rollinguished By		Dane	17/0	8		13	41		Baan	hand			A	5								10-9-08 Date	0910 Time
Relinquished By		Date					·		71008						<u> </u>				·-			Date	Time
Relinquished By		Date					,	×	H808		•y	•								<u>.</u>			
comments		*			•				•		•	:						• .					

TestAmerica Cooler	Receipt Form/Narrative	Lot Numbe	r: 4820901109
North Canton Facilit			
Oliont Machine	Elemo Project	Bv:	197
Client/Val24 (HoA		<u> </u>	(Signature)
		Drop Off C TestAmerica Courie	or Other
		Ecam Box Client Coole	r Other
	the outside of the cooler(s)?	es No I Intact? Yes	
I. Were custody seals of			
More oustody seels of	the outside of cooler(s) signed	t and dated? Yes	
Were custody seals of	the battle/s)2	Yes	
If VES are there any	vcentions?		
2 Shippers' packing slip	attached to the cooler(s)?	Yes	TT NO TI
2. Shippers packing ship	company the sample(s)? Yes		hed by client? Yes 7 No
A More the custody papers ac	ars signed in the appropriate of	ace? Yes	
4. Were the custous pap		None C Other	
5. Facking material used	\sim Duble Wiap \leq \sim \sim	See back of form for multiple co	olers/temps
METHOD	$\Box \qquad \text{Other } \Box$		
COOLANT: Wet In		Water None	
7 Did all bottles arrive in	and condition (Unbroken)?	Yes	
8 Could all hottle lahele	be reconciled with the COC?	Yes	
Q Mere sample(s) at the	correct pH upon receipt?	Yes	
10 Were correct hottle(s)	used for the test(s) indicated?	Yes	
11 Were air bubbles >6 m	m in any VOA viais?	Yes	
12 Sufficient quantity rec	eived to perform indicated anal	vses? Yes	A NO D
13. Was a trip blank prese	nt in the cooler(s)? Yes 2	No 🗍 Were VOAs on the COO	27 Yes 🗗 No 🗌
Contacted PM	Date 10 9 08	by <u>an</u> via Verba	I 🕅 Voice Mail 🔲 Other 🗌
Concerning	14		
		and the second se	
14 CHAIN OF CUSTOD			
14. CHAIN OF CUSTOD	es occurred:		
14. CHAIN OF CUSTOD The following discrepancie	es occurred:		
14. CHAIN OF CUSTOD The following discrepancie	s occurred:		we tria black using
14. CHAIN OF CUSTOD The following discrepancie	2 cud 1x10 TB no	+ on (oc unil log)	er trip blank usine
14. CHAIN OF CUSTOD The following discrepancie	2ecid 1×10 TB no St of prev. Sam	t on coc will log	or trip blank usine
14. CHAIN OF CUSTOD The following discrepancie	ecid 1×10 TB no to of prev. Sam	t on coc unil logg	br trip blank usine
14. CHAIN OF CUSTOD The following discrepancie	2ecid 1×10 TB no de of preu. Sam	+ on cc unil log	ur trip blank usine
14. CHAIN OF CUSTOD The following discrepancie	2e cid 1×10 TB no He of prev. Sam	+ on (cc unil log	or trip blank using
14. CHAIN OF CUSTOD The following discrepancie	2e cid 1×10 TB no the of prev. Sam	t on (cc unil log	er trip blank using
14. CHAIN OF CUSTOD The following discrepancie () () () () () () () () () ()	2 cid 1x10 TB no the of prev. Sam	+ on (oc unil log)	er trip blank usine
14. CHAIN OF CUSTOD The following discrepancie () () () () () () () () () ()	2e cid 1×10 TB no dr of prev. Som	+ on (oc unil log) e received after the recommende	the holding time had expired.
14. CHAIN OF CUSTOD The following discrepancie () () () () () () () () () ()	Lecid 1×10 TB no de of preu. Som	t on (cc unil log) e received after the recommende were rece	tor trip blank usine of holding time had expired. sived in a broken container.
14. CHAIN OF CUSTOD The following discrepancie 	soccurred: 2ecid 1×10 TB no the of prev. Sam were	t on (cc unil log) e received after the recommende were received with bubble >6 n	ty trip blank usine of holding time had expired. sived in a broken container. nm in diameter. (Notify PM)
14 CHAIN OF CUSTOD The following discrepancie 	Es occurred: 2e cid 1×10 TB no the of prev. Som were TFION	t on (cc unil log) e received after the recommende were received with bubble >6 m	the trip blank using of holding time had expired. bived in a broken container. hm in diameter. (Notify PM)
14. CHAIN OF CUSTOD The following discrepancie 	es occurred: 2e cid 1×10 TB no the of prev. Sam were TION	+ on (cc unil log) e received after the recommende were received with bubble >6 m were further pr	the total sample
14. CHAIN OF CUSTOD The following discrepancie () () 15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommended of the Organo Construction Network of the Organo Construction Construction Network of the Organo Construction Network of the Organo Construc	Verification and point and point and point and point and point and point and the point	+ on (cc unil log) e received after the recommende were received with bubble >6 r were further pr ot# 031808-HNO3; Sulfuric Acid Lota -HCI: Sodium Hydroxide and Zinc Acid	the frip blank usine od holding time had expired. sived in a broken container. nm in diameter. (Notify PM) eserved in Sample # 031808-H ₂ SO ₄ ; Sodium retate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie 15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommend Hydroxide Lot# 073007 -NeC	A prev. Sam were TION Name of prev. Sam	+ on (cc unil log) e received after the recommende were received with bubble >6 m were further pr ot# 031808-HNO3; Suffuric Acid Lot# -HCl; Sodium Hydroxide and Zinc Acid to sample(s)?	by trip blank usine of holding time had expired. sived in a broken container. nm in diameter. (Notify PM) eserved in Sample # 031808-H ₂ SO ₄ ; Sodium setate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie (A) 15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recomme Hydroxide Lot# 073007 -NaC (CH ₃ COO) ₂ ZN/NaOH. Wha Client ID	A cred I xulo TB no A of prev. Som were ITION ITION nended pH level(s). Nitric Acid L DH; Hydrochloric Acid Lot# 092008 t time was preservative added	H on (cc unil log) e received after the recommende were received with bubble >6 m were further pr of# 031808-HNO3; Suffuric Acid Lott -HCI; Sodium Hydroxide and Zinc Acid to sample(s)?	by trip blank usine of holding time had expired. eived in a broken container. nm in diameter. (Notify PM) eserved in Sample # 031808-H ₂ SO ₄ ; Sodium setate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie (A) 15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommend Hydroxide Lot# 073007 -NeC (CH ₃ COO) ₂ ZN/NaOH. Wha Client ID	A cred 1 × 10 TB no A of prev. Som were TION nended pH level(s). Nitric Acid L DH; Hydrochloric Acid Lot# 092008 t time was preservative added	H on (of unil log) e received after the recommende were received with bubble >6 m were further pr of# 031808-HNO3; Sulfuric Acid Lott -HCI; Sodium Hydroxide and Zinc Acit to sample(s)?	by trip blank usine of holding time had expired. bived in a broken container. hm in diameter. (Notify PM) eserved in Sample t 031808-H ₂ SO ₄ ; Sodium betate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie () 15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommend Hydroxide Lot# 073007 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	A prev. Sam Wern NTION Nitric Acid Lott 092008 t time was preservative added	e received after the recommende were received with bubble >6 m were further pr ot# 031808-HNO3; Sulfuric Acid LotA to sample(s)?	by trip blank usine bd holding time had expired. bived in a broken container. hm in diameter. (Notify PM) eserved in Sample # 031808-H ₂ SO ₄ ; Sodium betate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie 	A prev. Sam Wern NTION North of prev. Sam Mern NTION Nitric Acid L DH; Hydrochloric Acid Lot# 092008 t time was preservative added	e received after the recommende were received with bubble >6 m were further pr of# 031808-HNO3; Suifure Acid LotA- HCI; Sodium Hydroxide and Zinc Acit to sample(s)? pH	by trip blank usine od holding time had expired. Prived in a broken container. Inm in diameter. (Notify PM) eserved in Sample # 031808-H ₂ SO ₄ ; Sodium Setate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie () () () 15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recomme Hydroxide Lot# 073007 -NeC (CH ₃ COO) ₂ ZN/NaOH. Wha Client ID	A prev. Sam were <i>TION</i> <i>TION</i> <i>Time</i> was preservative added	e received after the recommende were received with bubble >6 m were further pr ot# 031808-HNO3; Sulfuric Acid Loth -HCI; Sodium Hydroxide and Zinc Acid to sample(s)?	the trip blank using ad holding time had expired. bived in a broken container. hm in diameter. (Notify PM) eserved in Sample t 031808-H ₂ SO ₄ ; Sodium betate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie () () 15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recomme Hydroxide Lot# 073007 -NaC (CH ₃ COO) ₂ ZN/NaOH. Wha Client ID	A prev. Sam were A for a prev. Sam A for a prev. Sam A for a prev. Sam A for a prev. Sam were A for a prev. Sam were a prev.	H on CC unil log e received after the recommende were received with bubble >6 m were further pr ot# 031808-HNO3; Sulfuric Acid Lott -HCI; Sodium Hydroxide and Zinc Acid to sample(s)?	by trip blank usine ad holding time had expired. bived in a broken container. from in diameter. (Notify PM) eserved in Sample # 031808-H2SO4; Sodium betate Lot# 050205-
14. CHAIN OF CUSTOD The following discrepancie 	A prev. Sam were <i>TION</i> <i>TION</i> <i>Time</i> was preservative added	H on CC unil log e received after the recommende were received with bubble >6 m were further pr ot# 031808-HNO3; Sulfuric Acid Lot -HCl; Sodium Hydroxide and Zinc Acid to sample(s)?	by trip blank usine by trip blank usine bit holding time had expired. sived in a broken container. hm in diameter. (Notify PM) eserved in Sample # 031808-H2SO4; Sodium retate Lot# 050205- Date Initials
14. CHAIN OF CUSTOD The following discrepancie 	A contract: 2e ci d 1 x lo TB no dr of prev. Sam were ATION nended pH level(s). Nitric Acid L DH; Hydrochloric Acid Lot# 092008 t time was preservative added	H on CC unil log e received after the recommende were received with bubble >6 n were further pr ot# 031808-HNO3; Suffuric Acid Lot# -HCl; Sodium Hydroxide and Zinc Ac to sample(s)?	by trip blank usine by trip blank usine bit holding time had expired. bived in a broken container. hm in diameter. (Notify PM) eserved in Sample \$ 031808-H ₂ SO ₄ ; Sodium betate Lot# 050205- Date Initials

SOP: NC-SC-0005, Sample Receiving N:VQAQC'WARRATIV/TestAmerica/Cooler Receipt TestAmerica/COOLER_TestAmerica_Rev 68 081 308.doc

.

......

.

Toma PC	Method	Coola
Temp. C		
	· · · · · · · · · · · · · · · · · · ·	
	Temp. °C	Temp. °C Method

: .

٠

1

SOP: NC-SC-0005, Sample Receiving N:\QAQCWARRATIV\TestAmerica\Cooler Receipt TestAmerica\COOLER_TestAmerica_Rev 68 081 308.doc



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

North Canton

ATTACHMENT B

í

.

DATA VALIDATION MEMO

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

	MEMORANDUM	······	· · · · · · · · · · · · · · · · · · ·
To:	Jason Twaddle; CRA	REF. NO.:	003978-10
FROM:	Ruth Mickle	DATE:	December 17, 2008
C.C.:	Analytical Data File		
RE:	Data Quality Assessment October 8, 2008 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 6045)		

GA-ROVERS

The following details a data quality assessment for water samples collected October 8, 2008, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W081008MV-476 (Effluent) and W081008MV-477 (Influent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by Test America Laboratories, Inc. (Test America) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

CONESTO

& ASSOCIAT

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank yielded a methylene chloride detection. However, methylene chloride was not detected in any of the associated samples; therefore, no qualification of data was required based on method blank results.

Į.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a acetone detection. However, acetone was not detected in any of the associated samples; therefore, no qualification of data was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

RLM/sb/84



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

April 20, 2009

Reference No. 003978-10

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Re: First Quarter 2009 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this first quarter 2009 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

First quarter 2009 samples were collected on January 7, 2009, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	7.9	3.8	41,000
cis-1,2-dichloroethene	0.43 J	0.26 J	NA
chloroform	<1.0	1.6	29,000

Notes:

J - estimated value, value is below the reporting limit. NA - discharge limit not available.

All values are reported in $\mu g/L$.

APR 2 3 2009

Received





April 20, 2009

Reference No. 003978-10

The pump operated continuously during the first quarter of 2009. Between December 30, 2008 and March 30, 2009, the pump operated at an average flow rate of 787 gpm. A total of 102,007,000 gallons of water were treated by EW1 in the first quarter of 2009 (December 30, 2008 to March 30, 2009).

2

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

JASa TZ MK

Jason Twaddle

JT/sb/1 Enc.

c.c. Wally Mattson; Marathon Electric Dave Erickson; City of Wausau Chuck Ahrens; CRA (w/o enc.)

ATTACHMENT A

a

3

.

LABORATORY REPORT



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 WAUSAU SUPERFUND

SAMPLE SUMMARY

<u>WO #</u>	LABORATORY	ID

SAMPLE IDENTIFICATION

K5J51A9A080151-001K5J58A9A080151-002K5J59A9A080151-003

W090107MV-478-1,2,3 W090107MV-479-1,2,3 TRIP BLANK

TESTAMERICA LABORATORIES, INC.

Project Manager

January 21, 2009

1

CASE NARRATIVE A9A080151

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received January 08, 2009, according to documented sample acceptance procedures.

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 Ruth Mickle on January 20, 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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 21.

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 0.8°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

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.

<u>QC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 061807.doc

EXECUTIVE SUMMARY - Detection Highlights

A9A080151

PARAMETER	RESULT	REPORTING	UNITS	ANALYTICAL METHOD
W090107MV-478-1,2,3 01/07/09 13:25	001			
cis-1,2-Dichloroethene	0.43 J	1.0	ug/L	SW846 8260B
Trichloroethene	7.9	1.0	ug/L	SW846 8260B
W090107MV-479-1,2,3 01/07/09 12:36	002			
cis-1,2-Dichloroethene	0.26 J	1.0	ug/L	SW846 8260B
Chloroform	1.6	1.0	ug/L	SW846 8260B
Trichloroethene	3.8	1.0	ug/L	SW846 8260B

.

•

•

ANALYTICAL METHODS SUMMARY

A9A080151

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B
References:	

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

.

SAMPLE SUMMARY

A9A080151

<u>WO #</u>	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
K5J51	001	W090107MV-478-1,2,3	01/07/09	13:25
K5J58	002	W090107MV-479-1,2,3	01/07/09	12:36
K5J59	003	TRIP BLANK	01/07/09	

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, sollds, solubility, temperature, viscosity, and weight.

Client Sample ID: W090107MV-478-1,2,3

GC/MS Volatiles

Lot-Sample #:	A9A080151-001	Work Order #: K5J511AA	Matrix WG
Date Sampled:	01/07/09 13:25	Date Received: 01/08/09	
Prep Date:	01/14/09	Analysis Date: 01/14/09	
Prep Batch #:	9019225		
Dilution Factor:	1	Method: SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.43 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	7.9	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Dibromofluoromethane	96	(73 - 122)	-
1,2-Dichloroethane-d4	102	(61 - 128)	
Toluene-d8	94	(76 - 110)	
4-Bromofluorobenzene	82	(74 - 116)	

NOTE (S):

. **, ,** ,

Client Sample ID: W090107MV-479-1,2,3

GC/MS Volatiles

Lot-Sample #:	A9A080151-002	Work Order #:	K5J581AA	Matrix
Date Sampled:	01/07/09 12:36	Date Received:	01/08/09	
Prep Date:	01/14/09	Analysis Date:	01/14/09	
Prep Batch #:	9019225			
Dilution Factor:	1	Method:	SW846 8260B	

REPORTING PARAMETER RESULT LIMIT UNITS cis-1,2-Dichloroethene 0.26 J 1.0 ug/L Acetone ND 10 ug/L Benzene ND 1.0 ug/L Carbon tetrachloride uq/L ND 1.0 Chloroform 1.6 1.0 ug/L 1,1-Dichloroethene ND 1.0 ug/L Ethylbenzene ND 1.0 ug/L 1.0 Methylene chloride ND ug/L Tetrachloroethene ND 1.0 ug/L Toluene ND 1.0 ug/L 1,1,2-Trichloroethane ND 1.0 ug/L Trichloroethene 3.8 1.0 ug/L Vinyl chloride 1.0 ug/L ND ug/L Xylenes (total) ND 1.0 RECOVERY PERCENT SURROGATE RECOVERY LIMITS Dibromofluoromethane 100 (73 - 122)1,2-Dichloroethane-d4 100 (61 - 128)Toluene-d8 92 (76 - 110)4-Bromofluorobenzene 84 (74 - 116)

NOTE (S):

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A9A080151-003	Work Order #: K5J591AA	Matrix WQ
Date Sampled: 01/07/09	Date Received: 01/08/09	
Prep Date: 01/14/09	Analysis Date: 01/14/09	
Prep Batch #: 9019225		
Dilution Factor: 1	Method SW846 8260B	

Method..... SW846 8260B

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	101	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

.

• •

.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

L

\$

METHOD BLANK REPORT

GC/MS Volatiles

.

Client Lot #: A9A080151 MB Lot-Sample #: A9A190000-225	Work Order #: K5	SOTL1AA Matrix WATER
Analysis Date: 01/14/09	Prep Date: 01 Prep Batch #: 90	L/14/09 D19225

Dilution Factor: 1

7

2

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND .	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	93	(73 - 122)		
1,2-Dichloroethane-d4	97	(61 - 128)		
Toluene-d8	95	(76 - 110)		
4-Bromofluorobenzene	88	(74 - 1	16)	

•

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 #...: A9A080151 Work Order #...: K50TL1AC-LCS Matrix....: WATER LCS Lot-Sample#: A9A190000-225 K50TL1AD-LCSD Analysis Date..: 01/14/09 **Prep Date....:** 01/14/09 **Prep Batch #...:** 9019225 Dilution Factor: 1

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Trichloroethene	90	(75 ~ 122)			SW846 8260B
	87	(75 - 122)	3.5	(0-20)	SW846 8260B
Benzene	92	(80 - 116)			SW846 8260B
	89	(80 - 116)	3.2	(0-20)	SW846 8260B
Toluene	94	(74 - 119)			SW846 8260B
	93	(74 - 119)	1.3	(0-20)	SW846 8260B
1,1-Dichloroethene	96	(63 - 130)			SW846 8260B
	95	(63 - 130)	1.3	(0-20)	SW846 8260B
Chlorobenzene	90	(76 - 117)			SW846 8260B
	89 ·	(76 - 117)	1.4	(0-20)	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	91	(73 - 122)
	92	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	94	(61 - 128)
Toluene-d8	97	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	95	(74 - 116)
	95	(74 - 116)

NOTE (S):

•

,

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters
LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A9A080151Work Order #...: K50TL1AC-LCSMatrix.....: WATERLCS Lot-Sample#: A9A190000-225K50TL1AD-LCSDPrep Date....: 01/14/09Analysis Date..: 01/14/09Prep Batch #...: 9019225Dilution Factor: 1

	SPIKE	MEASUREI)	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
Trichloroethene	10	9.0	ug/L	90		SW846 8260B
	10	8.7	ug/L	87	3.5	SW846 8260B
Benzene	10	9.2	ug/L	92		SW846 8260B
	10	8.9	ug/L	89	3.2	SW846 8260B
Toluene	10	9.4	ug/L	94		SW846 8260B
	10	9.3	ug/L	93	1.3	SW846 8260B
1,1-Dichloroethene	10	9.6	ug/L	96		SW846 8260B
	10	9.5	ug/L	95	1.3	SW846 8260B
Chlorobenzene	10	9.0	ug/L	90		SW846 8260B
	10	8.9	ug/L	89	1.4	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	91	(73 - 122)
	92	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	94	(61 - 128)
Toluene-d8	97	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	95	(74 - 116)
	95	(74 - 116)

NOTE (S) :

2

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

Bold print denotes control parameters

,

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A9A080151
 Work Order #...: K5P861D8-MS
 Matrix....: WATER

 MS Lot-Sample #: A9A130188-001
 K5P861D9-MSD
 Date Sampled...: 01/05/09 15:54
 Date Received..: 01/13/09

 Prep Date.....: 01/14/09
 Analysis Date..: 01/15/09
 Prep Batch #...: 9019225
 Dilution Factor: 1

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	94	(62 - 130)			SW846 8260B
	93	(62 - 130)	0.39	(0-20)	SW846 8260B
Trichloroethene	84	(62 - 130)			SW846 8260B
	89	(62 - 130)	5.6	(0-20)	SW846 8260B
Benzene	94	(78 - 118)			SW846 8260B
	95	(78 - 118)	1.2	(0-20)	SW846 8260B
Toluene	91	(70 - 119)			SW846 8260B
	97	(70 - 119)	6.4	(0-20)	SW846 8260B
Chlorobenzene	83	(76 - 117)			SW846 8260B
	90	(76 - 117)	8.0	(0-20)	SW846 8260B
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	
Dibromofluoromethane		98		(73 - 12	2)
		94		(73 - 12	2)
1,2-Dichloroethane-d4		97		(61 - 12	8)
		99		(61 - 12	8)
Toluene-d8		98		(76 - 11	0)
		99		(76 - 11	.0)
4-Bromofluorobenzene		95		(74 - 11	.6)
		97		(74 - 11	.6)

NOTE (S):

.

.

٠,

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A9A080151
 Work Order #...: K5P861D8-MS
 Matrix.....: WATER

 MS Lot-Sample #: A9A130188-001
 K5P861D9-MSD
 Date Sampled...: 01/05/09 15:54
 Date Received..: 01/13/09

 Prep Date.....: 01/14/09
 Analysis Date..: 01/15/09
 Prep Batch #...: 9019225
 Dilution Factor: 1

	SAMPLE	SPIKE	MEASRD	INTEC	PERCNT	סתת	MERUOI	`	
PARAMETER						<u>RPD</u>	METHOL	00000	
1,1-Dichloroethene	ND	10	9.4	ug/L	94		SW846	8260B	
	ND	10	9.3	ug/L	93	0.39	SW846	8260B	
Trichloroethene	ND	10	8.4	ug/L	84		SW846	8260B	
	ND	10	8.9	ug/L	89	5.6	SW846	8260B	
Benzene	ND	10	9.4	ug/L	94		SW846	8260B	
	ND	10	9.5	ug/L	9 5	1.2	SW846	8260B	
Toluene	ND	10	9.1	ug/L	91		SW846	8260B	
	ND	10	9.7	ug/L	97	6.4	SW846	8260B	
Chlorobenzene	ND	10	8.3	ug/L	83		SW846	8260B	
	ND	10	9.0	ug/L	90	8.0	SW846	8260B	
			PERCENT		RECOVERY		÷		
SURROGATE			RECOVERY		LIMITS				
Dibromofluoromethane		·	98		(73 - 122))			
			94		(73 - 122))			
1,2-Dichloroethane-d4			97		(61 - 128))			
			99		(61 - 128))			
Toluene-d8			98		(76 - 110))			
			99		(76 - 110))			
4-Bromofluorobenzene			95		(74 - 116))			
			97		(74 - 116))			

NOTE (S):

,

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

Bold print denotes control parameters

.

Note Copy of theef TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

v co Ч

.

Marathan Electric Piu of , doross & Bar lala st	Regel Belsit	Project Teleph			ver (A	Геа С 8	M 4 Code) 27	H. Fax N	L TS Iumb	1 er							Dat C		o '	7/	09		Chain of Custod	<u>, Numt</u> 23
Waysan Wi 3	Code 14401	Site C	ontac	1			2	ab Co	ontac	t		<u> </u>		<u> </u>		Ana	 alysis e spa	(Atta ICO is	ach s nac	list if eded,	, , 1 T		-age	C
oject Name and Location (State)	,	Carriel	r/Way	rbill N	lumbo	9r																		
Contract/Purchase Order/Quote No.	<u> </u>			٨	latrix	r			Co. Pre	ntain serv	ers ativ	& 8											Specia Conditi	al Inst ions c
Sample I.D. No. and Description Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed	Sol		POSCH Seudun	BONH	HC!	NaOH	ZnAc/ NaOH												<u>.</u>
N090107MV- 478-1	1/07/09	13:25								X												•	3-4001	Visi
2	, , , , , , , , , , , , , , , , , , , ,	13:25								X													.I	nfl
		13.26								4														Ł
1409010741/-479-1	1107/09	12:36				Ť				4										1		3	- yun 1	1.21
		12:36	1							6	1			1						1.			FFF	Inen
		12:37	1	\square					1	d	1.							-	╈					$\overline{\mathbf{V}}$
	.		1-	1				+		1	+-		-	+			-		1	1.	$\uparrow \uparrow$			
		· · · ·	+			-		+	+	+	┼─	╉╾╁		+	+		- <u>†</u> -	+-	+		<u> </u>			
									┼	+-	+	┼┼		+	-			+	+				<u> </u>	
	· · · · · · · · · · · · · · · · · · ·		+	$\left \right $			+			+	+	╉╌╂					+	+-	+	+	┥┤	+		
						_	_+	_	+		-	+		-						+	+		<u> </u>	
			1								<u>_</u>	+						<u> </u>						
				Ĺ																				<u> </u>
Possible Hazard Identification			S	Sampi	le Dis ctum	posa To C	t Viant	ш	Die		D.1	ch		nhim	For			lantha	(4 <i>198</i> /	may be	assas	sed if samples i	are reta
Un Around Time Required	- FOISCHIE		<u> </u>						C Re	quire	men	ts (Spe	dfy)						, <i>n</i>	wiyar				
24 Hours 48 Hours 7 Days 14 D	ays 🗍 21 Da	nys 🗆 0	ther					-				•												
1. Relinquished By		Date	07/	69		ne 3 : ;	35	- 7.	Rec	eived	I By		20	た)			•					Date FEO9	T#
2. Relinquished By		Date	7		7/	ne		2	Rec	elved -	By						• .						Date	5 7/
3. Relinquished By		Date			177	ne		3	Rec	eivea	(By												Date	а 17/1 10
Comments		<u>I</u>			<u> </u>	•.			<u>.</u>									<u> </u>						
																								ਸ਼ੂ

Chain of Custody Record

2.

120124

۰.,

. ¹⁹.

SW

	of Form/Narrativo	ot Number	AGAM	្រា
i estamenca Cooler Kecel			~~~~~~	
North Canton Facility	<u>in de la contrecta de la contre de la contrecta de la contrecta de la contrecta de la contrecta de la contrecta</u>		0.4	
Client MARATHON ELECTY	<u> C</u> Project	By:2		
Cooler Received on	Opened on 1-4-04		(Signature)	
TestAmerica Cooler #				[¹
1. Were custody seals on the out	side of the cooler(s)? Yes I NO	ntact? Yes 1		
If YES, Quantity	Quantity Unsalvageable			-
Were custody seals on the out	tside of cooler(s) signed and dated?			
Were custody seals on the bo	ttle(s)?	res 🗋		
If YES, are there any exception		Vac 🗗		
2. Shippers' packing slip attache		Polingwished	hy alignt? Vo	
3. Did custody papers accompan	in the epperation and in the epperation			
4. Were the custody papers sign				
5. Packing material used: Bubi			-#omos 🗖	
6. Cooler temperature upon rece	the see back of form it			
		None		
	andition (Inbroken)?			
7. Did all bottles arrive in good c	notion (Unbioken) r			
0. Could all bottle labels be reco				
9. Were sample(s) at the correct	r the test(s) indicated?			
10. Were correct bollie(s) used to				
12. Sufficient questity received to	norform indicated analyses?			
12. Sumcient quantity received to	p cooler(s)? Ves \Box No \Box Were VOA	As on the COC?	Yes 7 No	
Contacted PM	$\frac{1}{2} = \frac{1}{2} = \frac{1}$	via Verbal		
	5 5 J			
14 CHAIN OF CUSTODY				
The following discrepancies occur	red:	<u> </u>	<u></u>	ii - ni ni na niise
0 1		1/ 1		•••••
Kecid	140 The not on LOC	w(1(100))	·····	
15. SAMPLE CONDITION				
Sample(s)	were received after the	recommended h	olding time h	ad expired.
Sample(s)		were receive	d in a broken	container.
Sample(s)	were received wit	h bubble >6 mm	in diameter. (Notity PM)
16. SAMPLE PRESERVATION				
Sample(s)	W	vere further prese	rved in Samp	le
Receiving to meet recommended	pH level(s). Nitric Acid Lot# 100108-HNO3; Si	ulfunic Acid Lot# 10	0108-H2SO4; S	Sodium
(CH_COO)_ZN/NeOH What time w	ocmone Acia Lot# Us2000-MCi; Soaium Hydrox vas nreservative added to samnle(s)?		19 201# 030203	-
Client ID	nL		Data	Initiple
<u>Sugar in</u>	<u> </u>		Larg	mindia
	· · · · · · · · · · · · · · · · · · ·			
		I		

.

Client ID	На	Date	Initia
		i	
<u> </u>			
• .			
	•		
·			
<u> </u>			
			· · ·
		· · · · · · · · · · · · · · · · · · ·	- <u>.</u>
	l	·	<u> </u>
			<u> </u>
·			
	9		ļ
		· · · · · · · · · · · · · · · · · · ·	<u> </u>
Coolor #	Temp %	Method	Cool
		· · ·	
· · · · · · · · · · · · · · · · · · ·			····
			<u> </u>
		<u> </u>	1
			1
		Į	.
		<u> </u>	+
crenancies Cont/d	1	1	1
	······································		
. <u> </u>			
	·	 	
·			
		-	<u> </u>
•			
		•	

ι.

ŗ

North Canton

At the second second

SOP: NC-SC-0005, Sample Receiving N:VQAQCWARRATIV/TestAmerica/Cooler Receipt TestAmerica/COOLER_TestAmerica_Rev 68 102708.doc 20



.

THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

. .

ATTACHMENT B

لا, ا

.

DATA VALIDATION MEMO

•

(
CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Jason Twaddle; CRA	Ref. NO.:	003978-10
FROM:	Ruth Mickle	DATE:	February 26, 2009
C.C.:	Analytical Data File		
RE:	Data Quality Assessment January 7, 2009 Sampling Event Wausau Superfund Site - Wausau, Wisconsin (COC 7230)		

The following details a data quality assessment for water samples collected January 7, 2009, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W090107MV-478-1,2,3 (Influent) and W090107MV-479-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by Test America Laboratories, Inc. (Test America) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by Test America, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.
 Application of quality accurate to a second se

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

FIELD QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

RLM/sb/86



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

July 2, 2009

Reference No. 003978-10

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Re: Second Quarter 2009 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921



JUL - 6 2009

REMEDIATION & REDEVELOPMENT

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this second quarter 2009 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Second quarter 2009 samples were collected on April 27, 2009, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	6.5	3.8	41,000
cis-1,2-dichloroethene	0.45 J	0.29 J	NA
chloroform	<1.0	0.22 J	29,000

Notes:

J - estimated value, value is below the reporting limit.

NA - discharge limit not available.

All values are reported in $\mu g/L$.





July 2, 2009

Reference No. 003978-10

The pump operated continuously during the second quarter of 2009. Between March 30, and June 30, 2009, the pump operated at an average flow rate of 654 gpm. A total of 86,654,000 gallons of water were treated by EW1 in the second quarter of 2009 (March 30 to June 30, 2009).

2

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

en R.M.

Jason Twaddle

JT/sb/3 Encl.

cc: Wally Mattson, Marathon Electric Dave Erickson, City of Wausau Chuck Ahrens, CRA (w/o enc.)

ATTACHMENT A

LABORATORY REPORT

· · ·

003978BLAN3-ATTP



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 EXTRACTION WELL

SAMPLE SUMMARY

WO #	LABORATORY ID	SAMPLE IDENTIFICATION
	and the second se	

LAWPV . A9D280134-001 .LAWP4 A9D280134-002 LAWP8 A9D280134-003

W090427MV-480-1,2,3 W090427MV-481-1,2,3 TRIP BLANK

TESTAMERICA LABORATORIES, INC.

Project Manager

May 12, 2009

CASE NARRATIVE A9D280134

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Extraction Well Site, project number 3978. The samples were received April 28, 2009, according to documented sample acceptance procedures.

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 Ruth Mickle on May 08, 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.

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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 21.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.0°C.

See TestAmerica's Cooler Receipt Form for additional information.

2

CASE NARRATIVE (continued)

GC/MS VOLATILES

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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

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 repreparation 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.)

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

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 repreparation 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 Certifications and Approvals:

The laboratory is certified for the analytes listed on the documents below. These are available upon request. California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

EXECUTIVE SUMMARY - Detection Highlights

A9D280134

PARAMETER	RESULT	REPORTING	UNITS	ANALYTICAL
W090427MV-480-1,2,3 04/27/09 11:12	001			
cis-1,2-Dichloroethene Trichloroethene	0.45 J 6.5	1.0 1.0	ug/L ug/L	SW846 8260B SW846 8260B
W090427MV-481-1,2,3 04/27/09 11:20	002			
cis-1,2-Dichloroethene Chloroform Trichloroethene	0.29 J 0.22 J 3.8	1.0 1.0 1.0	ug/L ug/L ug/L	SW846 8260B SW846 8260B SW846 8260B
TRIP BLANK 04/27/09 003				
Chloroform	0.21 J	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A9D280134

PARAMETER	ANALYTICAL METHOD	
Volatile Organics by GC/MS	SW846 8260B	
References:		

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

SAMPLE SUMMARY

A9D280134

WO_#_ SAMPLE# CLIENT SAMPLE ID	SAMPLED DATE	SA× <u>TI</u>
LAWPV 001 W090427MV-480-1,2,3 LAWP4 002 W090427MV-481-1,2,3 LAWP8 003 TRIP BLANK	04/27/09 04/27/09 04/27/09	11 - 11.

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.

Conestoga-Rovers & Associates, Inc.

Influent

Client Sample ID: W090427MV-480-1,2,3

GC/MS Volatiles

Lot-Sample #:	A9D280134-001	Work Order #:	LAWPV1AA	Matrix WG
Date Sampled:	04/27/09 11:12	Date Received:	04/28/09	
Prep Date:	05/04/09	Analysis Date:	05/04/09	
Prep Batch #:	9125369			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTING	_
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.45 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	6.5	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	86	(73 - 122)	
1,2-Dichloroethane-d4	91	(61 - 128)	
Toluene-d8	93	(76 - 110)	
4-Bromofluorobenzene	93	(74 - 116)	

NOTE (S):

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Effluent

Client Sample ID: W090427MV-481-1,2,3

GC/MS Volatiles

Lot-Sample #:	A9D280134-002	Work Order #: LAWP41AA	Matrix WG
Date Sampled:	04/27/09 11:20	Date Received: 04/28/09	
Prep Date:	05/04/09	Analysis Date: 05/04/09	
Prep Batch #:	9125369	·	
Dilution Factor:	1	Method: SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.29 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.22 J	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	3.8	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	89	(73 - 122)	
1,2-Dichloroethane-d4	94	(61 - 128)	
Tolúene-d8	93	(76 - 110)	
4-Bromofluorobenzene	96	(74 - 116)	

.

NOTE (S):

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #:	A9D280134-003	Work Order #:	LAWP81AA	Matrix WQ
Date Sampled:	04/27/09	Date Received:	04/28/09	
Prep Date:	05/04/09	Analysis Date:	05/04/09	
Prep Batch #:	9125369			
Dilution Factor:	1	Method	SW846 8260B	

Method.....: SW846 8260B

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.21 J	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND .	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	89	(73 - 122)	
1,2-Dichloroethane-d4	95	(61 - 128)	
Toluene-d8	92	(76 - 110)	
4-Bromofluorobenzene	95	(74 - 116)	

NOTE (S):

J Estimated result. Result is less than RL.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A9D280134	Work Order #: LCDKH1	AA Matrix WATER
MB Lot-Sample #: A9E050000-369		
	Prep Date: 05/04/	
Analysis Date: 05/04/09	Prep Batch #: 912536	9
Dilution Factor: 1		

*		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	'ug/L	SW846 8260B
Carbon tetrachloride	ND ·	1.0	ug/L	SW846 8260B
Chloroform	ND .	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846.8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 *8260B · .
	PERCENT	RECOVER	· Ү	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	88	(73 - 1	22)	
1,2-Dichloroethane-d4	92	(61 - 1	28)	
Toluene-d8	93	(76 - 1	10)	
4-Bromofluorobenzene	90	(74 - 1	16)	

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 #:	A9D280134	Work Order #:	LCDKH1AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A9E050000-369		LCDKH1AD-LCSD		
Prep Date:	05/04/09	Analysis Date:	05/04/09		
Prep Batch #:	9125369				
Dilution Factor:	1				

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	' RPD RPD LIMITS	METHOD
1,1-Dichloroethene	86	$(\overline{63} - 130)$		SW846_8260B
•	92	(63 - 130)	6.4 (0-20)	SW846 8260B
Trichloroethene	89	(75 - 122)	(,	SW846 8260B
	96	(75 - 122)	7.8 (0-20)	SW846 8260B
Benzene	100	(80 - 116)	• • • •	SW846 8260B
	107	(80 - 116)	6.3 (0-20)	SW846 8260B
Toluene	106	(74 - 119)		SW846 8260B
	108	(74 - 119)	2.0 (0-20)	SW846 8260B
Chlorobenzene	97	(76 - 117)		SW846 8260B
	99	(76 - 117)	2.5 (0-20)	SW846 8260B
· · · · ·		PERCENT	RECOVERY	
SURROGATE		RECOVERY	LIMITS	
Dibromofluoromethane		86	(73 - 122)	
		8 9	(73 - 122)	
1,2-Dichloroethane-d4		88 .	(61 - 128)	
		91	(61 - 128)	
Toluene-d8		98	(76 - 110)	
		99	(76 - 110)	
4-Bromofluorobenzene		101	(74 - 116)	
		104	(74 - 116)	

٩

NOTE (S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A9D280134
 Work Order #...: LCDKH1AC-LCS
 Matrix..... WATER

 LCS Lot-Sample#: A9E050000-369
 LCDKH1AD-LCSD

 Prep Date.....: 05/04/09
 Analysis Date..: 05/04/09

 Prep Batch #...: 9125369
 Dilution Factor: 1

	SPIKE	MEASURE	D	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
1,1-Dichloroethene	10	8.6	ug/L	86		SW846 8260B
	10	9.2	ug/L	92	6.4	SW846 8260B
Trichloroethene	10	8.9	ug/L	89		SW846 8260B
	10	9.6	ug/L	96	7.8	SW846 8260B
Benzene	10	10	ug/L	100		SW846 8260B
	10	11	ug/L	107	6.3	SW846 8260B
Toluene	10	11	ug/L	106		SW846 8260B
	10	11	ug/L	108	2.0	SW846 8260B
Chlorobenzene	10	9.7	ug/L	97		SW846 8260B
	10	9.9	uq/L	99	2.5	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	86	(73 - 122)
	89	(73 - 122)
1,2-Dichloroethane-d4	88	(61 - 128)
	91	(61 - 128)
Toluene-d8	98	(76 - 110)
	99	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	104	(74 - 116)

NOTE(S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A9D280134	Work Order #:	LAWPV1AC-MS	Matrix WG
MS Lot-Sample # :	A9D280134-001		LAWPV1AD-MSD	
Date Sampled:	04/27/09 11:12	Date Received:	04/28/09	
Prep Date:	05/04/09	Analysis Date:	05/04/09	
Prep Batch #:	9125369			
Dilution Factor:	1			

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD .
1,1-Dichloroethene	9 3	(62 - 130)			SW846 8260B
	91	(62 - 130)	1.9	(0-20)	SW846 8260B
Trichloroethene	. 96	(62 - 130)			SW846 8260B
	96	(62 - 130)	0.13	(0-20)	SW846 8260B
Benzene	102	(78 - 118)			SW846 8260B
	101	(78 - 118)	0.41	(0-20)	SW846 8260B
Toluene	102	(70 - 119)			SW846 8260B
	103	(70 - 119)	1.1	(0-20)	SW846 8260B
Chlorobenzene	95	(76 - 117)			SW846 8260B
	96	(76 - 117)	0.82	(0-20)	SW846 8260B
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	
Dibromofluoromethane		87		(73 - 122)
		87		(73 - 122)
1,2-Dichloroethane-d4		89		(61 - 128)
		88		(61 - 128)
Toluene-d8		96		(76 - 110)
		. 97		(76 - 110)
4-Bromofluorobenzene		106		(74 - 116)
		108		(74 - 116) .

NOTE (S):

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

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #:	A9D280134	Work Order #:	LAWPV1AC-MS	Matrix WG
MS Lot-Sample #:	A9D280134-001		LAWPV1AD-MSD	
Date Sampled:	04/27/09 11:12	Date Received:	04/28/09	
Prep Date:	05/04/09	Analysis Date:	05/04/09	
Prep Batch #:	9125369			
Dilution Factor:	1			

	SAMPLE	SPIKE	MEASRD		PERCNT				
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHO)	
1,1-Dichloroethene	ND	10	9.3	ug/L	93		SW846	8260B	
	ND	10	9.1	ug/L	91	1.9	SW846	8260B	
Trichloroethene	6.5	· 10	16	ug/L	96		SW846	8260B	
	6.5	10	16	ug/L	96	0.13	SW846	8260B	
Benzene	ND	10	10	ug/L	102		SW846	8260B	
	ND	10	10	ug/L	101	0.41	SW846	8260B	
Toluene	ND	10	10	ug/L	102		SW846	8260B	
	ND	10	10	ug/L	103	1.1	SW846	8260B	
Chlorobenzene	ND	10	9.5	ug/L	95		SW846	8260B	
	ND	10	9.6	ug/L	96	0.82	SW846	8260B	

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	87	(73 - 122)
	87	(73 - 122)
1,2-Dichloroethane-d4	89	(61 - 128)
	88	(61 - 128)
Toluene-d8	96	(76 - 110)
	97 .	(76 - 110)
4-Bromofluorobenzene	106	(74 - 116)
	108	(74 - 116)

NOTE (S):

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

Te	tAmerica Labor Begnia	atory location:			N		DDES					7 01			·	. <u> </u>			THE	LEADER IN ENVIRONMENTAL TESTIN
Client Contact		tory program.	L		•		FDE3	L	K	. КА	L		er	·			·····			Tost America Laboratorist In
Company Name: Marathan Electric Mg. Co	Chent Project	Manager:	tson	,		Site C			M.	e#s	04		Lah C	Contact:						COC No:
Address: 100 F Randolph St	Telephone: 715-675-8274				Telepl 71	home: 15 - 4	٢7	5.	82	74)	Telep	Telephone:					(OCs		
Citysenterzip: Wausau, Wi 54401	Email:											~~~				Analy	/585			
Phone: 715-695-						' 	r×1-44		iven belæ	n Rocks										
Extraction Well	Nielnoù di Sui	IMENOL SFTIET:								works work										
Project Number: Ref 3978	Shipping/Trac	king No:] 21] 11	bys Iay										-
PO#																				Entrals Security Alarma
Sample Identification	Sample Date	Sample Time	Alt Aqueou	Softs	Others	H2SCH	CONH	B	NaOH ZaAd	Vapre	Chher:									Special Instructions;
W090427MV - 480-1	1/27/09	11:12																		3-40ml sial Hel
" -2	"	11.12			<u> </u>													•		Influent
11 11 - 3	-	11:12			 	┟┈┤				_										E
W090427 MH - 481-1	4/27/09	/1;20			ļ					_	ļ	 								-
# "-2	~~~~~~	//;- Z+			 						ļ		<u> </u>		_	ļļ.				3-40ml vial Hel
" -3		11:20			ļ						<u> </u>	┣	┠╍┞							Efflacat
·						┠──┼	-+				_	┠╌┼╌	╉╌╄					╁╌╁		
						┠──┼						┨╌┤─	+		_ 					
	-											┠┼	╀╌╂		-		_	$\frac{1}{1}$		1
Possible Hazard Identification	in Initian C	Poison B	<u> </u> 1		anown	527	iphe Dia	sposal (turn to	A fer I Cliem	nay be i	Dise	if sample osal Rv	tab	ained Iou	ger that Archive	1 month	<u> </u>))		Month	
Special Instructions/QC Requirements & Commenta:			1.23									•								¹ 1,,
Relation Matter	Company: Maretho	. Electri	C Date	11 m/2	7/09	,		R	recived			L	$\overline{\checkmark}$	1		Compan	AL			Date Time 4-28-59 9:20
Relinquished by:	Company:		Date	/Time:				Re	ceived	oý:	-		-			Compan	y:			1281er/1407er
Relinquished by:	Company		Date	Time:				R	eceived	in Labe	ratory b	y:				Company	y:			Date/fone:

. . .

62008, TestAmerics Laboristories, inc. All rights reserved. TestAmerics & Dealon ^{to} are trademarks of TestAmerics Laboratories. Inc

.

TAL-0018 (1008)

	Desaint Corm/Norrativa	of Number: Fru Jacolom
TestAmerica Cooler H	Keceipt Forminanauve	
North Canton Facility	A second se	By The dist
Client Lec	<u>ctric</u> Project	(Signature)
Cooler Received on4	Client Drop Off TestAm	erica Courier 🗍 Other
		Client Cooler A Other
	the outside of the cooler(s)? Yes N No	tact? Yes X No NA
1. Were custody seals on	7 Ouantity Linsalvageable	
If YES, Quantity	the outside of cooler(s) signed and dated?	
Were custody seals on	the bottle(s)?	Yes 🔲 No 🔽
If VES are there any e	exceptions?	
2 Shippers' packing slip a	attached to the cooler(s)?	Yes 💭 No 🗌
3 Did custody papers acc	company the sample(s)? Yes 🕅 No 🗌	Relinquished by client? Yes 🕅 No 🗌
4 Were the custody pape	ers signed in the appropriate place?	Yes 🗹 No 🗌
5. Packing material used:	Bubble Wrap 🕅 Foam 🕅 None 🗌 Oth	er
6. Cooler temperature up	on receipt 4,0 °C See back of form for	multiple coolers/temps
METHOD: IR	0ther	
COOLANT: Wet Ice	e 🗹 Blue Ice 🗌 Dry Ice 🔲 Water 🛄 M	None 🔲 🧹 🗕
7. Did all bottles arrive in	good condition (Unbroken)?	
8. Could all bottle labels t	be reconciled with the COC?	
9. Were sample(s) at the	correct pH upon receipt?	
10. Were correct bottle(s)	used for the test(s) indicated?	
11. Were air bubbles >6 m	nm in any VOA vials?	
12. Sufficient quantity rece	eived to perform indicated analyses?	
13. Was a trip blank prese	int in the cooler(s)? Yes \square No \square Were VOA:	
Contacted PM	Date by	_ via verbai [_] voice Mail [_] Other [_]
Concerning		
1 4 7 1 7 1 7 1 7 1 1 5 1 1 1		
The CHAIN OF COSTOD		
The following discrepancie	es occurred:	
The following discrepancie	es occurred: rip blank recivered not on coc will	
The following discrepancie	es occurred: rip blank recisived not on coc will	
The following discrepancie	es occurred: rip blank recivered not on coc will	log
The following discrepancie	es occurred: rip blank recivered not on coc will	1 cg
The following discrepancie	es occurred: rip blank recisived not on coc will	
The following discrepancie	es occurred: rip blank recivered not on coc will	1 cg
The following discrepancie	es occurred: rip blank recivered not on coc nill	' log
The following discrepancie	es occurred: rip blank recivered not on coc will	
The following discrepancie	N were received after the	recommended holding time had expired
The following discrepancie	es occurred: <u>rip blank recived not on coc will</u> N were received after the	recommended holding time had expired were received in a broken container.
14: CHAIN OF COSTOD: The following discrepancie 1x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s)	es occurred: <u>rp blank recived not on coc will</u> N were received after the were received with	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM)
14: CHAIN OF COSTOD: The following discrepancie 1x40 1x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERVA	es occurred: <u>rp blank recived not on coc will</u> <u>were received after the</u> <u>were received with</u> <u>ATION</u>	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM)
14: CHAIN OF COSTOD: The following discrepancie 1/x40 1/x40 15: SAMPLE CONDITION Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Sample(s) Sample(s) Sample(s) Sample(s)	N were received with ATION	recommended holding time had expired were received in a broken container. bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample
14: CHAIN OF COSTOD: The following discrepancie 1x40 1x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 073007	N were received after the were received after the were received with ATION were received with ATION were received with ATION were received with ATION were received with ATION were received after the were received after the were received after the were received after the were received with ATION were received after the were received after the were received after the were received with ATION were received after the were received after the	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acatete Lot# 050205
14: CHAIN OF COSTOD: The following discrepancie 1x40 1x40 15: SAMPLE CONDITION Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 073007 - NaC (CHaCOO)2ZN/NeOH	were received with ATION were received after the were received after the were received with ATION were received with ATION	recommended holding time had expired were received in a broken container. bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample lifuric Acid Lot# 100108-H ₂ SO ₄ , Sodium de and Zinc Acetate Lot# 050205-
The following discrepancie /x40 fr 15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERVA Sample(s) Receiving to meet recomme Hydroxide Lot# 073007 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	ATION were received after the were received after the were received after the were received after the were received with ATION were received with ATION were received with ATION N N N N N N N N N N N N	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acetate Lot# 050205-
14: CHAIN OF COSTOD: The following discrepancie 1/x40 1/x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 073007 -Nac (CH_3COO)2ZN/NeOH. What Client ID	were received with ATION mended pH level(s). Nitric Acid Lot# 031909-HNO ₃ ; Su DH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxid at time was preservative added to sample(s)? 	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acetate Lot# 050205-
14: CHAIN OF COSTOD: The following discrepancie 1/x40 1/x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 073007 - NaC (CH3COO)2ZN/NaOH. What Client ID	N were received after the were received after the were received with ATION mended pH level(s). Nitric Acid Lot# 031909-HNO3; Su OH; Hydrochloric Acid Lot# 092006-HCI; Sodium Hydroxid at time was preservative added to sample(s)? pH	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acetate Lot# 050205-
14: CHAIN OF COSTOD: The following discrepancie 1x40 1x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) Receiving to meet recomm Hydroxide Lot# 073007 -NaC (CH_3COO)_2ZN/NeOH. What	were received after the were received after the were received after the were received with ATION were received with ATION were received with ATION were received with ATION were received with ATION were received with ATION were received after the were received with ATION	recommended holding time had expired were received in a broken container. bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample iffuric Acid Lot# 100108-H ₂ SO ₄ , Sodium de and Zinc Acetate Lot# 050205-
The following discrepancie /x40 fr 15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERVA Sample(s) Receiving to meet recomme Hydroxide Lot# 073007 -NaC (CH3COO)2ZN/NaOH. What Client ID	were received after the were received after the were received after the were received with ATION were received with ATION were received with ATION were received with ATION pH	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acetate Lot# 050205- Date Initials
14: CHAIN OF COSTOD: The following discrepancie 1/x40 1/x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) Receiving to meet recommender Hydroxide Lot# 073007 -NaC (CH_3COO)2ZN/NaOH. What Client ID	A soccurred: Type blank recivered not on coc will were received after the were received after the were received with ATION mended pH level(s). Nitric Acid Lot# 031909-HNO3; Su OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxid at time was preservative added to sample(s)? pH	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H2SO4; Sodium de and Zinc Acetate Lot# 050205-
14: CHAIN OF COSTOD: The following discrepancie 1/x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 073007 - NaC (CH3COO)2ZN/NaOH. What Client ID	es occurred: rp blank recivered not on coc will were received after the were received after the were received with ATION mended pH level(s). Nitric Acid Lot# 031909-HNO3; Su OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxid at time was preservative added to sample(s)? pH	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H2SO4; Sodium de and Zinc Acetate Lot# 050205-
14: CHAIN OF COSTOD: The following discrepancie 1x40 1x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) Receiving to meet recomm Hydroxide Lot# 073007 -NaC (CH_3COO)_2ZN/NeOH. What Client ID	A soccurred: Type blank recivered not on core will were received after the were received after the were received with ATION mended pH level(s). Nitric Acid Lot# 031909-HNO3; Su OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxid at time was preservative added to sample(s)? pH	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ , Sodium de and Zinc Acetate Lot# 050205-
14. CHAIN OF COSTOD: The following discrepancie /x40 /x40 15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 073007 - NaC (CH3COO)₂ZN/NaOH. What Client ID	N	recommended holding time had expired were received in a broken container. h bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acetate Lot# 050205-
14: CHAIN OF COSTOD: The following discrepancie /x40 /x40 15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) Receiving to meet recomm Hydroxide Lot# 073007 -NaC (CH_3COO)_2ZN/NaOH. Utent ID	A soccurred: Type blank recivered not on coc will were received after the were received after the were received with ATION were received with ATION were received with ATION were received with ATION were received with ATION pH pH	recommended holding time had expired were received in a broken container. bubble >6 mm in diameter. (Notify PM) ere further preserved in Sample Ifuric Acid Lot# 100108-H ₂ SO ₄ ; Sodium de and Zinc Acetate Lot# 050205-

Client ID	pН	Date	Init
	·	· · · ·	
			ļ
			ļ
			<u> </u>
	···		ļ
			ļ
			
			l
			
		BR-Abra-4	
Cooler #	Temp, °C	Method	
			+
			+
			+
			1
			†
			1
······································	······································		1
			1
			+
			+
			1
			<u></u>
Discrepancies Cont/d			
Discrepancies Cont'd;			
Discrepancies Cont'd,			
Discrepancies Cont'd:			
Discrepancies Cont/d:			
Discrepancies Cont'd;			
Discrepancies Cont'd			
Discrepancies Cont'd			
Discrepancies Cont'd:			
Discrepancies Cont'd;			
Discrepancies Cont'd,			
Discrepancies Cont'd:			
Discrepancies Cont'd			

•

•



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

.

DATA VALIDATION MEMO

003978BIAN3-ATTP

э,

\frown	r
	CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Jason Twaddle, CRA	Ref. No.:	003978-10
FROM:	Ruth Mickle/sb/87	DATE:	June 1, 2009
CC:	Analytical Data File		
RE:	Data Quality Assessment April 27, 2009 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected April 27, 2009, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W090427MV-480-1,2,3 (Influent) and W090427MV-481-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.
CRA MEMORANDUM

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. The MS/MSD spike sample data were within acceptance criteria.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a chloroform detection. The associated chloroform detection in sample W090427MV-481-1,2,3 should be qualified as nondetect (1U). The trip blank was free of the remaining target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualification noted.



ceived

November 5, 2009

NOV 9 2009

REMEDIATION &

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Re: Third Quarter 2009 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site 1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

Reference No. 003978-10

Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this third quarter 2009 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Third quarter 2009 samples were collected on July 7, 2009, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are attached as Attachment A and B, respectively. A summary of the detected parameters is reported below. Parameter concentrations are compared to the surface water discharge limits for EW1, originally presented in the Remedial Action Plan when EW1 was installed.

Parameter	Influent	Effluent	Discharge Limit
trichloroethene	8.9	3.8	41,000
cis-1,2-dichloroethene	0.55 J	0.26 J	NA
chloroform	<1.0	0.47 J	29,000

Notes:

J - estimated value, value is below the reporting limit.

- NA discharge limit not available.
- All values are reported in $\mu g/L$.





November 5, 2009

Reference No. 003978-10

-2-

The pump operated continuously during the third quarter of 2009. Between June 30, and October 8, 2009, the pump operated at an average flow rate of 600 gpm. A total of 86,454,000 gallons of water were treated by EW1 in the third quarter of 2009 (June 30 to October 8, 2009).

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

SPZ R. M

Jason Twaddle

MR/sb/4 Encl.

cc: Lee Bergmann, Marathon Electric Dave Erickson, City of Wausau Chuck Ahrens, CRA (w/o enc.)

ATTACHMENT A

.

LABORATORY REPORT

.

· ,



TestAmerica Laboratories, Inc.

Ruth Mickle Conestoga-Rovers & Assoc., Inc. PROJECT NO. 3978 EXTRACTION WELL

SAMPLE SUMMARY

<u>WO #</u>	LABORATORY ID	SAMPLE IDENTIFICATION	
LF60K	A9G080187-001	W090707MV-482-1.2.3	Influent
LF6QM	A9G080187-002	W090707MV-483-1,2,3	Effluent

TRIP BLANK

A9G080187-003

LF6QP

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA LABORATORIES, INC. 0 1 ton: DA

Amy L. McCormick Project Manager

July 20, 2009

1

CASE NARRATIVE A9G080187

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Extraction Well Site, project number 3978. The samples were received July 08, 2009, according to documented sample acceptance procedures.

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 Ruth Mickle on July 20, 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.

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, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 21.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.9°C.

2

CASE NARRATIVE (continued)

SAMPLE RECEIVING (continued)

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

<u>OC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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 Certifications and Approvals:

<u>The laboratory is certified for the analytes listed on the documents below. These are available upon-request.</u> California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

EXECUTIVE SUMMARY - Detection Highlights

A9G080187

PARAMETER	<u>RESULT</u>	REPORTING	UNITS	ANALYTICAL METHOD
W090707MV-482-1,2,3 07/07/09 11:00	001	r		
cis-1,2-Dichloroethene Trichloroethene	0.55 J 8.9	1.0 1.0	ug/L ug/L	SW846 8260B SW846 8260B
W090707MV-483-1,2,3 07/07/09 11:07	002			
cis-1,2-Dichloroethene Chloroform Trichloroethene	0.26 J 0.47 J 3.8	1.0 1.0 1.0	ug/L ug/L ug/L	SW846 8260B SW846 8260B SW846 8260B
TRIP BLANK 07/07/09 003				
Acetone	2.7 J	10	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A9G080187

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

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

SAMPLE SUMMARY

A9G080187

WO # SAMPLE# CLIENT SAMPLE ID	SAMPLED SAMP
LF6QK 001 W090707MV-482-1,2,3	07/07/09 11:0
LF6QM 002 W090707MV-483-1,2,3	07/07/09 11:0
LF6QP 003 TRIP BLANK	07/07/09

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.

Conestoga-Rovers & Associates, Inc.

Influent

:

Client Sample ID: W090707MV-482-1,2,3

GC/MS Volatiles

Lot-Sample #:	A9G080187-001	Work Order #: LI	F6QK1AA	Matrix: W (G
Date Sampled:	07/07/09 11:00	Date Received: 07	7/08/09		
Prep Date:	07/15/09	Analysis Date: 0	7/15/09		
Prep Batch #:	9196416				
Dilution Factor:	1	Method: SI	W846 8260B		

• • • • • • •		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.55 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	8.9	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	98	(73 - 122)	
1,2-Dichloroethane-d4	92	(61 - 128)	
Toluene-d8	94	(76 - 110)	
4-Bromofluorobenzene	85	(74 - 116)	

NOTE (S):

. 1

•

.

J Estimated result. Result is less than RL.

.

Conestoga-Rovers & Associates, Inc.

Effluent

Client Sample ID: W090707MV-483-1,2,3

GC/MS Volatiles

Lot-Sample #:	A9G080187-002	Work Order #:	LF6QM1AA	Matrix WG
Date Sampled:	07/07/09 11:07	Date Received:	07/08/09	
Prep Date:	07/15/09	Analysis Date:	07/15/09	
Prep Batch #:	9196416			
Dilution Factor:	1	Method	SW846 8260B	

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.26 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.47 J	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	· 1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	3.8	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	98	(73 - 12	.2)
1,2-Dichloroethane-d4	90	(61 - 12	8)
Toluene-d8	94	(76 - 11	0)
4-Bromofluorobenzene	84	(74 - 11	6)

NOTE (S):

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

•

Lot-Sample #: A	A9G080187-003	Work Order #:	LF6QP1AA	Matrix:	WQ
Date Sampled: 0)7/07/09	Date Received:	07/08/09		
Prep Date: 0	07/15/09	Analysis Date:	07/15/09		
Prep Batch #: 9	9196416				
Dilution Factor: 1	Ľ	Method	SW846 8260B		

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	2.7 J	10	ug/L
Benzene	ND	1.0	ug/L .
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	98	(73 - 122)	
1,2-Dichloroethane-d4	93	(61 - 128)	
Toluene-d8	94	(76 - 110)	
4-Bromofluorobenzene	84	(74 - 116)	

NOTE (S) :

J Estimated result. Result is less than RL.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A9G08018 MB Lot-Sample #: A9G15000	7 Work Order #: LGJJL1AA 0-416
	Prep Date: 07/15/09
Analasia Data . 07/15/00	

Matrix..... WATER

- -

Analysis Date..: 07/15/09 Dilution Factor: 1

Prep Batch #...: 9196416

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L '	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	0.35 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	98	(73 - 1)	22)	
1,2-Dichloroethane-d4	90	(61 - 1)	28)	
Toluene-d8	95	(76 - 1)	10)	
4-Bromofluorobenzene	88	(74 - 1)	16)	

NOTE (S):

. .

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

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A9G080187	Work Order #:	LGJJL1AC-LCS	Matrix:	WATER
LCS Lot-Sample:	A9G150000-416		LGJJL1AD-LCSD		
Prep Date:	07/15/09	Analysis Date:	07/15/09		
Prep Batch #:	9196416				
Dilution Factor:	1				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	95	(63 - 130)		·	SW846 8260B
	101	(63 - 130)	5.4	(0-20)	SW846 8260B
Trichloroethene	100	(75 - 122)			SW846 8260B
	99	(75 - 122)	0.35	(0-20)	SW846 8260B
Benzene	104	(80 - 116)			SW846 8260B
	103	(80 - 116)	0.88	(0-20)	SW846 8260B
Toluene	104	(74 - 119)			SW846 8260B
	103	(74 - 119)	1.2	(0-20)	SW846 8260B
Chlorobenzene	102	(76 - 117)			SW846 8260B
	102	(76 - 117)	0.47	(0-20)	SW846 8260B
		PERCENT	RECOV	ERY	
SURROGATE		RECOVERY	LIMIT	S	
Dibromofluoromethane		98	(73 -	122)	
		98	(73 -	122)	
1,2-Dichloroethane-d4		91	(61 -	128)	
		87	(61 -	128)	
Toluene-d8		101	(76 -	110)	
		101	(76 -	110)	
4-Bromofluorobenzene		106	(74 -	116)	
		106	(74 -	116)	

NOTE (S):

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A9G080187
 Work Order #...: LGJJL1AC-LCS
 Matrix..... WATER

 LCS Lot-Sample#: A9G150000-416
 LGJJL1AD-LCSD

 Prep Date.....: 07/15/09
 Analysis Date..: 07/15/09

 Prep Batch #...: 9196416
 Dilution Factor: 1

	SPIKE	MEASUREI	2	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	<u>RPD</u>	METHOD
1,1-Dichloroethene	10	9.5	ug/L	95		SW846 8260B
	10	10	ug/L	101	5.4	SW846 8260B
Trichloroethene	10	10	ug/L	100		SW846 8260B
	10	9.9	ug/L	99	0.35	SW846 8260B
Benzene	10	10	ug/L	104		SW846 8260B
	10	10	ug/L	103	0.88	SW846 8260B
Toluene	10	10	ug/L	104		SW846 8260B
	10	10	ug/L	103	1.2	SW846 8260B
Chlorobenzene	10	10	ug/L ·	102		SW846 8260B
	10	10	ug/L	102	0.47	SW846 8260B

SUPPOCATE	PERCENT	RECOVERY
JURROGATE	RECOVERT	<u> 110110</u>
Dibromofluoromethane	98	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
	87	(61 - 128)
Toluene-d8	101	(76 - 110)
	101	(76 - 110)
4-Bromofluorobenzene	106	(74 - 116)
	106	(74 - 116)

NOTE (S):

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A9G080187	Work Order #:	LF6WF1AC-MS	Matrix:	WATER
MS Lot-Sample # :	A9G080213-004		LF6WF1AD-MSD		
Date Sampled:	07/07/09 09:15	Date Received:	07/08/09		
Prep Date:	07/15/09	Analysis Date:	07/15/09		
Prep Batch #:	9196416				
Dilution Factor:	14.29				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	99	(62 - 130)			SW846 8260B
	98	(62 - 130)	1.4	(0-20)	SW846 8260B
Trichloroethene	97	(62 - 130)			SW846 8260B
	99	(62 - 130)	1.5	(0-20)	SW846 8260B
Benzene	106	(78 - 118)			SW846 8260B
	103	(78 - 118)	2.8	(0-20)	SW846 8260B
Toluene	106	(70 - 119)			SW846 8260B
	106	(70 - 119)	0.07	(0-20)	SW846 8260B
Chlorobenzene	104	(76 - 117)			SW846 8260B
	102	(76 - 117)	2.3	(0-20)	SW846 8260B

	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	100	(73 - 122)	
	98	(73 - 122)	
1,2-Dichloroethane-d4	89	(61 - 128)	
	93	(61 - 128)	
Toluene-d8	104	(76 - 110)	
	105	(76 - 110)	
4-Bromofluorobenzene	105	(74 - 116)	
	106	(74 - 116)	

- -

NOTE (S) :

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #:	A9G080187	Work Order #:	LF6WF1AC-MS	Matrix:	WATER
MS Lot-Sample #:	A9G080213-004		LF6WF1AD-MSD		
Date Sampled:	07/07/09 09:15	Date Received:	07/08/09		
Prep Date:	07/15/09	Analysis Date:	07/15/09		
Prep Batch #:	9196416				
Dilution Factor:	14.29				

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHO) .
1,1-Dichloroethene	5.1	140	150	ug/L	99		SW846	8260B
	5.1	140	150	ug/L	98	1.4	SW846	8260B
Trichloroethene	21	140	160	ug/L	97		SW846	8260B
	21	140	160	ug/L	99	1.5	SW846	8260B
Benzene	ND	140	150	ug/L	106		SW846	8260B
	ND	140	150	ug/L	103	2.8	SW846	8260B
Toluene	ND	140	150	ug/L	106		SW846	8260B
	ND	140	150	ug/L	106	0.07	SW846	8260B
Chlorobenzene	ND	140	150	ug/L	104		SW846	8260B
	ND	140	150	ug/L	102	2.3	SW846	8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	100	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	89	(61 - 128)
	93	(61 - 128)
Toluene-d8	104	(76 - 110)
	105	(76 - 110)
4-Bromofluorobenzene	105	(74 - 116)
	106	(74 - 116)

NOTE (S):

**

Chain of Custody Record

					Cha	in of	Cu	stoc	dy R	Reco	rd										Τe	estA	me	rico
Tes	tAmerica Labo	ratory location	.:								•										THE L	LEADER IN I	NVIRÓNME	NTAL TESTI
Client Contact		atory program	1:		DW		NPDES	5		RCRA			Other								1			
Company Name:	Client Project	Manager:			·	Site	Contac	1:						Lab	Contact	:				·	1	COC N	ica Labor I:	atories, I
Illarathon Electric Mfg Co	Walte	er Mat	501	<u>n</u>			R	<u>Be</u>	ran	<u>14n</u>	n.													•
100 E Aandolik Street	1 215-	615-	87.	14		Tele	phone:] S			r - 7	810	ч		Telej	hone:						·		of	COCs
Wausar, WI, 54401	Email:		-			4 4 4 4 4 4 4 4 4 4 4 4			•:: 															
home: 715-675				·			TAT	differen	nt from b	low				-				alyses			<u> </u>	1		
reject Name:	Method of Shi	pment/Carrier:				-				3 weel 2 weel	us us													
relation Well	China ta Maria							Γ.		l week				•								12		
3978	- Sarband, Liet	KING NG:								2 days 1 day														
01			- / + 1 - + - + 1	() () (• • • • • •																		2542 m 1 24 m 1 2 8 m 1 1 8 m 1 1 1		
						Ţ																Sam	ale Soecific	Nates /
Sample Identification	Sample Date	Sample Time	¥			HZC	HNO	НCI	0 Z	Za Ac	Caller Other											Spr	cial Ínstru	ctions;
N090707my-492-1	7-7-09	11:00						X														3-1	10	لالما
··· ·· - 2	7-7-09	11:01						メ				1									1-1	T)
·	2-2-0	1, 9)		++		1		*					+			+	+	┝─┤		+	+-		(
VOIDDODOULURD	12.00	111 - 9	┠┼╴	┥┥		+	$\left \right $	-		+	-+-						+				┼┥	├──		
2010/01/10-413-1		11.01		┼┼			┝╌┥				-	_	+			+	+				+-1	3-40,	<u>nl vul</u>	Ik]
	1-1-0]	11:03		++			-				_	-+	┿┥				1				$\left - \right $	· 64	Fluen	7
	7-7-09	11:09	\square	┼┼		1		-		-		-									Ŀ		4	
	 			┢╍┟		 																		
																						ļ		
												T						Τ			\square			
				\square																				
ossible Hazard Identification	[rritant C	Poleon B				Sac	nple Di	spore	A fe	e may	be assess	ed if su	unples (ure ret	ained le	nger th	a l cue	uth)			l- I			
ial Instructions/QC Requirements & Comments:			<u> </u>		Unidown			aum t	o Chen	<u> </u>		Disposa	ByLa	<u>b</u>	ليا	Archiv	For			M	ionths		·	
Policy Marker	Сотралу:	61.4	, Dai	e/Tine	1/-	G`	1/0-	7	Receive	d by:							Compa	iny:			<u> r</u>	Date/Time:	-	
quished by:	Company:	L G Keln	∎ ⊂ Dat	e Time	10		//.		Receive	d by:							Compa	uny:				Date/Time:		
equished by:	Company		-	<u></u>														-	·					
-			La	e/ 1 (1108)				ľ			iborator	ny by:	B	n	~~~	····		ny: A	•		1)ate/Time:	69	915
, TestAmarica Laboratories, Inc. All rights reserved.							-				<u> </u>	7					<u> </u>			<u> </u>		.11	- (

.

.

62008, TestAmerica Laboratories, Inc. All rights newsweb. TestAmerica & Deaton ^{na} are trademarks of TestAmerica Laboratories, Inc.

14

F

1.

TestAmerica Coole	Receipt Form/Narrative	Lot Number: Aa (a o	50187
North Canton Facill	ty		
Client Maratha	DELEC Project Ent we M	By: (1) CA	7
Cooler Received on 7	8 0 9 Opened on -1/+/	Sign (Sign)	prins !!
FedEx D UPS DHL	FAS Stetson Client Drop Off	Stamerica Courier 🗌 Other	lure)
TestAmerica Cooler #	No Multiple Coolers E Foam Box [
1. Were custody seals of	n the outside of the cooler(s)? Yes DK-No		
If YES, Quantity	Quantity Unsalvageable		
Were custody seals o	n the outside of cooler(s) signed and dated?		
Were custody seals o	n the bottle(s)?		
If YES, are there any	exceptions?		
2. Shippers' packing slip	attached to the cooler(s)?	Yes 🕢 No	
3. Did custody papers a	company the sample(s)? Yes 2 No	Relinguished by client?	
4. Were the custody par	ers signed in the appropriate place?	Yes K No	
5. Packing material used	: Bubble Wrap 🖄 Foam 🐼 None 🗌	Other an bag	
6. Cooler temperature u	pon receipt 4, 9 °C See back of form	t for multiple coolers/temps	<u>,</u>
METHOD: II	R Ø Other □		-
COOLANT: Wet lo	e 🛛 Blue Ice 🔲 Dry Ice 🗌 Water 🗍	None	
7. Did all bottles arrive in	n good condition (Unbroken)?		
8. Could all bottle labels	be reconciled with the COC?		•
9. Were sample(s) at the	e correct pH upon receipt?		NA 1
10. Were correct bottle(s)	used for the test(s) indicated?	Yes 🕢 No 🗍	مس ع ن ۲۰۰۰
11. Were air bubbles >6 i	nm in any VOA vials?		
12. Sufficient quantity rec	eived to perform indicated analyses?	Yes No	
13. Was a trip blank pres	ent in the cooler(s)? Yes A-No 🗌 Were V	OAs on the COC? Yes	No 🗔
Contacted PM <u>ALN</u>	Date 7/8/09 by 4B	via Verbal 🗌 Voice Ma	il 🖾 Other 🗂
Concerning #-14			
14. CHAIN OF CUSTOD	Ŷ		
The following discrepanci	es occurred:		
1×40 me-	trin blank not m	560	
test act as a star			
	en in coc i will lik for side de	7(
		·	
		·	
10 MANOLE COMPANY		· · · · · · · · · · · · · · · · · · ·	
15. SAMPLE CUNULIO	N.		
		ne recommended notaing tim	e had expired.
Sample(s)		were received in a bro	ken container.
	were received	with bubble >6 mm in diameter	er. (Notify PM)
DO SAMALE MESERV	RTA/N		
Sample(s)		were further preserved in Sa	mple
Hydroxide Lott 072007 No.	mended pH level(s). Nitric Acid Lot# 031909-HNO3	Sulfuric Acid Lot# 100108-H ₂ SC	04; Sodium
(CHOCOO) ZN/NeOH MA	on, nyarachiano Ada Lol# U92006-HCI; Sodium Hydi at time was preservative added to complexe/92	oxide and Linc Acetate Lot# 050	205-
Client ID			· · · · · · · · · · · · · · · · · · ·
		<u>Date</u>	initials
	· · · · · · · · · · · · · · · · · · ·		····
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
····			
		·····	
	1		I I

.

·* · 1



TestAmerica Cooler Receipt Form/Narrative

	DH		
		Date	Initia
· · · · · · · · · · · · · · · · · · ·			
······································			
·			
· · · · · · · · · · · · · · · · · · ·			
			_
		+	
		+	
•		+	
		1	
			T
		1	
			·
			· · · · · · · · · · · · · · · · · · ·
Cooler #	Toma 10		
		Method	Coolant
			+
			<u> </u>
、 、			
			·····
BOADCIAS Contid			
	· · · · · · · · · · · · · · · · · · ·		
	· · · · · · · · · · · · · · · · · · ·	······	
		······································	
	·		
			·····
			······
		······································	



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

DATA VALIDATION MEMO

. .

003978BIAN3-ATTP

.



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

To:	Jason Twaddle, CRA	Ref. NO.:	003978-10
FROM:	Ruth Mickle/sb/88	DATE:	November 3, 2009
CC:	Analytical Data File		
RE:	Data Quality Assessment July 7, 2009 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected July 7, 2009, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W090707MV-482-1,2,3 (Influent) and W090707MV-483-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank yielded a methylene chloride detection. Since the associated sample data were nondetect for this parameter, no data qualification was required. The method blank was free of the remaining target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a acetone detection. Since the associated sample data were nondetect for this parameter, no data qualification was required. The trip blank was free of the remaining target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.





January 14, 2010

JAN 1 5 2010

Reference No. 003978-10

1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112

REMEDIATION & REDEVELOPMENT

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Re: Fourth Quarter 2009 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this fourth quarter 2009 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Fourth quarter 2009 samples were collected on November 9, 2009, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	7.7	3.4	41,000
cis-1,2-dichloroethene	0.42 J	0.26 J	none
chloroform	<1.0	1.8	29,000

Notes:

J - estimated value, below the method reporting limit. Units: $\mu g/L$.





January 14, 2010

Reference No. 003978-10

-2-

EW1 operated continuously during the fourth quarter of 2009, except for two hours on December 7 to clean a filter in the discharge line. From October 8, 2009, through January 4, 2010, the pump operated at an average flow rate of 565 gpm. After the discharge line filter was cleaned on December 7, the flow rate has been maintained above 600 gpm. A total of 71,790,000 gallons of water were treated by EW1 in the fourth quarter of 2009 (October 8, 2009, to January 4, 2010).

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charle Alm

Charles Ahrens

CEA/ma/5 Encl.

cc: Lee Bergmann, Marathon Electric Dave Erickson, City of Wausau

ATTACHMENT A

LABORATORY REPORT

003978BIAN5-ATTP

.

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica

ANALYTICAL REPORT

Ruth Mickle Conestoga-Rovers & Associates, Inc. PROJECT NO. 3978 Wausau Superfund

SAMPLE SUMMARY

<u>wo#</u>	LABORATORY ID	SAMPLE IDENTIFICATION
LN6WG	A9K100513-001	W091109MV-484-123 Influent
LN6WW	A9K100513-002	W091109MV-485-123 Effluent
LN6WX	A9K100513-003	TRIP BLANK

TESTAMERICA LABORATORIES, INC.

Denise DHeckler

Denise D. Heckler Project Manager denise.heckler@testamericainc.com Approved for release. Denise D. Heckler Project Manager 11/20/2009 3:57 PM



November 20, 2009

 TestAmerica Laboratories, Inc.

 TestAmerica North Canton
 4101 Shuffel Street NW. North Canton, OH
 44720

 Tel (330)497-9396
 Fax (330)497-0772
 www.testamericainc.com

CASE NARRATIVE A9K100513

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received November 10, 2009, according to documented sample acceptance procedures.

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. 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.

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.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

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, Denise D. Heckler, at 330-497-9396.

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

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.4°C.

CASE NARRATIVE (continued)

SAMPLE RECEIVING (continued)

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

The matrix spike/matrix spike duplicate(s) for batch(es) 9323382 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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

<u>OC BATCH</u>

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 repreparation 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.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead. Calcium.	Copper, Iron, Zinc, Lead
Precione, a Dutanone		Magnesium, Potassium,	
		Sodium, Barium,	
· ·		Chroinium, Manganese	

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 repreparation 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 Certifications and Approvals:

The laboratory is certified for the analytes listed on the documents below. These are available upon request. California (#01144CA). Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A). OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 032609.doc
EXECUTIVE SUMMARY - Detection Highlights

A9K100513

		REPORTING		ANALYTICAL
PARAMETER	RESULT	LIMIT	UNITS	METHOD
W091109MV-484-123 11/09/09 10:00 003	1			
cis-1,2-Dichloroethene	0.42 J	1.0	ug/L	SW846 8260B
Trichloroethene	7.7	1.0	ug/L	SW846 8260B
W091109MV-485-123 11/09/09 10:10 002	2			
cis-1,2-Dichloroethene	0.26 J	1.0	ug/L	SW846 8260B
Chloroform	1.8	1.0	ug/L	SW846 8260B
Trichloroethene	3.4	1.0	ug/L	SW846 8260B
TRIP BLANK 11/09/09 003				
Acetone	2.7 J	10	ug/L	SW846 8260B
•				

ANALYTICAL METHODS SUMMARY

A9K100513

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B
References:	

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

SAMPLE SUMMARY

A9K100513

<u>WO # SA</u>	MPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LN6WG LN6WW LN6WX	001 002 003	W091109MV-484-123 W091109MV-485-123 TRIP BLANK	11/09/09 11/09/09 11/09/09	10:00 10:10

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.

Influent

Client Sample ID: W091109MV-484-123

GC/MS Volatiles

Lot-Sample #:	A9K100513-001	Work Order #:	LN6WG1AA	Matrix: W	IG
Date Sampled:	11/09/09 10:00	Date Received:	11/10/09		
Prep Date:	11/18/09	Analysis Date:	11/18/09		
Prep Batch #:	9323382	_			
Dilution Factor:	1	Method:	SW846 8260B		

REPORTING PARAMETER LIMIT RESULT UNITS cis-1,2-Dichloroethene 0.42 J 1.0 ug/L Acetone ND 10 ug/L Benzene ND 1.0 ug/L Carbon tetrachloride ND 1.0 ug/L Chloroform ND 1.0 uq/L 1,1-Dichloroethene ND 1.0 ug/L Ethylbenzene ND 1.0 ug/L Methylene chloride ND 1.0 ug/L Tetrachloroethene ND 1.0 ug/L Toluene ND 1.0 ug/L 1,1,2-Trichloroethane ND 1.0 ug/L Trichloroethene 7.7 1.0 ug/L Vinyl chloride ND 1.0 ug/L Xylenes (total) ND 1.0 ug/L PERCENT RECOVERY SURROGATE RECOVERY LIMITS Dibromofluoromethane 94 (73 - 122)1,2-Dichloroethane-d4 98 (61 - 128)Toluene-d8 95 (76 - 110)

92

NOTE (S):

J Estimated result. Result is less than RL.

4-Bromofluorobenzene

1

(74 - 116)

Effluent

Client Sample ID: W091109MV-485-123

GC/MS Volatiles

Lot-Sample #:	A9K100513-002	Work Order #: LN6WW1AA	Matrix WG
Date Sampled:	11/09/09 10:10	Date Received: 11/10/09	
Prep Date:	11/18/09	Analysis Date: 11/18/09	
Prep Batch #:	9323382		
Dilution Factor:	1	Method SW846 8260B	

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.26 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	1.8	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	3.4	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND .	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	95	(73 - 12	22)
1,2-Dichloroethane-d4	. 97	(61 - 12	28)
Toluene-d8	93	(76 - 11	10)
4-Bromofluorobenzene	93	(74 - 1)	6)

NOTE (S):

J Estimated result. Result is less than RL.

t

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A9K10	0513-003 Work Order #:	: LN6WX1AA Matrix WQ
Date Sampled: 11/09	Date Received:	: 11/10/09
Prep Date: 11/18	/09 Analysis Date:	: 11/18/09
Prep Batch #: 93233	82	
Dilution Factor: 1	Method	: SW846 3260B

		REPORTIN	G	
PARAMETER	RESULT	LIMIT	UNITS	
cis-1,2-Dichloroethene	ND	1.0	ug/L	
Acetone	2.7 J	10	ug/L	
Benzene	ND	1.0	ug/L	
Carbon tetrachloride	ND	1.0	ug/L	
Chloroform	ND	1.0	ug/L	
1,1-Dichloroethene	ND	1.0	ug/L	
Ethylbenzene	ND	1.0	ug/L	
Methylene chloride	ND	1.0	ug/L	
Tetrachloroethene	ND	1.0	ug/L	
Toluene	ND	1.0	ug/L	
1,1,2-Trichloroethane	ND	1.0	ug/L	
Trichloroethene	ND	1.0	ug/L	
Vinyl chloride	ND	1.0	ug/L	
Xylenes (total)	ND	1.0	ug/L	
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	95	(73 - 12	2)	
1,2-Dichloroethane-d4	97	(61 - 12	8)	
Toluene-d8	95	(76 - 110)		
4-Bromofluorobenzene	94	(74 - 11	6)	

NOTE (S) :

J Estimated result. Result is less than RL.

11 of 22

METHOD BLANK REPORT

GC/MS Volatiles

: WATER

Client Lot #: A9K100513	Work Order #: LPQ691AA	Matrix
MB Lot-Sample #: A9K190000-382		
· ·	Prep Date: 11/18/09	
Analysis Date: 11/18/09	Prep Batch #: 9323382	
Dilution Factor: 1		

		REPORTI	REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD	
Acetone	ND	10	ug/L	SW846 8260B	
Benzene	ND	1.0	ug/L	SW846 8260B	
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B	
Chloroform	ND	1.0	ug/L	SW846 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B	
Ethylbenzene	ND	1.0	ug/L	SW846 8260B	
Methylene chloride	0.48 J	1.0	ug/L	SW846 8260B	
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B	
Toluene	ND	1.0	ug/L	SW846 8260B	
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B	
Trichloroethene	ND	1.0	ug/L	SW846 8260B	
Vinyl chloride	ND	1.0	ug/L	SW846 8260B	
Xylenes (total)	ND	1.0	ug/L	SW846 8260B	
	PERCENT	RECOVER	Y		
SURROGATE	RECOVERY	LIMITS			
Dibromofluoromethane	92	(73 - 1	22)		
1,2-Dichloroethane-d4	96	(61 - 1	28)	•	
Toluene-d8	95	(76 - 1	10)		
4-Bromofluorobenzene	93	(74 - 1	16)		

NOTE (S) :

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

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A9K100513	Work Order #:	LPQ691AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A9K190000-382		LPQ691AD-LCSD		
Prep Date:	11/17/09	Analysis Date:	11/17/09		
Prep Batch #:	9323382	. –			
Dilution Factor:	1				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Vinyl chloride	90	(61 - 120)			SW846 8260B
	87	(61 - 120)	3.4	(0-30)	SW846 8260B
Methylene chloride	90	(78 - 118)			SW846 8260B
	91	(78 - 118)	1.0	(0-30)	SW846 8260B
Acetone	92	(22 - 200)			SW846 8260B
	83	(22 - 200)	9.9	(0-95)	SW846 8260B
1,1-Dichloroethene	100	(63 - 130)			SW846 8260B
	96	(63 – 130)	3.7	(0-20)	SW846 8260B
Chloroform	95	(84 - 128)			SW846 8260B
	96	(84 - 128)	1.6	(0-30)	SW846 8260B
Carbon tetrachloride	88	(75 - 149)			SW846 8260B
	89	(75 - 149)	0.88	(0-30)	SW846 8260B
Trichloroethene	94	(75 – 122)			SW846 8260B
	96	(75 - 122)	2.2	(0-20)	SW846 8260B
1,1,2-Trichloroethane	93	(83 - 122)			SW846 8260B
	93	(83 - 122)	0.32	(0-30)	SW846 8260B
Benzene	92	(80 - 116)			SW846 8260B
	94	(80 - 116)	2.4	(0-20)	SW846 8260B
Tetrachloroethene	91	(88 - 113)			SW846 8260B
	96	(88 - 113)	5.8	(0-30)	SW846 8260B
Toluene	93	(74 - 119)			SW846 8260B
	96	(74 - 119)	2.7	(0-20)	SW846 8260B
Ethylbenzene	92	(86 - 116)			SW846 8260B
	94	(86 - 116)	1.5	(0-30)	SW846 8260B
Xylenes (total)	94	(87 - 116)			SW846 8260B
	95	(87 - 116)	0.43	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	96	(85 - 113)			SW846 8260B
	94	(85 - 113)	2.0	(0-30)	SW846 3260B

PERCENT	RECOVERY
RECOVERY	LIMITS
94	(73 - 122)
95	(73 - 122)
94	(61 - 128)
89	(61 - 128)
95	(76 - 110)
97	(76 - 110)
99	(74 - 116)
96	(74 - 116)
	PERCENT <u>RECOVERY</u> 94 95 94 89 95 95 97 99 96

NOTE (S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A9K100513
 Work Order #...: LPQ691AC-LCS
 Matrix.....: WATER

 LCS Lot-Sample#: A9K190000-382
 LPQ691AD-LCSD

 Prep Date....: 11/17/09
 Analysis Date..: 11/17/09

 Prep Batch #...: 9323382
 Dilution Factor: 1

	SPIKE	MEASURE	D	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
Vinyl chloride	10	9.0	ug/L	90		SW846 8260B
-	10	8.7	ug/L	87	3.4	SW846 8260B
Methylene chloride	10	9.0	ug/L	90		- SW846 8260B
-	10	9.1	ug/L	91	1.0	SW846 8260B
Acetone	10	9.2	ug/L	92		SW846 8260B
	10	8.3	ug/L	83.	9.9	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	100		SW846 8260B
	10	9.6	ug/L	96	3.7	SW846 8260B
Chloroform	10	9.5	ug/L	95		SW846 8260B
	10	9.6	ug/L	96	1.6	SW846 8260B
Carbon tetrachloride	10	8.8	ug/L	88		SW846 8260B
	10	8.9	ug/L	89	0.88	SW846 8260B
Trichloroethene .	10	9.4	ug/L	94		SW846 8260B
•	10	9.6	ug/L	96	2.2	SW846, 8260B
1,1,2-Trichloroethane	10	9.3	ug/L	93		SW846 8260B
-	10	9.3	ug/L	93	0.32	SW846.8260B
Benzene	10	9.2	ug/L	92		SW846 8260B
	10	9.4	ug/L	94	2.4	SW846 8260B
Tetrachloroethene	10	9.1	ug/L	91		SW846 8260B
	10	9.6	ug/L	96	5.8	SW846 8260B
Toluene	10	9.3	ug/L	93		SW846 8260B
	10	9.6	ug/L	96	2.7	SW846 8260B
Ethylbenzene	10	9.2	ug/L	92		SW846 8260B
-	10	9.4	ug/L	94	1.5	SW846 8260B
Xylenes (total)	30	28	ug/L	94		SW846 8260B
•	30	28	ug/L	95	0.43	SW846 8260B
cis-1,2-Dichloroethene	10	9.6	ug/L	96		SW846 8260B
	10	9.4	ug/L	94	2.0	SW846 8260B
			-			

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	94	(73 - 122)
	95	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	89	(61 - 128)
Toluene-d8	95	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)
	96	(74 - 116)

NOTE (S) :

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

.

GC/MS Volatiles

Client Lot #:	A9K100513	Work Order #:	LN8M91A8-MS	Matrix:	WATER
MS Lot-Sample # :	A9K110460-003		LN8M91A9-MSD		
Date Sampled:	11/09/09 16:55	Date Received:	11/11/09		
Prep Date:	11/18/09	Analysis Date:	11/18/09		
Prep Batch #:	9323382				
Dilution Factor:	1				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	95	(62 - 130)			SW846 8260B
	94	(62 - 130)	1.6	(0-20)	SW846 8260B
Vinyl chloride	94	(88 - 126)			SW846 8260B
	83 a	(88 - 126)	12	(0-30)	SW846 8260B
Methylene chloride	87	(82 - 115)			SW846 8260B
	83	(82 - 115)	4.3	(0-30)	SW846 8260B
Acetone	71	(45 - 128)			SW846 8260B
	82	(45 - 128)	14	(0-30)	SW846 8260B
Chloroform	95	(83 - 141)			SW846 8260B
	94	(83 - 141)	1.5	(0-30)	SW846 8260B
Carbon tetrachloride	87	(63 - 176)			SW846 8260B
	85	(63 - 176)	2.7	(0-30)	SW846 8260B
Trichloroethene	95	(62 - 130)			SW846 8260B
	94	(62 - 130)	1.2	(0-20)	SW846 8260B
1,1,2-Trichloroethane	95	(86 - 129)			SW846 8260B
	96	(86 - 129)	0.49	(0-30)	SW846 8260B
Benzene	92	(78 - 118)			SW846 8260B
	90	(78 - 118)	2.2	(0-20)	SW846 8260B
Tetrachloroethene	91	(85 - 121)			SW846 8260B
	88	(85 - 121)	3.1	(0-30)	SW846 8260B
Toluene	98	(70 - 119)			SW846 8260B
	94	(70 - 119)	4.8	(0-20)	SW846 8260B
Ethylbenzene	92	(86 - 132)			SW846 8260B
	89	(86 - 132)	3.0	(0-30)	SW846 8260B
Xylenes (total)	93	(89 - 121)			SW846 8260B
	89.	(89 - 121)	4.6	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	93	(87 - 114)			SW846 8260B
	94	(87 - 114)	1.2	(0-30)	SW346 3260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93.	(73 - 122)
	95	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
	90	(61 - 128)
Toluene-d8	99	(76 - 110)
	99	(76 - 110)
4-Bromofluorobenzene	96	(74 - 116)
	. 98	(74 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #: A9K100513	Work Order #:	LN8M91A8-MS	Matrix:	WATER
MS Lot-Sample #: A9K110460-003		LN8M91A9-MSD		
	PERCENT	RECOVE	RY	
SURROGATE	RECOVERY	LIMITS		

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 DATA REPORT

.

.

.

GC/MS Volatiles

Client Lot #:	A9K100513	Work Order #:	LN8M91A8-MS	Matrix:	WATER
MS Lot-Sample #:	A9K110460-003		LN8M91A9-MSD		
Date Sampled:	11/09/09 16:55	Date Received:	11/11/09		
Prep Date:	11/18/09	Analysis Date:	11/18/09		•
Prep Batch #:	9323382				
Dilution Factor:	1		•		

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHO	5
1,1-Dichloroethene	ND	10	9.5	ug/L	·95		SW846	8260B
	ND	10	9.4	ug/L	94	1.6	SW846	8260B
Vinyl chloride	ND	10	9.4	ug/L	94.		SW846	8260B
· .	ND	10	8.3	ug/L	83 a	12	SW846	8260B
Methylene chloride	ND	10	8.7	ug/L	87		SW846	8260B
	ND	10	8.3	ug/L	83	4.3	SW846	8260B
Acetone	ND	10	7.1	ug/L	71		SW846	8260B
	ND	10	8.2	ug/L	82	14	SW846	8260B
Chloroform	ND	10	9.5	ug/L	95		SW846	8260B
	ND	10	9.4	ug/L	94	1.5	SW846	8260B
Carbon tetrachloride	ND	10	8.7	ug/L	87		SW846	8260B
	ND	10	8.5	ug/L	85	2.7	SW846	8260B
Trichloroethene	ND	10	9.5	ug/L	95		SW846	8260B
-	ND	10	9.4	ug/L	94	1.2	SW846	8260B
1,1,2-Trichloroethane	ND	10	9.5	ug/L	95		SW846	8260B
	ND	10	9.6	ug/L	96	0.49	SW846	8260B
Benzene	ND	10	9.2	ug/L	92		SW846	8260B
	ND	10	9.0	ug/L	90	2.2	SW846	8260B
Tetrachloroethene	ND	10	9.1	ug/L	91		SW846	8260B
	ND	10	8.8	ug/L	88	3.1	SW846	8260B
Toluene	ND	10	9.8	ug/L	98		SW846	8260B
	ND	10	9.4	ug/L	94	4.8	SW846	8260B
Ethylbenzene	ND	10	9.2	ug/L	92		SW846	8260B
	ND	10	8.9	ug/L	89	3.0	SW846	8260B
Xylenes (total)	ND	30	28	ug/L	93		SW846	8260B
	ND	30	27	ug/L	89	4.6	SW846	8260B
cis-1,2-Dichloroethene	ND	10	9.3	ug/L	93		SW846	8260B
	ND	10	9.4	ug/L	94	1.2	SW846	82,60B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	93	(73 - 122)
	95	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
	90	(61 - 128)
Toluene-d8	99	(76 - 110)
	99	(76 - 110)
4-Bromofluorobenzene	96	(74 - 116)
	98 .	(74 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A9K100513	Work Order #:	LN8M91A8-MS Ma	atrix:	WATER
MS Lot-Sample #: A9K110460-003		LN8M91A9-MSD		
	PERCENT	RECOVERY	ť	
SURROGATE	RECOVERY	LIMITS		

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.

Chain of Custody Record



Client Contact	<u>ה</u> ר			•					-	J		-		0.146								т	'estAmer	ica Labo	ratories I
mpany Name:	Client Project	Manager:					Site	Contac	** D						Lab	Contact:						`	COC No):	ratories,
riorano Electric Mig. 6.		Derg	<u>m</u> e		٦		Lee Dergmann										_								
	Telephone"	100 1					Telep	hene:	•	-	0	M			Telephone:									of	COC
WE Kindolph Street		675-81	IO Y					12	- 6	15	- 2	py													
	les be		6.		. 1 .		2																		2.22 A
AADTOD MI DACIOI	1~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u><u>unonn</u></u>	er	सु	<u>Mie</u>		1	TATio	differen	: from b	elow .					ГТ	- T-	<u>An</u>	alyses			i			
715-675-8104											3 wee	ks	_											5	
roject Name:	Method of Ski	pment/Carrier:					1				2 wee	ks									Ì			ľ.	
Extraction Well	Shinning/Trac	king No:					-				l wee	k									Í			ļ. '	
3978	Suppling/The									_	2 days					ŀ									
0#	-	1	1				.L.				1 CELY														
																									•
Sample Identification	Sample Date	Sample Time	ł	Į	3		H2SO4	ENQ.	G	HOPN	NaAe'	Umpres	Other:										Sam Spr	ple Specifi cial Instru	le Notes / actions:
W091109mr-484-1	11/09/0	10:00m		-					-														3-4) ni (w/Hc
W091109mV-484-2	11/09/09	10:01 4		-					~														· In	fpe	71-
W091109mv-484-3	11/09/09	10:0ZA		1					-															*	
W091109mv - 485-1	11/09/09	10:10A	Ц	-					2														3-40)m wy	/Hcs
WO91109mv - 486-2	1 69/09	10:11 A	Ц	-					-									_					64	fluer	nt
W091109m1-485-3	u/09/09	10:1ZA	╏┼┤	-	$\left \right $				-					+				-				┝		•	
				╉								-		_			+		$\left \right $		+	┼╌┨			
Possible Razard Identification Se Non-Hazard Flammable (Sk	in Irritant [Poison B			Uni	known	. Sau	mple D	Hspose Return	d (A f	ee may nt	y be ass	essed If Dispo	sample sai By i	s are re ab	tained fo	nger th Archiv	an I mo e For	ath)	d	<u></u> м	Aonths			
ecial Instructions/QC Requirements & Comments:																		-							
	10		·····1-							<u></u>															
Singuiser Suconce	Mana M	m Clark		11/0	me: 9/c	>9	//:0	04	m	Keceiv	red by:							Com	bany:				Date/Time		
linquished by:	Company:	<u>~</u> #[*	C	Date/Ti	me:	-4				Receiv	ed by:							Com	any:				Date/Time	:	<u> t </u>
linquished by:	Company:			Date/Ti	me:				-1	Receiv	ved in	Labora	toryby		1	L	-1	Com	any:				Date/Time		M

TestAmerica Cooler Receipt Form/Narrative Lot Number:	A9KIU	0513		
TestAmerica Cooler Receipt Formandura	11	10		
North California Project	mathe			
Cooler Received on 10 Nev Zoon Opened on 10 Nov Zoon	(Signature)	$\overline{\tau}$		
FedEx 19 UPS DHL FAS Stetson Client Drop Off TestAmerica Courier	Other			
TestAmerica Cooler # Multiple Coolers D Foam Box D 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				
Were custody seals on the bottle(s)? Yes	NO PA			
If YES, are there any exceptions?				
2. Shippers' packing slip attached to the cooler(s)?	j NO Lj d by oliopt2 Yes			
3. Did custody papers accompany the sample(s)? Yes I NO				
4. Were the custody papers signed in the appropriate place?				
5. Packing material used: Bubble wrap by Foarr of None		j		
		1		
7 Did all bottles arrive in good condition (Unbroken)?	1 No 🗌			
8 Could all bottle labels be reconciled with the COC?	No 🗹			
9 Were sample(s) at the correct pH upon receipt? Yes				
10. Were correct bottle(s) used for the test(s) indicated? Yes	3 No 🗌	· I		
11. Were air bubbles >6 mm in any VOA vials? Yes				
12. Sufficient quantity received to perform indicated analyses? Yes		_		
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:				
- REC'O IX UD TR., NOT ON LOC. WILL LOG.				
	·····			
	·			
75. SAMPLE CONDITION	holding time be	d evnired		
Sample(s) were received after the recommended	ved in a broken o	container		
Sample(s) were received with hubble >6 mil	n in diameter (N	Notify PM)		
16 SAMDIE DESERVATION		totily i mij		
	served in Sampl	8		
Receiving to meet recommended pH level(s). Nitric Acid Lot# 031909-HNO1: Sulfuric Acid Lot# 082509-H/SO4: Sodium				
Hydroxide Lot# 100108 -NaOH: Hydrochloric Acid Lot# 092006-HCI: Sodium Hydroxide and Zinc Ace	082509-H₂SO∡ So			
	082509-H ₂ SO ₄ ; So tate Lot# 100108-			
(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)?	082509-H ₂ SO4; So tate Lot# 100108-			
(CH3COO) ₂ ZN/NaOH. What time was preservative added to sample(s)?	082509-H ₂ SO4; So tate Lot# 100108-	Initials		
(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? Client ID	082509-H ₂ SO4; So tate Lot# 100108- Date	Initials		
(CH ₃ COO) ₂ ZN/NaOH. What time was preservative added to sample(s)? Client IDPH	082509-H ₂ SO4; So tate Lot# 100108- Date	Initials		
(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? Client ID pH	082509-H ₂ SO4; So tate Lot# 100108- Date	Initials		
(CH ₃ COO) ₂ ZN/NaOH. What time was preservative added to sample(s)? Client ID	082509-H ₂ SO4; So tate Lot# 100108- Date	<u>Initials</u>		
(CH_3COO)_2ZN/NaOH. What time was preservative added to sample(s)? Client ID pH	082509-H ₂ SO4; So tate Lot# 100108-	<u>Initials</u>		
(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? Client ID pH	082509-H ₂ SO4; So tate Lot# 100108- Date			
(CH ₃ COO) ₂ ZN/NaOH. What time was preservative added to sample(s)? Client ID pH	082509-H ₂ SO4; So tate Lot# 100108- Date	<u>Initials</u>		

i

ŀ

,

4



TestAmerica Cooler Receipt Form/Narrative North Canton Facility			
Client ID	<u>pH</u>	Date	Initials
		······································	
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·			
			· ·
	·		
· · · · · · · · · · · · · · · · · · ·			
			<u>,</u>
	······································	·	
<u>Cooler</u>	Temp_°C	Method	<u>Coolant</u>
· · · · · · · · · · · · · · · · · · ·		<u>_</u>	· · · · · ·
Discrepancies Cont'd		1	L
		· · · · · · · · · · · · · · · · · · ·	
	·····		
		· · · · · · · · · · · · · · · · · · ·	
		· · ··	
•			
		· · · · · · · · · · · · · · · · · · ·	······································
		·	



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

22 of 22

. .

.

.

.

. . .

ATTACHMENT B

DATA VALIDATION MEMO

. .

. .

·

003978BIAN3-ATTP

	CONESTOGA-ROVERS ASSOCIATES
--	--------------------------------

1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) www.CRAworld.com

Fax: (651) 639-0923

TO:	Chuck Ahrens, CRA	REF. NO.:	003978-10
FROM:	Ruth Mickle/sb/1	DATE:	December 7, 2009
CC:	Analytical Data File		
RE:	Data Quality Assessment November 9, 2009 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected November 9, 2009, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W091109MV-484-123 (Influent) and W091109MV-485-123 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank yielded a methylene chloride detection. Since the associated sample data were nondetect for this parameter, no data qualification was required. The method blank was free of the remaining target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a acetone detection. Since the associated sample data were nondetect for this parameter, no data qualification was required. The trip blank was free of the remaining target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.





April 15, 2010

APR 1 6 2010

REMEDIATION & REDEVELOPMENT

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Re: First Quarter 2010 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site 1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

Reference No. 003978-10

Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this first quarter 2010 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

First quarter 2010 samples were collected on March 30, 2010, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	6.5	2.9	41,000
cis-1,2-dichloroethene	0.40 J	<1.0	none
chloroform	<1.0	1.7	29,000

Notes:

J - estimated value, below the method reporting limit. Units: μ g/L.





April 15, 2010

Reference No. 003978-10

-2-

EW1 operated continuously during the first quarter of 2010, except for 45 minutes on February 12, 2010, to clean and inspect the totalizer meter. Due to fowling of the totalizer meter, it was not operating properly during the first quarter. After the meter was cleaned in February, the flow totals were not consistent with the head in the well, pressure readings, and electrical usage. Therefore, the average flow rate and the total gallons removed for the first quarter cannot be accurately estimated. The meter will be serviced and calibrated during the second quarter of 2010.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Alleren

Charles Ahrens

CEA/sb/7 Encl.

cc: Lee Bergmann, Marathon Electric Dave Erickson, City of Wausau

ATTACHMENT A

LABORATORY REPORT

003978BIAN7-ATTP



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Ruth Mickle Conestoga-Rovers & Associates, Inc. PROJECT NO. 3978 Wausau Superfund

SAMPLE SUMMARY

<u>WO #</u>	LABORATORY ID	SAMPLE_IDENTIFICATION	
LXDCF	A0C310494-001	W100330MV-486-1,2,3	Influent
LXDCR	A0C310494-002	W100330MV-487-1,2,3	Effluent
LXDCX	A0C310494-003	TRIP BLANK	

TESTAMERICA LABORATORIES, INC.

Denise DHeckler

Denise D. Heckler Project Manager denise.heckler@testamericainc.com

April 08, 2010

Approved for release. Denise D. Heckler Project Manager 4/12/2010 8:14 AM



TestAmerica Laboratories, Inc. TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720 Tel (330)497-9396 Fax (330)497-0772 <u>www.testamericainc.com</u>

CASE NARRATIVE A0C310494

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the Wausau Superfund Site, project number 3978. The samples were received March 31, 2010, according to documented sample acceptance procedures.

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 Ruth Mickle on April 06, 2010. 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.

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.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

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, Denise D. Heckler, 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 1.6°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

The matrix spike/matrix spike duplicate(s) for batch(es) 0095200 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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

<u>OC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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 Certifications and Approvals:

<u>The laboratory is certified for the analytes listed on the documents below.</u> These are available upon request. California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 032609.doc

EXECUTIVE SUMMARY - Detection Highlights

A0C310494

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
W100330MV-486-1,2,3 03/30/10 12:26	001			
cis-1,2-Dichloroethene	0.40 J	1.0	ug/L	SW846 8260B
Trichloroethene	6.5	1.0	ug/L	SW846 8260B
W100330MV-487-1,2,3 03/30/10 12:15	002			
Chloroform	1.7	1.0	ug/L	SW846 8260B
Trichloroethene	2.9	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A0C310494

PARAMETER	ANALYTICAL METHOD	
Volatile Organics by GC/MS	SW846 8260B	
References:		

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

SAMPLE SUMMARY

A0C310494

<u>wo #</u>	SAMPLE#	CLIENT SAMPLE ID	SAMPLEDDATE	SAMP TIME
LXDCF	001	W100330MV-486-1,2,3	03/30/10	12:26
LXDCR	002	W100330MV-487-1,2,3	03/30/10	12:15
LXDCX	003	TRIP BLANK	03/30/10	

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.

Influent

Client Sample ID: W100330MV-486-1,2,3

GC/MS Volatiles

 Lot-Sample #...: A0C310494-001
 Work Order #...: LXDCF1AA
 Matrix..... WG

 Date Sampled...: 03/30/10 12:26
 Date Received..: 03/31/10
 Matrix.... WG

 Prep Date.....: 04/05/10
 Analysis Date..: 04/05/10
 Matrix.... WG

 Prep Batch #...: 0095200
 Method...... SW846 8260B
 Matrix...

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.40 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0 .	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND ·	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	6.5	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	90	(73 - 122)	
1,2-Dichloroethane-d4	100	(61 - 128)	
Toluene-d8	94	(76 - 110)	
4-Bromofluorobenzene	89	(74 - 116)	

NOTE(S):

J Estimated result. Result is less than RL.

Effluent

Client Sample ID: W100330MV-487-1,2,3

GC/MS Volatiles

Lot-Sample #:	A0C310494-002	Work Order #: LXDCR1AA	Matrix WG
Date Sampled:	03/30/10 12:15	Date Received: 03/31/10	
Prep Date:	04/05/10	Analysis Date: 04/05/10	
Prep Batch #:	0095200		
Dilution Factor:	1	Method SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND .	1.0	ug/L
Chloroform	1.7	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	2.9	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	89	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

Client Sample ID: TRIP BLANK

GC/MS Volatiles

(73 - 122) (61 - 128) (76 - 110) (74 - 116)

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND ND	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND ·	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	88	(73 - 12)	21

1,2-Dichloroethane-d4	101
Toluene-d8	95
4-Bromofluorobenzene	91



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A0C310494 MB Lot-Sample #: A0D050000-200	Work Order #:	LXH9J1AA	Matrix: WATER
	Prep Date:	04/05/10	

Analysis Date..: 04/05/10 Prep Batch #...: 0095200 Dilution Factor: 1

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L .	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	89	(73 - 122)	
1,2-Dichloroethane-d4	97	(61 - 128)		
Toluene-d8	94	(76 - 110)		
4-Bromofluorobenzene	90	(74 - 116)	

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 #:	A0C310494	Work Order	#:	LXH9J1AC-LCS	Matrix W	VATER
LCS Lot-Sample#:	A0D050000-200			LXH9J1AD-LCSD		
Prep Date:	04/05/10	Analysis Da	te:	04/05/10		
Prep Batch #:	0095200					
Dilution Factor:	1					

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Vinyl chloride	92	(61 - 120)			SW846 8260B
	91	(61 - 120)	1.8	(0-30)	SW846 8260B
Methylene chloride	103	(78 - 118)			SW846 8260B
	103	(78 - 118)	0.39	(0-30)	SW846 8260B
Acetone	95	(22 - 200)			SW846 8260B
	103	(22 - 200)	8.6	(0-95)	SW846 8260B
1,1-Dichloroethene	103	(63 - 130)			SW846 8260B
·	104	(63 - 130)	0.66	(0-20)	SW846 8260B
Chloroform	98	(84 - 128)			SW846 8260B
	97	(84 - 128)	0.24	(0-30)	SW846 8260B
Carbon tetrachloride	91	(75 - 149)			SW846 8260B
	87	(75 - 149)	4.5	(0-30)	SW846 8260B
Trichloroethene	88	(75 - 122)			SW846 8260B
	88	(75 - 122)	0.34	(0-20)	SW846 8260B
1,1,2-Trichloroethane	98	(83 - 122)			SW846 8260B
	96	(83 - 122)	1.3	(0-30)	SW846 8260B
Benzene	9 5	(80 - 116)	· •		SW846 8260B
	94	(80 - 116)	1.4	(0-20)	SW846 8260B
Tetrachloroethene	92	(88 - 113)			SW846 8260B
	89	(88 - 113)	3.2	(0-30)	SW846 8260B
Toluene	97	(74 - 119)			SW846 8260B
	96	(74 - 119)	0.86	(0-20)	SW846 8260B
Ethylbenzene	94	(86 - 116)			SW846 8260B
	93 .	(86 - 116)	1.0	(0-30)	SW846 8260B.
Xylenes (total)	95	(87 - 116)			SW846 8260B
	95	(87 - 116)	0.20	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	91	(85 - 113)			SW846 8260B
	91	(85 - 113)	0.17	(0-30)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	. 90	(73 - 122)
	91	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	99	(61 - 128)
Toluene-d8	95	(76 - 110)
	95	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	97	(74 - 116)

NOTE (S):

....

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #:	A0C310494	Work Order #:	LXH9J1AC-LCS	Matrix WATER
LCS Lot-Sample#:	A0D050000-200		LXH9J1AD-LCSD	
Prep Date:	04/05/10	Analysis Date:	04/05/10	
Prep Batch #:	0095200			
Dilution Factor:	1			

	SPIKE	MEASURE	C	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
Vinyl chloride	10	9.2	ug/L	92		SW846 8260B
	10	9.1	ug/L	91	1.8	SW846 8260B
Methylene chloride	10	10	ug/L	103		SW846 8260B
(10	10	ug/L	103	0.39	SW846 8260B
Acetone	20	19	ug/L	95		SW846 8260B
	20	21	ug/L	103	8.6	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	103		SW846 8260B
	10	10	ug/L	104	0.66	SW846 8260B
Chloroform	10	9.8	ug/L	98		SW846 8260B
	10	9.7	ug/L	97	0.24	SW846 8260B
Carbon tetrachloride	10	9.1	ug/L	91		SW846 8260B
	10	8.7	ug/L	87	4.5	SW846 8260B
Trichloroethene	10	8.8	ug/L	88		SW846 8260B
	10	8.8	ug/L	88	0.34	SW846 8260B
1,1,2-Trichloroethane	10	9.8	ug/L	98		SW846 8260B
	10	9.6	ug/L	96	1.3	SW846 8260B
Benzene	10	9.5	ug/L	95		SW846 8260B
	10	9.4	ug/L	94	1.4	SW846 8260B
Tetrachloroethene	10	9.2	ug/L	92		SW846 8260B
	10	8.9	ug/L	89	3.2	SW846 8260B
Toluene	10	9.7	ug/L	97		SW846 8260B
	10	9.6 ·	ug/L	96	0.86	SW846 8260B
Ethylbenzene	10	9.4	ug/L	94		SW846 8260B
	10	9.3	ug/L	93 .	1.0	SW846 8260B
Xylenes (total)	30	29	ug/L	95		SW846 8260B
	30	29	ug/L	95	0.20	SW846 8260B
cis-1,2-Dichloroethene	10	9.1	ug/L	91		SW846 8260B
	10	9.1	ug/L	91	0.17	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY
Dibromofluoromethane	90	(73 - 122)
	91	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	99	(61 - 128)
Toluene-d8	95	(76 - 110)
	95	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	97	(74 - 116)

NOTE(S):

..

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A0C310494
 Work Order #...: LXAND1AC-MS
 Matrix....: WATER

 MS Lot-Sample #: A0C300529-008
 LXAND1AD-MSD

 Date Sampled...: 03/30/10 08:30
 Date Received..: 03/30/10

 Prep Date.....: 04/05/10
 Analysis Date..: 04/05/10

 Prep Batch #...: 0095200
 Dilution Factor: 1

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	115	(62 - 130)			SW846 8260B
	114	(62 - 130)	0.59	(0-20)	SW846 8260B
Vinyl chloride	98	(88 - 126)			SW846 8260B
	97	(88 - 126)	1.5	(0-30)	SW846 8260B
Methylene chloride	104	(82 - 115)			SW846 8260B
	100	(82 - 115)	4.1	(0-30)	SW846 8260B
Acetone	111	(45 - 128)			SW846 8260B
	113	(45 - 128)	2.1	(0-30)	SW846 8260B
Chloroform	93	(83 - 141)			SW846 8260B
	90	(83 - 141)	2.8	(0-30)	SW846 8260B
Carbon tetrachloride	89	(63 - 176)			SW846 8260B
	89	(63 - 176)	0.47	(0-30)	SW846 8260B
Trichloroethene	83	(62 - 130)			SW846 8260B
	83	(62 - 130)	0.07	(0-20)	SW846 8260B
1,1,2-Trichloroethane	93	(86 - 129)			SW846 8260B
	89	* (86 - 129)	3.8	(0-30)	SW846 8260B
Benzene	90	(78 - 118)		•	SW846 8260B
	· 89	(78 - 118)	1.5	(0-20)	SW846 8260B
Tetrachloroethene	90	(85 - 121)			SW846 8260B
	91	(85 - 121)	0.65	(0-30)	SW846 8260B
Toluene	92	(70 - 119)			SW846 8260B
	90	(70 - 119)	2.0	(0-20)	SW846 8260B
Ethylbenzene	88	(86 - 132)			SW846 8260B
	87	(86 - 132)	1.2	(0-30)	SW846 8260B
Xylenes (total)	89	(89 - 121)			SW846 8260B
	88 a	(89 - 121)	1.1	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	86 a	(87 - 114)			SW846 8260B
	84 a	(87 - 114)	2.4	(0-30)	SW846 8260B

	PERCENT	RECOVERY LIMITS	
SURROGATE	RECOVERY		
Dibromofluoromethane	91 .	(73 - 122)	
	. 92	(73 - 122)	
1,2-Dichloroethane-d4	103	(61 - 128)	
	101	(61 - 128)	
Toluene-d8	97	(76 - 110)	
	95	(76 - 110)	
4-Bromofluorobenzene	99	(74 - 116)	
	96	(74 - 116)	

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #: A0C310494	Work Order #:	LXAND1AC-MS Ma	atrix WATER
MS Lot-Sample #: A0C300529-008	•	LXAND1AD-MSD	
		•	
	PERCENT	RECOVERY	, -
SURROGATE	RECOVERY	LIMITS	
,			

NOTE(S):

Çalculations 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 DATA REPORT

GC/MS Volatiles

Client Lot #:	A0C310494	Work Order #:	LXAND1AC-MS	Matrix WATER
MS Lot-Sample #:	A0C300529-008		LXAND1AD-MSD	
Date Sampled:	03/30/10 08:30	Date Received:	03/30/10	
Prep Date:	04/05/10	Analysis Date:	04/05/10	
Prep Batch #:	0095200			
Dilution Factor:	1			

	SAMPLE	SPIKE	MEASRD	•	PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHO	D
1,1-Dichloroethene	0.70	10	12	ug/L	115		SW846	8260B
	0.70	10	12	ug/L	114	0.59	SW846	8260B
Vinyl chloride	ND	10	9.8	ug/L	98		SW846	8260B
	ND	10	9.7	ug/L	97	1.5	SW846	8260B
Methylene chloride	ND	10	10	ug/L	104		SW846	8260B
·	ND	10	10	ug/L	100	4.1	SW846	8260B
Acetone	ND	20	22	ug/L	111		SW846	8260B
	ND	20	23	ug/L	113	2.1	SW846	8260B
Chloroform	ND	10	9.3	ug/L	93 ·		SW846	8260B
	ND	10	9.0	ug/L	90.	2.8	SW846	8260B
Carbon tetrachloride	ND	10	8.9	ug/L	89		SW846	8260B
	ND	10	8.9	ug/L	89	0.47	SW846	8260B
Trichloroethene	ND	10	8.3	ug/L	83		SW846	8260B
	ND	10	8.3	ug/L	83	0.07	SW846	8260B
1,1,2-Trichloroethane	ND	10	9.3	ug/L	93		SW846	8260B
	ND	10	8.9	ug/L	89	3.8	SW846	8260B
Benzene	ND	10	9.0	ug/L	90		SW846	8260B
	ND	10	8.9	ug/L	89	1.5	SW846	8260B
Tetrachloroethene	ND	10	9.0	ug/L '	90		SW846	8260B
	ND	10	9.1	ug/L	91	0.65	SW846	8260B
Toluene	ND	10	9.2	ug/L	92		SW846	8260B
	ND	10	9.0	ug/L	90	2.0	SW846	8260B
Ethylbenzene	ND	10	8.8	ug/L	88 .		SW846	8260B
	ND	10	8.7	ug/L	87	1.2	SW846	8260B
Xylenes (total)	ND	30	27	ug/L	89		SW846	8260B
	ND	30	26	ug/L	88 a	1.1	SW846	8260B
cis-1,2-Dichloroethene	ND	10	8.6	ug/L	86 a		SW846	8260B
	ND	10	8.4	ug/L	84 a	2.4	SW846	8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	91	(73 - 122)
	92	(73 - 122)
1,2-Dichloroethane-d4	103	(61 - 128)
	101	(61 - 128)
Toluene-d8	97	(76 - 110)
	95	(76 - 110)
4-Bromofluorobenzene	99 .	(74 - 116)
	96	(74 - 116)

0

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A0C310494 MS Lot-Sample #: A0C300529-008	Work Order #:	LXAND1AC-MS Matr LXAND1AD-MSD	ix WATER
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	

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.

Chain of Custody Record

-	l es	ţΑ	ŝ	ner	ic	a
					_	-

Regular Client Project I Lee J Telephone: 715 Ge Email:	Manager:			DW 	Site C	Contac	[I	RCRA			Other							TestAmerica Laboratories, Inc
Client Project Lee 1 Telephone: 715 (co Email:	Manager:	'nĄ			Site (Contac													I confinition Laboratorico, int
Telephone: 715.4 Email:		-	17/1			20.	Be	B	<u>me</u>	~ /	١	<i>ء</i>	Lab Co	intact:					COC No:
Email:	୵ୠୄୖଌୣୣ	>4			Telep	hone:) (S	رم اً،	5.8	310	4			Teleph	one:					of COCs
lee be	gman	୍ନି	eg.	n16ek												Analyse	s		
						TAT if	different	from bei	nw 3 week	s	-								
Method of Ship	ment/Carrier:	•			·				2 week	s									
Shipping/Track	cing No:	1.255							2 days day										
Sample Date	Sample Time	<u>^r</u>	Aqueous Mult	Solid Other:	H2SO4	EONH	HCI	NaOH A	ZaAci NaOH	Unpres Other:									Sample Specific Notes / Special Instructions:
03.30.10	12:26		-		Ť.		-												3-40ml w/HCI
03.30,10	12:27		-				-			·									Influent
03.30.10	12:28	ŀ	-				-												1
03,3040	12:15		-				-												3-40miw/HCl
03.30.10	12:17		-	_			-												Effluent
03,30,10	12:18						-	_	_	_						-			
																_			
												_							
				E	Sai	nple D	Isposal	(A fe	e may	be asse	ssed if	samples	are reta	ined long	ger than 1	month)			<u> </u>
Irritant	Poison B			Unknown	<u>I (</u>	R	eturn to	o Clien	t		Dispo	sal By L	ib	A	rchive Fo	r		. <u> </u>	1ths
Company:		T	Date/Time	:			я	Receive	d by:			•				ompany:	<u>.</u>		Date/Time:
Company:	N <u>Aec</u> t	ed D	03.3 Date/Time	<u></u>	/ 12	60	pm	leceive	d by:						c	ompany:			Date/Time;
Company:		Ē	Date/Time	e: •			. F	Receive		aborat A	ory by:	Ľ	-)	c	ompany:	5		Date/Time: 3/3/1/0 915
	Method of Ship Shipping/Traci Sample Date Q3.30.10 Company: Method of Ship Company: Company: Company:	Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time Q3.30.10 12:226 Q3.30.10 12:227 Q3.30.10 12:27 Q3.30.10 12:27 Q3.30.10 12:27 Q3.30.10 12:27 Q3.30.10 12:27 Q3.30.10 12:17 Q3.30.10 12:17 Q3.30.10 12:18 Irritant Poison B Company: Company: Company: Company:	Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time Q3-30-10 12:24 Q3-30-10 12:27 Q3.30-10 12:27 Q3.30-10 12:28 Q3.30-10 12:28 Q3.30-10 12:27 Q3.30-10 12:28 Q3.30-10 12:15 Q3.30-10 12:17 Q3.30-10 12:17 Q3.30-10 12:17 Q3.30-10 12:18 Imitant Poison B Company: T Company: T Company: T Company: T Company: T Company: T Company: T	Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time (3) (3) (3) (12) <td>Method of Shipment/Carrier: Shipping/Tracking No: </td> <td>Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time 33.30.10 12:26 03.30.10 12:27 03.30.10 12:28 03.30.10 12:28 03.30.10 12:15 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 12:18 1 03.30.10 12:17 03.30.10 12:18 11:11 Poison B Unknown 11:11 Date/Time: 03.30.10 12:18 11:11 Date/Time: 03.30.10 12:17</td> <td>Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time 3:30:10 12:26 03:30:10 12:27 03:30:10 12:28 03:30:10 12:17 03:30:10 12:18 03:30:10 12:28 03:30:10 12:19 03:30:10 12:28 03:30:10 12:28 03:30:10 12:17 03:30:10 12:18 12:10 12:18 03:30:10 12:18 12:18 1 12:28 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1</td> <td>Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Disposal Irritant Poison B Unknown Sample Disposal Company: Date/Time: Date/Time: Sample Disposal</td> <td>Method of Shipment/Carrier: </td> <td>Method of Shipment/Carrier: 3 week Shipping/Tracking No: 2 week Sample Date Sample Time 3 week 1 week 03 week 12:24 1 - 03 week 12:27 - - - 03 week 12:28 - - - 03 week 12:17 <t< td=""><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Time \$\frac{1}{2} \frac{1}{2} \f</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Time Sample Date Sample Time 3 30.10 12:24 03.30.10 12:28 03.30.10 12:17 03.30.10 12:18 1 12:28 - 03.30.10 12:17 1 2:18 - 03.30.10 12:17 1 2:18 - 03.30.10 12:17 1 2:18 - 1 2:18 - 1 2:19 - 1 2:10 - 1 2:13 - 1 2:13 - 1 2:13 - 1 2:13 - 1 2:13 - 1 3 4 - 1 4 - 1 5 - 1 7 - 1 8 - 1 9 - 1 12:20 - 1 2:30 - 1 3:30.10 - 1 4:10 -</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Trace 3 30.10 12:226 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:28 03.30.10 12:17 03.30.10 12:2.7 12:28 - 03.30.10 12:19 12:20 - 03.30.10 12:2.8 12:17 - 03.30.10 12:19 12:19 - 12:19 - 12:10 - 12:10 - 12:11 - 12:12 - 12:12 - 12:12 - 12:13 - 12:14 - 12:15 - 12:16 - 12:17 - 12:18 -</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 weeks Image: Strapping/Tracking No: Image: Strapping/Tracking No: Sample Date: Sample Date: Sample Trme + + + + + + + + + + + + + + + + + + +</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Tracking No: 1 week 1 week 2 drys 1 day 3 weeks 1 week 3 weeks 1 week 2 drys 1 day 3 weeks 1 day 03 30.10 12:12.0 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 -<td>Mathod of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 weeks Sample Date Sample Track 10 Microsoft 10 M</td><td>Method of Shipmen#Carrier: 3 wecks Shipping/Tracking No: 1 week Sample Date Sample Time Sample Date Sample Time 3.30.10 12:22 03.30.10 12:28 03.30.10 12:28 03.30.10 12:17 12:18 - 03.30.10 12:18 12:18 - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:17 - - 03.30.10 12:17 - - 03.30.10 12:18 - - 03.30.10 12:17 - - 03.30.10 12:18 - - - - - - - - - - - - - - -</td><td>Method of Shipmean/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Time 2 weeks 1 day 3 weeks 1 day 1 day 1 day 3 apple Date Sample Time 2 weeks 1 day 3 apple Date Sample Time 3 apple Date Sample Time 3 apple Date 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple<</td><td>Method of Shipmear/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date 1 day Sample Date 1 day <</td></td></t<></td>	Method of Shipment/Carrier: Shipping/Tracking No:	Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time 33.30.10 12:26 03.30.10 12:27 03.30.10 12:28 03.30.10 12:28 03.30.10 12:15 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 03.30.10 12:17 03.30.10 12:18 12:18 1 03.30.10 12:17 03.30.10 12:18 11:11 Poison B Unknown 11:11 Date/Time: 03.30.10 12:18 11:11 Date/Time: 03.30.10 12:17	Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Time 3:30:10 12:26 03:30:10 12:27 03:30:10 12:28 03:30:10 12:17 03:30:10 12:18 03:30:10 12:28 03:30:10 12:19 03:30:10 12:28 03:30:10 12:28 03:30:10 12:17 03:30:10 12:18 12:10 12:18 03:30:10 12:18 12:18 1 12:28 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1 12:20 1	Method of Shipment/Carrier: Shipping/Tracking No: Sample Date Sample Disposal Irritant Poison B Unknown Sample Disposal Company: Date/Time: Date/Time: Sample Disposal	Method of Shipment/Carrier:	Method of Shipment/Carrier: 3 week Shipping/Tracking No: 2 week Sample Date Sample Time 3 week 1 week 03 week 12:24 1 - 03 week 12:27 - - - 03 week 12:28 - - - 03 week 12:17 - - - 03 week 12:17 - - - 03 week 12:17 - - - 03 week 12:17 <t< td=""><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Time \$\frac{1}{2} \frac{1}{2} \f</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Time Sample Date Sample Time 3 30.10 12:24 03.30.10 12:28 03.30.10 12:17 03.30.10 12:18 1 12:28 - 03.30.10 12:17 1 2:18 - 03.30.10 12:17 1 2:18 - 03.30.10 12:17 1 2:18 - 1 2:18 - 1 2:19 - 1 2:10 - 1 2:13 - 1 2:13 - 1 2:13 - 1 2:13 - 1 2:13 - 1 3 4 - 1 4 - 1 5 - 1 7 - 1 8 - 1 9 - 1 12:20 - 1 2:30 - 1 3:30.10 - 1 4:10 -</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Trace 3 30.10 12:226 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:28 03.30.10 12:17 03.30.10 12:2.7 12:28 - 03.30.10 12:19 12:20 - 03.30.10 12:2.8 12:17 - 03.30.10 12:19 12:19 - 12:19 - 12:10 - 12:10 - 12:11 - 12:12 - 12:12 - 12:12 - 12:13 - 12:14 - 12:15 - 12:16 - 12:17 - 12:18 -</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 weeks Image: Strapping/Tracking No: Image: Strapping/Tracking No: Sample Date: Sample Date: Sample Trme + + + + + + + + + + + + + + + + + + +</td><td>Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Tracking No: 1 week 1 week 2 drys 1 day 3 weeks 1 week 3 weeks 1 week 2 drys 1 day 3 weeks 1 day 03 30.10 12:12.0 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 -<td>Mathod of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 weeks Sample Date Sample Track 10 Microsoft 10 M</td><td>Method of Shipmen#Carrier: 3 wecks Shipping/Tracking No: 1 week Sample Date Sample Time Sample Date Sample Time 3.30.10 12:22 03.30.10 12:28 03.30.10 12:28 03.30.10 12:17 12:18 - 03.30.10 12:18 12:18 - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:17 - - 03.30.10 12:17 - - 03.30.10 12:18 - - 03.30.10 12:17 - - 03.30.10 12:18 - - - - - - - - - - - - - - -</td><td>Method of Shipmean/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Time 2 weeks 1 day 3 weeks 1 day 1 day 1 day 3 apple Date Sample Time 2 weeks 1 day 3 apple Date Sample Time 3 apple Date Sample Time 3 apple Date 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple<</td><td>Method of Shipmear/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date 1 day Sample Date 1 day <</td></td></t<>	Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Time \$\frac{1}{2} \frac{1}{2} \f	Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Time Sample Date Sample Time 3 30.10 12:24 03.30.10 12:28 03.30.10 12:17 03.30.10 12:18 1 12:28 - 03.30.10 12:17 1 2:18 - 03.30.10 12:17 1 2:18 - 03.30.10 12:17 1 2:18 - 1 2:18 - 1 2:19 - 1 2:10 - 1 2:13 - 1 2:13 - 1 2:13 - 1 2:13 - 1 2:13 - 1 3 4 - 1 4 - 1 5 - 1 7 - 1 8 - 1 9 - 1 12:20 - 1 2:30 - 1 3:30.10 - 1 4:10 -	Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 days Sample Date Sample Trace 3 30.10 12:226 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:27 03.30.10 12:28 03.30.10 12:17 03.30.10 12:2.7 12:28 - 03.30.10 12:19 12:20 - 03.30.10 12:2.8 12:17 - 03.30.10 12:19 12:19 - 12:19 - 12:10 - 12:10 - 12:11 - 12:12 - 12:12 - 12:12 - 12:13 - 12:14 - 12:15 - 12:16 - 12:17 - 12:18 -	Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 2 weeks Image: Strapping/Tracking No: Image: Strapping/Tracking No: Sample Date: Sample Date: Sample Trme + + + + + + + + + + + + + + + + + + +	Method of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Tracking No: 1 week 1 week 2 drys 1 day 3 weeks 1 week 3 weeks 1 week 2 drys 1 day 3 weeks 1 day 03 30.10 12:12.0 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - 03 30.10 12:18 - 03 30.10 12:17 - <td>Mathod of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 weeks Sample Date Sample Track 10 Microsoft 10 M</td> <td>Method of Shipmen#Carrier: 3 wecks Shipping/Tracking No: 1 week Sample Date Sample Time Sample Date Sample Time 3.30.10 12:22 03.30.10 12:28 03.30.10 12:28 03.30.10 12:17 12:18 - 03.30.10 12:18 12:18 - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:17 - - 03.30.10 12:17 - - 03.30.10 12:18 - - 03.30.10 12:17 - - 03.30.10 12:18 - - - - - - - - - - - - - - -</td> <td>Method of Shipmean/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Time 2 weeks 1 day 3 weeks 1 day 1 day 1 day 3 apple Date Sample Time 2 weeks 1 day 3 apple Date Sample Time 3 apple Date Sample Time 3 apple Date 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple<</td> <td>Method of Shipmear/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date 1 day Sample Date 1 day <</td>	Mathod of Shipment/Carrier: 3 weeks Shipping/Tracking No: 1 weeks Sample Date Sample Track 10 Microsoft 10 M	Method of Shipmen#Carrier: 3 wecks Shipping/Tracking No: 1 week Sample Date Sample Time Sample Date Sample Time 3.30.10 12:22 03.30.10 12:28 03.30.10 12:28 03.30.10 12:17 12:18 - 03.30.10 12:18 12:18 - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:128 - - 03.30.10 12:17 - - 03.30.10 12:17 - - 03.30.10 12:18 - - 03.30.10 12:17 - - 03.30.10 12:18 - - - - - - - - - - - - - - -	Method of Shipmean/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date Sample Time 2 weeks 1 day 3 weeks 1 day 1 day 1 day 3 apple Date Sample Time 2 weeks 1 day 3 apple Date Sample Time 3 apple Date Sample Time 3 apple Date 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple 1 2 apple 3 apple<	Method of Shipmear/Carrier: 3 weeks Shipping/Tracking No: 1 week Sample Date 1 day Sample Date 1 day <

۱.

TestAmerica Cooler Receipt Form/Narrative	Lot Number: Accested 94
North Canton Facility	
Client <u>Marathon Electric</u> Project	By: Change
Cooler Received on <u>3-31-10</u> Opened on <u>3</u>	(Signature)
FedEx 🛛 UPS 🗋 DHL 📋 FAS 🛄 Stetson 🛄 Client Drop Of	f 📋 TestAmerica Courier 📋 Other
TestAmerica Cooler # Multiple Coolers [] Foa	am Box [_] Client Cooler [2] Other
1. Were custody seals on the outside of the cooler(s)? Yes	
If YES, Quantity Quantity Unsalvag	
Were custody seals on the bottle/s/3	
If VES, are there any excentions?	
2 Shippers' packing slip attached to the cooler(s)?	
3. Did custody papers accompany the sample(s)? Yes 1 No	Relinquished by client? Yes [7]No [7]
4. Were the custody papers signed in the appropriate place?	
5. Packing material used: Bubble Wrap 💋 Foam 📝 Nor	ne 🗌 Other
6. Cooler temperature upon receipt 16 °C See bac	ck of form for multiple coolers/temps
METHOD: IR 🚺 Other 🗌	
COOLANT: Wet Ice 🛛 Blue Ice 🗋 Dry Ice 🗍 M	Vater 🗌 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 donie(s) used for the test(s) indicated?	
12. Sufficient quantity received to perform indianted analyses?	
12. Sumplem quantity received to perform indicated analyses?	
Contacted PM	
$\frac{1}{2} = \frac{1}{2} = \frac{1}$	
14 CHAIN OF CUSTODY	
14 CHAIN OF CUSTODY The following discrepancies occurred:	
14. CHAIN OF CUSTODY The following discrepancies occurred: Record Rey 10 to be able to be	to car willor o a NAIL
14 CHAIN OF CUSTODY The following discrepancies occurred: Received Rt 40 try bibak 001	t on coc. Will log por DAH.
14 CHAIN OF CUSTODY The following discrepancies occurred: Received RX 40 try bbs k not	t on coc. Will log por DAH
14 CHAIN OF CUSTODY The following discrepancies occurred: Received Rey Lo try black not	t on coc. Will log por DAH.
14 CHAIN OF CUSTODY The following discrepancies occurred: Received Rt 40 try bbs k not	t on coc. Will log por DAH.
14 CHAIN OF CUSTODY The following discrepancies occurred: Received Rx 40 try bbs k as 1	t on coc. Will log por DAH
14 CHAIN OF CUSTODY The following discrepancies occurred: <u>Recurred</u> Rey 60 try 600 k 001	t on coc. Will log por DDH
14 CHAIN OF CUSTODY The following discrepancies occurred: Received Rey 40 try 652 k 001 15 SAMPLE CONDITION	t on coc. Will log por DAH
14. CHAIN OF CUSTODY The following discrepancies occurred: Recenced R+40 try bbs k col 15. SAMPLE CONDITION Sample(s)	t on coc. Will log por DAH
14. CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ref 10 try bbs k col 15. SAMPLE CONDITION Sample(s) were received	t on coc. Will log por DAH ad after the recommended holding time had expired.
14. CHAIN OF CUSTODY The following discrepancies occurred: Receard Ref 10 try bbs k as 1 15. SAMPLE CONDITION Sample(s) were receive Sample(s) were receive	ton coc. Will log por DAH ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter (Notify PM)
14. CHAIN OF CUSTODY The following discrepancies occurred: Recenced Rey Lo try block to try 15. SAMPLE CONDITION Sample(s) were receives Sample(s) Were re 16. SAMPLE PRESERVATION	ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM)
14. CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ref (0) try bbs k col 15. SAMPLE CONDITION Sample(s) sample(s) Sample(s) were received Sample(s) were reference 16. SAMPLE PRESERVATION	t on coc. Will log por DAH ad after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample
14. CHAIN OF CUSTODY The following discrepancies occurred: Receard Ref (0) 15. SAMPLE CONDITION Sample(s) were receive Sample(s) Sample(s) Sample(s) Sample(s) Sample(s) Were ref 16. SAMPLE PRESERVATION Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 12170	ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample uere further preserved in Sample uere further preserved in Sample uere further preserved in Sample uere further preserved in Sample
14. CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ref 10 try black on try 15. SAMPLE CONDITION Sample(s) were receives Sample(s) were receives Sample(s) were receives Sample(s) were receives Sample(s) Sample(s) were receives Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCi; Sod (CH_3COO)_2ZN/NaOH, What time was preservative added to preservative	ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample 09-HNO3; Sulfuric Acid Lot# 121709-H ₂ SO4; Sodium tium Hydroxide and Zinc Acetate Lot# 100108-
14. CHAIN OF CUSTODY The following discrepancies occurred: Received Ret (0 try bback of 15. SAMPLE CONDITION Sample(s) were received Sample(s) were received Sample(s) were received Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Sample(s) Chair (CH_3COO)_2ZN/NaOH. What time was preservative added to sample	ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample 09-HNO3; Sulfuric Acid Lot# 121709-H2SO4; Sodium fium Hydroxide and Zinc Acetate Lot# 100108- e(s)?
14. CHAIN OF CUSTODY The following discrepancies occurred: Received R+40 try bback cold 15. SAMPLE CONDITION Sample(s) were receive Sample(s) Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 12170 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCI; Sod (CH ₃ COO) ₂ ZN/NaOH. What time was preservative added to sample D pH	ed after the recommended holding time had expired. ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample De-HNO3; Suffuric Acid Lot# 121709-H2SO4; Sodium tium Hydroxide and Zinc Acetate Lot# 100108- le(S)?
14. CHAIN OF CUSTODY The following discrepancies occurred: Received Ref (0) try black 0.0 M 15. SAMPLE CONDITION Sample(s) were received Sample(s) Sample(s) Were received Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 12170 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCI; Sod (CH_3COO)_2ZN/NaOH. What time was preservative added to sample Client ID pH	ton cec. Will log par DAH ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample 09-HNO3; Sulfuric Acid Lot# 121709-H2SO4; Sodium lium Hydroxide and Zinc Acetate Lot# 100108- e(s)?
14. CHAIN OF CUSTODY The following discrepancies occurred: Received R+40 try bback oo 15. SAMPLE CONDITION Sample(s) were received Sample(s) Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sod (CH_3COO)_2ZN/NaOH. What time was preservative added to sample D pH	ton coc. Will log per DDH ad after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample D9-HNO3; Sulfuric Acid Lot# 121709-H2SO4; Sodium tium Hydroxide and Zinc Acetate Lot# 100108- e(s)? Date Initials
14 CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ref 10 15 SAMPLE CONDITION Sample(s) were receive Sample(s) Sample(s) Sample(s) were receive Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 12170 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCi; Sod (CH ₃ COO) ₂ ZN/NaOH. What time was preservative added to sample Client ID pH	ton coc. Will log par DAH ad after the recommended holding time had expired. were received in a broken container. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample 09-HNO3; Sulfuric Acid Lot# 121709-H ₂ SO4; Sodium tium Hydroxide and Zinc Acetate Lot# 100108- e(s)?
14 CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ref 10 15 SAMPLE CONDITION Sample(s) were receive Sample(s) Sample(s) Were receive Sample(s) Were receive Sample(s) Were received Sample(s) Were received Sample(s) Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 12170 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCi; Sod (CH3COO)2ZN/NaOH. What time was preservative added to sample D pH	ed after the recommended holding time had expired. ed after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample D9-HNO3; Sulfuric Acid Lot# 121709-H ₂ SO4; Sodium lium Hydroxide and Zinc Acetate Lot# 100108- e(s)? Date Initials
14 CHAIN OF CUSTODY The following discrepancies occurred: Received R+ 10 15 SAMPLE CONDITION Sample(s) were receive Sample(s) Sample(s) Were receive Sample(s) Receiving to meet recommended pH level(s). Nitric Acid Lot# 12170 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCI; Sod (CH3COO)zZN/NaOH. What time was preservative added to sample D pH	ton cec. Will log par DAH ad after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample D9-HNO3; Sulfuric Acid Lot# 121709-H2SO4; Sodium lium Hydroxide and Zinc Acetate Lot# 100108- e(s)? Date Initials
14 CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ret 40 15 SAMPLE CONDITION Sample(s) were receive Sample(s) Sample(s) Sample(s) Sample(s) Sample(s) Were received Sample(s) Sample(s) Sample(s) Sample(s) Section Receiving to meet recommended pH level(s). Nitric Acid Lot# 121700 Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCI; Sod (CH_3COO)_2ZN/NaOH. What time was preservative added to sample D pH	ton coc. Will log por DAH ad after the recommended holding time had expired. were received in a broken container. aceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample D9-HNO3; Sulfuric Acid Lot# 121709-H2SO4; Sodium lium Hydroxide and Zinc Acetate Lot# 100108- e(s)? Date Initials
14 CHAIN OF CUSTODY The following discrepancies occurred: Recenced Ref 40 try bback ool 15 SAMPLE CONDITION Sample(s) were receives Client ID pH Client ID pH	ton coc. Will log par DAH ad after the recommended holding time had expired. were received in a broken container. eceived with bubble >6 mm in diameter. (Notify PM) were further preserved in Sample D9-HNO3; Sulfuric Acid Lot# 121709-H ₂ SO4; Sodium fium Hydroxide and Zinc Acetate Lot# 100108- e(S)?



Client ID	Ηα	Date	Initial
· · · · · · · · · · · · · · · · · · ·			
			L
		· · · · · · · · · · · · · · · · · · ·	
	· · · · · · · · · · · · · · · · · · ·	<u></u>	
	· · · · · · · · · · · · · · · · · · ·	<u> </u>	
·			
			· .
· . 		· · · · · · · · · · · · · · · · · · ·	
· · · · · · · · · · · · · · · · · · ·			
Cooler #	Temp °C	Method	Coolar
		herban,	·
repancies Contid.			
, <u>, , , , , , , , , , , , , , , ,</u>			
· · · · · · · · · · · · · · · · · · ·	<u></u>		
		- , <i>-</i>	
· · · · · · · · · · · · · · · · · · ·			·····
······································			
·····			
······································			



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

DATA VALIDATION MEMO



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Chuck Ahrens, CRA	Ref. No.:	003978-10
From:	Ruth Mickle/sb/4	DATE:	April 15, 2010
CC:	Analytical Data File		
RE:	Data Quality Assessment March 30, 2010 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected March 30, 2010, at the Wausau --Superfund Site in Wausau, Wisconsin. The samples identified as W100330MV-486-1,2,3 (Influent) and W100330MV-487-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

CRA MEMORANDUM

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

July 14, 2010

Reference No. 003978-10

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Re: Second Quarter 2010 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921

JUL 1 9 2010

REMEDIATION & REDEVELOPMENT

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this second quarter 2010 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Second quarter 2010 samples were collected on June 21, 2010, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	7.7	3.3	41,000
cis-1,2-dichloroethene	0.44 J	0.22J	none
chloroform	<1.0	0.33J	29,000

Notes:

J - estimated value, below the method reporting limit. Units: $\mu g/L$.





July 14, 2010

Reference No. 003978-10

-2-

EW1 operated continuously during the second quarter of 2010 except for 59 minutes on April 23 and 30 minutes on June 22 to clean the discharge line screens. From April 1, 2010, through June 30, 2010, the pump operated at an average flow rate of 490 gpm. A total of 63,820,000 gallons of water were treated by EW1 in the second quarter of 2010 (April 1, 2010, to June 30, 2010). The flow meter was calibrated on June 30 and, although we have not received the contractor's final report, initial indications are that the meter was accurate within 5%. Higher pumping rates have become difficult to maintain due to increasing amounts of iron bacteria. CRA and Marathon Electric are currently assessing potential options for cleaning and disinfecting EW1.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Marin

Charles Ahrens

CEA/sb/8 Encl.

cc: Lee Bergmann, Regal Beloit Dave Erickson, City of Wausau

ATTACHMENT A

003978BIAN8-ATTP



ANALYTICAL REPORT

Ruth Mickle Conestoga-Rovers & Associates, Inc. PROJECT NO. 3978 EW-1 WAUSAU SUPERFUND

SAMPLE SUMMARY

	<u>WO #</u>	LABORATORY ID	SAMPLE IDENTIFICATION
	L28GR	A0F220451-001	W100621MV-488-1,2,3
+	L28HL	A0F220451-002	W100621MV-489-1,2,3
	L28HQ	A0F220451-003	TRIP BLANK

TESTAMERICA LABORATORIES, INC.

Denise DHeckler

Denise D. Heckler Project Manager denise.heckler@testamericainc.com

July 01, 2010

Approved for release. Denise D. Heckler Project Manager 7/6/2010 11:15 AM

Influent

Effluent



TestAmerica Laboratories, Inc. TestAmerica North Canton 4101 Shuffel Street NW. North Canton, OH 44720 Tel (330)497-9396 Fax (330)497-0772 www.testamericainc.com

CASE NARRATIVE A0F220451

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the EW-1 Wausau Superfund Site, project number 3978. The samples were received June 22, 2010, according to documented sample acceptance procedures.

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 Ruth Mickle on June 30, 2010. 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.

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.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

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, Denise D. Heckler, 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 2.4°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

The matrix spike/matrix spike duplicate(s) for batch(es) 0179265 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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

<u>QC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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

స

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 Certifications and Approvals:

<u>The laboratory is certified for the analytes listed on the documents below. These are available upon request.</u> California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

N:\QAQC\Customer Service\Narrative - Combined RCRA CWA 032609.doc

EXECUTIVE SUMMARY - Detection Highlights

A0F220451

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
W100621MV-488-1,2,3 06/21/10 11:41	001			
cis-1,2-Dichloroethene	0.44 J	1.0	ug/L	SW846 8260B
Trichloroethene	7.7	1.0	ug/L	SW846 8260B
w100621mv-489-1,2,3 06/21/10 11:25	002			
cis-1,2-Dichloroethene	0.22 J	1.0	ug/L	SW846 8260B
Chloroform	0.33 J	1.0	ug/L	SW846 8260B
Trichloroethene	3.3	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A0F220451

PARAMET	ER	ANALYTICAL METHOD
Volatil	e Organics by GC/MS	SW846 8260B
Referen	ces:	
SW846	"Test Methods for Evaluating Solid Methods", Third Edition, November 1	Waste, Physical/Chemical 1986 and its updates.

SAMPLE SUMMARY

A0F220451

<u>WO #</u>	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L28GR	001	W100621MV-488-1,2,3	06/21/10	11:41
L28HL	002	W100621MV-489-1,2,3	06/21/10	11:25
L28HQ	003	TRIP BLANK	06/21/10	

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.

Conestoga-Rovers & Associates, Inc.

Influent

Client Sample ID: W100621MV-488-1,2,3

GC/MS Volati**le**s

Lot-Sample # :	A0F220451-001	Work Order #:	L28GR1AA	Matrix:	WG
Date Sampled:	06/21/10 11:41	Date Received:	06/22/10		
Prep Date:	06/28/10	Analysis Date:	06/28/10		
Prep Batch #:	0179265				
Dilution Factor:	1	Method:	SW846 8260B		

		REPORTING	;
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.44 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	7.7	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	101	(73 - 122	:)
1,2-Dichloroethane-d4	92	(61 - 128	;)
Toluene-d8	83	(76 - 110))
4-Bromofluorobenzene	86	(74 - 116	;)

NOTE (S):

J Estimated result. Result is less than RL.

.

Conestoga-Rovers & Associates, Inc.

Effluent

Client Sample ID: W100621MV-489-1,2,3

GC/MS Volatiles

Lot-Sample #:	A0F220451-002	Work Order #:	L28HL1AA	Matrix: WG
Date Sampled:	06/21/10 11:25	Date Received:	06/22/10	
Prep Date:	06/28/10	Analysis Date:	06/28/10	
Prep Batch #:	0179265			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.22 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.33 J	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	3.3	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	100	(73 - 122)	
1,2-Dichloroethane-d4	92	(61 - 128)	
Toluene-d8	90	(76 - 110)	
4-Bromofluorobenzene	84	(74 - 116)	

NOTE (S) :

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

.

(73 - 122)

(61 - 128) (76 - 110) (74 - 116)

Lot-Sample #:	A0F220451-003	Work Order #:	L28HQ1AA	Matrix: WQ
Date Sampled:	06/21/10	Date Received:	06/22/10	
Prep Date:	06/28/10	Analysis Date:	06/28/10	
Prep Batch #:	0179265			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	. ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	102	(73 - 12	:2)

94

91

87

Toluene-d8	
4-Bromofluorobenzene	

1,2-Dichloroethane-d4

11 of 23



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

.

GC/MS Volatiles

Client Lot #:	A0F220451	Work Orde	r #:	L3G9E1AA	Matrix:	WATER
MB Lot-Sample #:	A0F280000-265					
		Prep Date	:	06/28/10		
Analysis Date:	06/28/10	Prep Batc	h #:	0179265		
Dilution Factor:	1					

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Carbon tetrachlori de	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Methylene chloride	0.60 J	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	93	(73 - 12	22)	
1,2-Dichloroethane-d4	88	(61 - 12	28)	
Toluene-d8	91	(76 - 1)	10)	
4-Bromofluorobenzene	89	(74 - 1)	16)	

NOTE (S):

•

4

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

.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A0F220451
 Work Order #...: L3G9E1AC-LCS
 Matrix.....: WATER

 LCS Lot-Sample#: A0F280000-265
 L3G9E1AD-LCSD

 Prep Date....: 06/28/10
 Analysis Date..: 06/28/10

 Prep Batch #...: 0179265
 Dilution Factor: 1

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Vinyl chloride	71	(61 - 120)			SW846 8260B
	75	(61 - 120)	4.8	(0-30)	SW846 8260B
Methylene chloride	105	(78 - 118)			SW846 8260B
	104	(78 - 118)	0.60	(0-30)	SW846 8260B
Acetone	. 103	(22 - 200)			SW846 8260B
	85	(22 - 200)	20	(0-95)	SW846 8260B
1,1-Dichloroethene	111	(63 - 130)			SW846 8260B
	97	(63 - 130)	13	(0-20)	SW846 8260B
Chloroform	106	(84 - 128)			SW846 8260B
	106	(84 - 128)	0.19	(0-30)	SW846 8260B
Carbon tetrachloride	109	(75 - 149)			SW846 8260B
	107	(75 - 149)	2.4	(0-30)	SW846 8260B
Trichloroethene	106	(75 – 1 22)			SW846 8260B
	104	(75 – 1 22)	2.1	(0-20)	SW846 8260B
1,1,2-Trichloroethane	101	(83 - 122)			SW846 8260B
	99	(83 - 122)	2.1	(0-30)	SW846 8260B
Benzene	106	(80 - 11 6)			SW846 8260B
	104	(80 - 116)	2.0	(0-20)	SW846 8260B
Tetrachloroethene	101	(88 - 113)			SW846 8260B
	99	(88 - 113)	2.6	(0-30)	SW846 8260B
Toluene	101	(74 - 119)			SW846 8260B
	100	(74 - 119)	0.81	(0-20)	SW846 8260B
Ethylbenzene	104	(86 - 116)			SW846 8260B
	102	(86 - 116)	1.8	(0-30)	SW846 8260B
Xylenes (total)	103	(87 - 116)			SW846 8260B
	102	(87 - 116)	0.96	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	107	(85 - 113)			SW846 8260B
	106	(85 - 113)	1.3	(0-30)	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
	88	(61 - 128)
Toluene-d8	94	(76 - 110)
	93	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)
	99	(74 - 116)

NOTE (S):

.

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

Bold print denotes control parameters

_ _ _ _ _

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A0F220451
 Work Order #...: L3G9E1AC-LCS
 Matrix.....: WATER

 LCS Lot-Sample#: A0F280000-265
 L3G9E1AD-LCSD

 Prep Date.....: 06/28/10
 Analysis Date..: 06/28/10

 Prep Batch #...: 0179265
 Dilution Factor: 1

SPIKE	MEASURED		PERCENT			
AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD	
10	7.1	ug/L	71		SW846 8260B	
10	7.5	ug/L	75	4.8	SW846 8260B	
10	11	ug/L	105		SW846 8260B	
10	10	ug/L	104	0.60	SW846 8260B	
20	21	ug/L	103		SW846 8260B	
20	17	ug/L	85	20	SW846 8260B	
10	11	ug/L	111		SW846 8260B	
10	9.7	ug/L	97	13	SW846 8260B	
10	11	ug/L	106		SW846 8260B	
10	11	ug/L	106	0.19	SW846 8260B	
10	11	ug/L	109		SW846 8260B	
10	11	ug/L	107	2.4	SW846 8260B	
10	11	ug/L	106		SW846 8260B	
10	10	ug/L	104	2.1	SW846 8260B	
10	10	ug/L	101		SW846 8260B	
10	9.9	ug/L	99	2.1	SW846 8260B	
10	11	ug/L	106		SW846 8260B	
10	10	ug/L	104	2.0	SW846 8260B	
10	10	ug/L	101		SW846 8260B	
10	9.9	ug/L	99	2.6	SW846 8260B	
10	10	ug/L	101		SW846 8260B	
10	10	ug/L	100	0.81	SW846 8260B	
10	10	ug/L	104		SW846 8260B	
10	10	ug/L	102	1.8	SW846 8260B	
30	31	ug/L	103		SW846 8260B	
30	.31	ug/L	102	0.96	SW846 8260B	
10	11	ug/L	107		SW846 8260B	
10	11	ug/L	106	1.3	SW846 8260B	
	SPIKE <u>AMOUNT</u> 10 10 10 20 20 10 10 10 10 10 10 10 10 10 10 10	SPIKE MEASUREI AMOUNT AMOUNT 10 7.1 10 7.5 10 11 10 10 20 21 20 17 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 11 10 11 10 11	SPIKE MEASURED AMOUNT AMOUNT UNITS 10 7.1 ug/L 10 7.5 ug/L 10 11 ug/L 10 11 ug/L 10 11 ug/L 10 11 ug/L 20 21 ug/L 20 17 ug/L 20 17 ug/L 10 11 ug/L 10 10 ug/L	SPIKE MEASURED PERCENT AMOUNT AMOUNT UNITS RECOVERY 10 7.1 ug/L 71 10 7.5 ug/L 75 10 11 ug/L 105 10 10 ug/L 104 20 21 ug/L 103 20 17 ug/L 85 10 11 ug/L 101 10 11 ug/L 85 10 11 ug/L 106 10 11 ug/L 106 10 11 ug/L 106 10 11 ug/L 106 10 11 ug/L 107 10 11 ug/L 106 10 10 ug/L 104 10 10 ug/L 99 10 10 ug/L 101 10 10 ug/L 100	SPIKEMEASUREDPERCENTAMOUNT 10 7.1 ug/L 71 10 7.1 ug/L 71 71 10 7.5 ug/L 75 4.8 10 11 ug/L 105 10 10 10 ug/L 104 0.60 20 21 ug/L 103 20 17 ug/L 85 20 10 11 ug/L 101 10 11 ug/L 106 10 10 ug/L 101 10 9.9 ug/L 99 2.1 10 10 ug/L 104 2.0 10 10 ug/L 104 2.0 10 10 ug/L 101 10 9.9 ug/L 104 2.6 10 10 ug/L 101 10 10 ug/L 101 10 10 ug/L 102 1.8 30 31 ug/L 102 1.8 30 31 ug/L 107 1.3	

DDDDDWM

DEGOVERNY

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
	88	(61 - 128)
Toluene-d8	94	(76 - 110)
	93	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)
	99	(74 - 116)

NOTE (S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A0F220451	Work Order #:	L28V41AC-MS	Matrix:	WATER
MS Lot-Sample # :	A0F190486-021		L28V41AD-MSD		
Date Sampled:	06/17/10 10:35	Date Received:	06/22/10		
Prep Date:	06/28/10	Analysis Date:	06/28/10		
Prep Batch #:	0179265				
Dilution Factor:	71.43		•		

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	112	(62 - 130)			SW846 8260B
	109	(62 - 130)	3.4	(0-20)	SW846 8260B
Vinyl chloride	73 a	(88 - 126)			SW846 8260B
	76 a	(88 - 126)	4.0	(0-30)	SW846 8260B
Methylene chloride	105	(82 - 115)			SW846 8260B
	96	(82 - 115)	8.4	(0-30)	SW846 8260B
Acetone	109	(45 - 128)			SW846 8260B
	104	(45 - 128)	°5.2	(0-30)	SW846 8260B
Chloroform	111	(83 - 141)			SW846 8260B
	102	(83 - 141)	8.8	(0-30)	SW846 8260B
Carbon tetrachloride	107	(63 - 176)			SW846 8260B
	105	(63 - 176)	1.8	(0-30)	SW846 8260B
Trichloroethene	102	(62 - 130)			SW846 8260B
	96	(62 - 130)	6.3	(0-20)	SW846 8260B
1,1,2-Trichloroethane	105	(86 - 129)			SW846 8260B
	* 98 📲	(86 - 129)	7.4	(0-30)	SW846 8260B
Benzene	108	(78 - 118)			SW846 8260B
	101	(78 - 118)	7.0	(0-20)	SW846 8260B
Tetrachloroethene	102	(85 - ·121)			SW846 8260B
	83 a 👘	(85 - 121)	5.1	(0-30)	SW846 8260B
Toluene	102	(70 - 119)			SW846 8260B
	94	(70 - 119)	8.4	(0-20)	SW846 8260B
Ethylbenzene	102	(86 - 132)			SW846 8260B
	95	(86 - 132)	7.1	(0-30)	SW846 8260B
Xylenes (total)	102	(89 - 121)			SW846 8260B
	93	(89 - 121)	8.9	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	111	(87 - 114)			SW846 8260B
	102	(87 - 114)	8.1	(0-30)	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	92	(61 - 128)
Toluene-d8	94	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	98	(74 - 116)

(Continued on next page)

.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #: A0F220451	Work Order #: L28V	41AC-MS Ma	trix:	WATER
MS Lot-Sample #: A0F190486-021	L28V	/41AD-MSD		
	PERCENT	RECOVERY	<u>.</u>	
SURROGATE	RECOVERY	LIMITS		

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 DATA REPORT

2

GC/MS Volatiles

Client Lot #:	A0F220451	Work Order #:	L28V41AC-MS	Matrix WATER
MS Lot-Sample # :	A0F190486-021		L28V41AD-MSD	
Date Sampled:	06/17/10 10:35	Date Received:	06/22/10	
Prep Date:	06/28/10	Analysis Date:	06/28/10	
Prep Batch #:	0179265			
Dilution Factor:	71.43		9	

	SAMPLE	SPIKE	MEASRD		PERCNT						
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD				
1,1-Dichloroethene	ND	710	800	ug/L	112		SW846	8260B			
	ND	710	780	ug/L	109	3.4	SW846	8260B			
Vinyl chloride	ND	710	520	ug/L	73 a		SW846	8260B			
	ND	710	540	ug/L	76 a	4.0	SW846	8260B			
Methylene chloride	45	710	800	ug/L	105		SW846	8260B			
	45	710	730	ug/L	96	8.4	SW846	8260B			
Acetone	ND	1400	1600	ug/L	109		SW846	8260B			
	ND	1400	1500	ug/L	104	5.2	SW846	8260B			
Chloroform	ND	710	790	ug/L	111		SW846	8260B			
	ND	710	730	ug/L	102	8.8	SW846	8260B			
Carbon tetrachloride	ND	710	760	ug/L	107		SW846	8260B			
	ND	710	750	ug/L	105	1.8	SW846	8260B			
Trichloroethene	20	710	750	ug/L	102		SW846	8260B			
	20	710	710	ug/L	96	6.3,	SW846	8260B			
1,1,2-Trichloroethane	ND	710	750	ug/L	105		SW846	8260B			
	ND	710	700	ug/L	98	7.4	SW846	8260B			
Benzene	ND	710	770	ug/L	108		SW846	8260B			
	ND	710	720	ug/L	101	7.0	SW846	8260B			
Tetrachloroethene	2100	710	2900	ug/L	102		SW846	8260B			
	2100	710	2700	ug/L	83 a	5.1	SW846	8260B			
Toluene	ND	710	730	ug/L	102		SW846	8260B			
	ND	710	670	ug/L	94	8.4	SW846	8260B			
Ethylbenzene	ND	710	730	ug/L	102		SW846	8260B			
	ND	710	680	ug/L	95	7.1	SW846	8260B			
Xylenes (total)	ND	2100	2200	ug/L	102		SW846	8260B			
	ND	2100	2000	ug/L	93	8.9	SW846	8260B			
cis-1,2-Dichloroethene	72	710	860	ug/L	111		SW846	8260B			
	72	710	800	ug/L	102	8.1	SW846	8260B			

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	92	(61 - 128)
Toluene-d8	94	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	98	(74 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A0F220451	Work Order #: L28V4	1AC-MS Matrix	WATER
MS Lot-Sample #: A0F190486-021	L28V4	1AD-MSD	
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	

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.

Chain of Custody Record

Temperature on Receipt ____



Drinking Water? Yes No THE LEADER IN ENVIRONMENTAL TESTING

Client MARATHON GLECTRIC	me	Projec	a Mai	nagei	Ĺ	e	2	B	e	20	\sim	~~``	~					Da	<i>• C</i>	x0/	21	/20	10	0	hain of Custody 1	Vumber 884
Address 100E. Randolph St.	/	Telept	hone i	Numl	ber (A VE	4 <i>rea</i> 5 -	Code	e)/Fax 75	x Nun ~ 8	nber 70	1							Lai	5 Nui	mber				1	Page _/	_ of _/
City State Zi	ip Code 54401	Site C		^ສ ກe	_			Lad	Conta	act							Ante mort	alysis 9 spa	5 (Al 100.1	tach is ne	list i. edec	1 1)		- <u>1</u>		
Project Name and Location (State)		Carrie	v/Way	vbill N	Vumb)er]											Special	Instructions
Contract/Purchase Order/Quote No.		I		N	Matri	ix ·		•	C F	Contai Preser	ners vati	ร & เขอร													Condition	ns of Receip
Sample I.D. No. and Description (Containers for each sample may be combined on one line	Date	Time	Åi	Aquaoris	Sed.	Soil	·	Unpres.	NOSCH	HNO3	0	Zhác Zhác NaOH													,	
W100621MV ~ 488-1	06.21,10	11:40A		-						•	-														3-40m1	w/HCI
W100621MV - 488-2	06,21,10	11:41 A		5						•	-												ļ	ļ	Influ	ent_
W100621MV - 488-3	06,21,10	11:41A		-						-	-			ļ												
W100621MV - 489-1	06.21.10	11:24 A		-						-	-										_			<u> </u>	3-40m1	w/HCI
W100621MV - 489-2	06,21,10	11:24a		-						-	-														Eff Iu	ent
W100681MU -489-3	06.21,10	11:25A	<u> </u>	-							-		 	ļ			_	_			_		ļ		<u> </u>	
									_									.		_				ļ	+	•
												·										<u> </u>		_		· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·			<u> </u>		Ì						ļ.		_							_	_	<u> </u>	<u> </u>	ļ		·
																						_	<u> </u>			
					÷																			1		
Possible Hazard Identification	Poison B	Unknow	, s 77 [Sampi] Re	le Dis eturn	sposi To C	al Client	 ; [sposa	I By	Lab		Arch	ive F	or _		M	lonth.	() s k	A lee onger	may than	be as 1 mg	ssess onth)	ed il samples are	retained
Turn Around Time Required	Davs 🗌 21 Dav	s [] 0	ihar		•				ac P	Requin	eme	nts (Sp	bec//y	Ì												
1. Relinquisted By		Date Date	.21.			me 2:2	200	200	1. Re	iceived	d By	e C	た	<u> </u>									<u>.</u>		Date /	Time
2. Relinquished By		Date			17/	me			2. Re	eceive	d By	·												<u>ا</u>	Date	Time
		1			1																					1

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy
TestAmerica Cooler	Receipt Form/Narrative Lot Numb	er:		
North Canton Facilit	·····································			
Client Marathan	Electric Project Ehrl By	1 esto		
Cooler Received on		(Signature)		
	EAS Stetson Client Drop Off TestAmerica Cour	ier 🗌 Other		
	Multiple Coolers D Foam Box D Client Cool	er 🖓 Other		
	the outside of the cooler/s)2 Yes : No : Intact2 Yes			
	2 Outside of the cooler(s)? Les β no β indecisive re-			
11 TES, Quantity	the outside of cooler(s) signed and dated?			
were custody seals of				
	1 life bolile(5) / · · · · · · · · · · · · · · · · · ·			
If YES, are there any	exceptions?			
2. Shippers packing slip	anached to the cooler(s)?			
3. Did custody papers ac	company the sample(s)? Yes A No			
4. Were the custody pap	ers signed in the appropriate place? Ye	S LA NO L		
5. Packing material used	: Bubble Wrap 🛃 Foam 🛄 None 📋 Other	entre		
6. Cooler temperature up	con receipt $2-4$ °C See back of form for multiple c	oolers/temps		
METHOD: IF	R ⊿ Other ∐			
COOLANT: Wet lo	e 🖂 Blue ice 📋 Dry ice 📋 Water 🛄 None 🗌			
7. Did all bottles arrive ir	a good condition (Unbroken)? Ye			
8. Could all bottle labels	be reconciled with the COC? Yes	s 🖉 No 🔲		
9. Were sample(s) at the	correct pH upon receipt? Yes	s 🗌 No 🗌 NA 🗗		
10. Were correct bottle(s)	used for the test(s) indicated? Yes	s 🖉 No 🔲		
11. Were air bubbles >6 n	nm in any VOA vials? Ye	s 🗌 No 🖉 NA 🗍		
12. Sufficient quantity rec	eived to perform indicated analyses? Ye	s 🗗 No 🔲		
13. Was a trip blank prese	ent in the cooler(s)? Yes 🛛 No 🗌 Were VOAs on the CC			
Contacted PM	Date by via Verb	al 🗍 Voice Mail 🗍 Other 🦳		
Concerning	· · · · · · · · · · · · · · · · · · ·			
14 CHAIN OF CUSTOD	Y	<u> </u>		
The following discrepancies occurred:				
	Ω is the $T\Omega$ is the I			
	Kecia 1×40 1.15 not an COC. Will	109.		
netest	listed on COC will log for \$260	5		
	, ,			
15 SAMPLE COMPLETO				
75. SAMPLE CONDITION	N The second			
Sample(s)	were received after the recommend	led holding time had expired.		
Sample(s)	were re	ceived in a broken container.		
Sample(s)	were received with bubble >6	mm in diameter. (Notify PM)		
16. SAMPLE PRESERV		•		
Sample(s)	were further p	preserved in Sample		
Receiving to meet recomi	mended pH level(s). Nitric Acid Lot# 121709-HNO3, Sulfuric Acid Lo	t# 121709-H₂SO₄; Sodium		
Hydroxide Lot# 100108 -Net	DH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc /	Cetate Lot# 100108-		
(CH3COO)₂ZN/NaOH. Wha	It time was preservative added to sample(s)?			
Client ID	Hg	Date Initials		

i

,

Client ID	рН	Date	Initials
		ļ	
		· · · · ·	
	·		
		<u></u>	
		<u>· .</u> .	
		<u></u>	
			1
			· ·
			L
Cooler #	Temn °C	Method	Coolant
		<u></u>	
	· · · · · · · · · · · · · · · · · · ·		1
			-
the second s			·····
	,		1
regardies Confid			

.

儫

1

.

....



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

DATA VALIDATION MEMO



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Chuck Ahrens, CRA	REF. NO.:	003978-10
FROM:	Ruth Mickle/sb/5	Date:	July 13, 2010
CC:	Analytical Data File		
RE:	Data Quality Assessment June 21, 2010 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected June 21, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W100621MV-488-1,2,3 (Influent) and W100621MV-489-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. With the exception of methylene chloride, the method blank was free of target analytes. Since there were no associated methylene chloride detections, no data qualification was required based on method blank data.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

October 13, 2010

Reference No. 003978-10

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Mr. Edelstein:

Mr. Gary Edelstein WISCONSIN DEPARTMENT OF NATURAL RESOURCES P.O. Box 7921 Madison, Wisconsin 53707-7921

OCT 1 4 2010

Re: Third Quarter 2010 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this third quarter 2010 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at Marathon Electric on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Third quarter 2010 samples were collected on September 9, 2010, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	7.2	3.4	41,000
cis-1,2-dichloroethene	0.45 J	0.29J	none
chloroform	<1.0	0.37J	29,000

Notes:

J - estimated value, below the method reporting limit. Units: $\mu g/L$.





October 13, 2010

Reference No. 003978-10

-2-

EW1 operated continuously during the third quarter of 2010 except for 22 minutes on August 3 to clean the totalizer meter. From July 1, 2010, through September 30, 2010, the pump operated at an average flow rate of 593 gpm. As previously conveyed in our letter dated September 7, 2010, this is the highest rate that can be maintained with the existing well conditions. A total of 76,519,000 gallons of water were treated by EW1 in the third quarter of 2010.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Allen

Charles Ahrens

CEA/sb/10 Encl.

cc: Lee Bergmann, Regal Beloit Dave Erickson, City of Wausau

ATTACHMENT A

LABORATORY REPORT



Ruth Mickle Conestoga-Rovers & Associates, Inc. PROJECT NO. 3978-10 WAUSAU

SAMPLE SUMMARY

WO #LABORATORY IDSAMPLE IDENTIFICATIONL6R5MA0I100466-001W1090910-490-1,2,3InfluentL6R5RA0I100466-002W1090910-491-1,2,3EffluentL6R5TA0I100466-003TRIP BLANK

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA LABORATORIES, INC.

Denise Dileckler

Denise D. Heckler Project Manager denise.heckler@testamericainc.com

Approved for release. Denise D. Heckler Project Manager 9/24/2010 8:18 AM



 TestAmerica Laboratories, Inc.

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

 Tel (330)497-9396
 Fax (330)497-0772
 www.testamericainc.com

September 23, 2010

CASE NARRATIVE A0I100466

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the WAUSAU Site, project number 3978-10. The samples were received September 10, 2010, according to documented sample acceptance procedures.

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 Ruth Mickle on September 20, 2010. 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.

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.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

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, Denise D. Heckler, 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 0.4°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

The matrix spike/matrix spike duplicate(s) for batch(es) 0259329 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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

<u>QC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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.



<u>TestAmerica Certifications and Approvals:</u>

The laboratory is certified for the analytes listed on the documents below. These are available upon request. California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit

N:\QAQC\Customer Service\Narrative - Combined RCRA_CWA 032609.doc

EXECUTIVE SUMMARY - Detection Highlights

A0I100466

PARAMETER	RESULT	REPORTING	UNITS	ANALYTICAL METHOD
W1090910-490-1,2,3 09/09/10 09:10	001			
cis-1,2-Dichloroethene	0.45 J	1.0	ug/L	SW846 8260B
Trichloroethene	7.2	1.0	ug/L	SW846 8260B
W1090910-491-1,2,3 09/09/10 09:05	002		•	
cis-1,2-Dichloroethene	0.29 J	1.0	ug/L	SW846 8260B
Chloroform	0.37 J	1.0	ug/L	SW846 8260B
Trichloroethene	3.4	1.0	ug/L	SW846 8260B
TRIP BLANK 09/09/10 003				
Acetone	1.2 J	10	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A0I100466

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B
References:	· ·

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

SAMPLE SUMMARY

A0I100466

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L6R5M	001	W1090910-490-1,2,3	09/09/10	09:10
L6R5R	002	W1090910-491-1,2,3	09/09/10	09:05
L6R5T	003	TRIP BLANK	09/09/10	

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.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W1090910-490-1,2,3

GC/MS Volatiles

Lot-Sample #:	A0I100466-001	Work Order #:	L6R5M1AA	Matrix WG
Date Sampled:	09/09/10 09:10	Date Received:	09/10/10	
Prep Date:	09/16/10	Analysis Date:	09/16/10	
Prep Batch #:	0259329	-		
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.45 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND .	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	7.2	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	101	(73 - 122)	
1,2-Dichloroethane-d4	98 .	(61 - 128)	
Toluene-d8	99	(76 - 110)	
4-Bromofluorobenzene	87	(74 - 116)	

NOTE (S) :

.

J Estimated result. Result is less than RL.

Influent

Conestoga-Rovers & Associates, Inc.

Effluent

.

Client Sample ID: W1090910-491-1,2,3

GC/MS Volatiles

Lot-Sample #:	A0I100466-002	Work Order #:	L6R5R1AA	Matrix WG
Date Sampled:	09/09/10 09:05	Date Received:	09/10/10	
Prep Date:	09/16/10	Analysis Date:	09/16/10	
Prep Batch #:	0259329			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.29 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.37 J	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	3.4	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	99	(73 - 12	22)
1,2-Dichloroethane-d4	97	(61 - 128)	
Toluene-d8	99	(76 - 110)	
4-Bromofluorobenzene	89	(74 - 1)	16)

NOTE (S) :

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A0I100466-003	Work Order #: L6R5T1AA	Matrix WO
Date Sampled: 09/09/10	Date Received: 09/10/10	
Prep Date: 09/16/10	Analysis Date: 09/16/10	
Prep Batch #: 0259329		
Dilution Factor: 1	Method SW846 8260B	

			 -	 	
•					

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	1.2 J	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	uq/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	98	(73 - 12	(2)
1,2-Dichloroethane-d4	98	(61 - 12	8)
Toluene-d8	97	(76 - 11	0)
4-Bromofluorobenzene	87	(74 - 11	6)

NOTE (S) :

J Estimated result. Result is less than RL.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A0I100466 MB Lot-Sample #: A0I160000-329	Work Order #: L63RR1AA	Matrix WATER
	Prep Date: 09/16/10	
Analysis Date: 09/16/10 Dilution Factor: 1	Prep Batch #: 0259329	

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND .	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND .	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	94	(73 - 12	22)	
1,2-Dichloroethane-d4	95	(61 - 12	28)	
Toluene-d8	99	(76 - 1)	10)	
4-Bromofluorobenzene	92	(74 - 1)	16)	

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 #:	A0I100466	Work Order #:	L63RR1AC-LCS	Matrix WATER
LCS Lot-Sample # :	A0I160000-329		L63RR1AD-LCSD	
Prep Date:	09/16/10	Analysis Date:	09/16/10	
Prep Batch #:	0259329		<u>.</u>	
Dilution Factor:	1			

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Vinyl chloride	82	(61 - 120)			SW846 8260B
-	80	(61 - 120)	1.7	(0-30)	SW846 8260B
Methylene chloride	86	(78 - 118)			SW846 8260B
-	86	(78 - 118)	0.63	(0-30)	SW846 8260B
Acetone	80	(22 - 200)			SW846 8260B
	100	(22 - 200)	22	(0-95)	SW846 8260B
1,1-Dichloroethene	94	(63 - 130)			SW846 8260B
- -	95	(63 - 130)	1.4	(0-20)	SW846 8260B
Chloroform	95	(84 - 128)			SW846 8260B
	96	(84 - 128)	0.75	(0-30)	SW846 8260B
Carbon tetrachloride	92	(75 - 149)			SW846 8260B
	91	(75 - 149)	1.4	(0-30)	SW846 8260B
Trichloroethene	100	(75 - 122)			SW846 8260B
	9 9	(75 - 122)	1.2	(0–20)	SW846 8260B
1,1,2-Trichloroethane	99	(83 - 122)			SW846 8260B
	100	(83 - 122)	0.75	(0-30)	SW846 8260B
Benzene	97	(80 - 116)			SW846 8260B
	100	(80 - 116)	2.9	(0-20)	SW846 8260B
Tetrachloroethene	102	(88 - 113)			SW846 8260B
	104	(88 - 113)	2.1	(0-30)	SW846 8260B
Toluene	99	(74 - 119)			SW846 8260B
	99	(74 - 119)	0.10	(0-20)	SW846 8260B
Ethylbenzene	106	(86 - 116)			SW846 8260B
-	105	(86 - 116)	0.45	(0-30)	SW846 8260B
Xylenes (total)	105	(87 - 116)			SW846 8260B
	105	(87 - 116)	0.36	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	97	(85 - 113)			SW846 8260B
• •	97	(85 - 113)	0.050	(0-30)	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	94	(73 - 122)
	95 [°]	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
	92	(61 - 128)
Toluene-d8	105	(76 - 110)
	104	(76 - 110)
4-Bromofluorobenzene	107	(74 - 116)
	111	(74 - 116)

NOTE (S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

 Client Lot #...: A0I100466
 Work Order #...: L63RR1AC-LCS
 Matrix.....: WATER

 LCS Lot-Sample#: A0I160000-329
 L63RR1AD-LCSD

 Prep Date....: 09/16/10
 Analysis Date..: 09/16/10

 Prep Batch #...: 0259329
 Dilution Factor: 1

	SPIKE	MEASUREI)	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
Vinyl chloride	10	8.2	ug/L	82		SW846 8260B
· .	10	8.0	ug/L	80	1.7	SW846 8260B
Methylene chloride	. 10	8.6	ug/L	86		SW846 8260B
	10	8.6	ug/L	86	0.63	SW846 8260B
Acetone	20	16	ug/L	80		SW846 8260B
	20	20	ug/L	1 0 0	22	SW846 8260B
1,1-Dichloroethene	10	9.4	ug/L	94		SW846 8260B
	10	9.5	ug/L	95	1.4	SW846 8260B
Chloroform	10	9.5	ug/L	95		SW846 8260B
	10	9.6	ug/L	96	0.75	SW846 8260B
Carbon tetrachloride	10	9.2	ug/L	92		SW846 8260B
	10	9.1	ug/L	91	1.4	SW846 8260B
Trichloroethene	10	10	ug/L	100		SW846 8260B
	10	9.9	ug/L	99	1.2	SW846 8260B
1,1,2-Trichloroethane	10	9.9	ug/L	99		SW846 8260B
	10	10	ug/L	100	0.75	SW846 8260B
Benzene	10	9.7	ug/L	97		SW846 8260B
	10	10	ug/L	100	2.9	SW846 8260B
Tetrachloroethene	10	10	ug/L	102		SW846 8260B
	10	10	ug/L	104	2.1	SW846 8260B
Toluene	10	9.9	ug/L	99		SW846 8260B
	10	9.9	ug/L	99	0.10	SW846 8260B
Ethylbenzene	10	11	ug/L	106		SW846 8260B
	10	11	ug/L	105	0.45	SW846 8260B
Xylenes (total)	30	32	ug/L	105		SW846 8260B
	30	31	ug/L	105	0.36	SW846 8260B
cis-1,2-Dichloroethene	10	9.7	ug/L	97		SW846 8260B
	10	9.7	ug/L	97	0.050	SW846 8260B

PERCENT	RECOVERY
RECOVERY	LIMITS
94	(73 - 122)
95	(73 - 122)
98	(61 - 128)
92	(61 - 128)
105	(76 - 110)
104	(76 - 110)
107	(74 - 116)
111	(74 - 116)
	PERCENT <u>RECOVERY</u> 94 95 98 92 105 104 107 111

NOTE (S) :

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

 Client Lot #...: A0I100466
 Work Order #...: L6TF81AE-MS
 Matrix....: WATER

 MS Lot-Sample #: A0I100511-002
 L6TF81AF-MSD

 Date Sampled...: 09/09/10 11:05
 Date Received..: 09/10/10

 Prep Date.....: 09/16/10
 Analysis Date..: 09/16/10

 Prep Batch #...: 0259329
 Dilution Factor: 2500

	PERCENT	RECOVERY		RPD		
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD	
Chloroform	94	(83 - 141)			SW846 8260	в
	95	(83 - 141)	0.97	(0-30)	SW846 8260	в
1,1-Dichloroethene	89	(62 - 130)			SW846 8260	B
	93	(62 - 130)	4.1	(0-20)	SW846 8260	В
Vinyl chloride	77 a .	(88 - 126)			SW846 8260	В
-	79 a	(88 - 126)	2.1	(0-30)	SW846 8260	В
Methylene chloride	89	(82 - 115)			SW846 8260	В
-	90	(82 - 115)	0.11	(0-30)	SW846 8260	В
Acetone	101	(45 - 128)			SW846 8260	в
	99	(45 - 128)	1.7	(0-30)	SW846 8260	в
Carbon tetrachloride	81	(63 - 176)			SW846 8260	В
	85	(63 - 176)	4.7	(0-30)	SW846 8260	В
Trichloroethene	98	(62 - 130)			SW846 8260	B
	99	(62 - 130)	1.1	(0–20)	SW846 8260	B
1,1,2-Trichloroethane	98	(86 - 129)			SW846 8260	B
	97	(86 - 129)	1.7	(0-30)	SW846 8260	B
Benzene	95	(78 - 118)			SW846 8260	B
	96	(78 - 118)	1.5	(0-20)	SW846 8260	B
Tetrachloroethene	98	(85 - 121)			SW846 8260	B
	97	(85 - 121)	1.2	(0-30)	SW846 8260	B
Toluene	99	(70 - 119)			SW846 8260	B
	99	(70 – 119)	0.59	(0-20)	SW846 8260	B
Ethylbenzene	104	(86 - 132)			SW846 8260	B
-	104	(86 - 132)	0.34	(0-30)	SW846 8260	B
Xylenes (total)	103	(89 - 121)			SW846 8260	B i
-	105	(89 - 121)	1.6	(0-30)	SW846 8260	B
cis-1,2-Dichloroethene	92	(87 - 114)			SW846 8260)B
	89	(87 - 114)	0.70	(0-30)	SW846 8260	B
				BECOVERY		

	PERCENT	. RECOVERI	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	93	(73 - 122)	
	95	(73 - 122)	
1,2-Dichloroethane-d4	93	(61 - 128)	
1/2 510.102000	98	(61 - 128)	
Toluene-d8	104	(76 - 110)	
	103	(76 - 110)	
4-Bromofluorobenzene	108	(74 - 116)	
	110	(74 – 116)	

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

.

Client Lot #: A0I100466 MS Lot-Sample #: A0I100511-002	Work Order #:	L6TF81AE-MS Mat. L6TF81AF-MSD	rix: WA	TER
	PERCENT	RECOVERY		

RECOVERY

LIMITS

SURROGATE

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 DATA REPORT

GC/MS Volatiles

 Client Lot #...: A0I100466
 Work Order #...: L6TF81AE-MS
 Matrix.....: WATER

 MS Lot-Sample #: A0I100511-002
 L6TF81AF-MSD
 Matrix.....: WATER

 Date Sampled...: 09/09/10 11:05
 Date Received..: 09/10/10
 Prep Date.....: 09/16/10

 Prep Date.....: 09/16/10
 Analysis Date..: 09/16/10
 Prep Batch #...: 0259329

 Dilution Factor: 2500
 2500

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD)
Chloroform	ND	25000	23000	ug/L	94		SW846	8260B
	ND	25000	24000	ug/L	95	0.97	SW846	8260B
1,1-Dichloroethene	1400	25000	24000	ug/L	89		SW846	8260B
	1400	25000	25000	ug/L	93	4.1	SW846	8260B
Vinyl chloride	1100	25000	20000	ug/L	77 a		SW846	8260B
-	1100	25000	21000	ug/L	79 a	2.1	SW846	8260B
Methylene chloride	5500	25000	28000	ug/L	89		SW846	8260B
	5500	25000	28000	ug/L	90	0.11	SW846	8260B
Acetone	ND	50000	50000	ug/L	101		SW846	8260B
	ND	50000	50000	ug/L	99	1.7	SW846	8260B
Carbon tetrachloride	ND	25000	20000	ug/L	81		SW846	8260B
	ND	25000	21000	ug/L	85	4.7	SW846	8260B
Trichloroethene	ND	25000	24000	ug/L	98		SW846	8260B
	ND	25000	25000	ug/L	99	1.1	SW846	8260B
1,1,2-Trichloroethane	ND	25000	25000	uġ/L	98		SW846	8260B
	ND	25000	24000	ug/L	97	1.7	SW846	8260B
Benzene	ND	25000	24000 🕽	🖁 ug/L	95		SW846	8260B
	ND	25000	24000	Üug/L	96	1.5	SW846	8260B
Tetrachloroethene	ND	25000	25000	, ùg/L	98		SW846	8260B
	ND	25000.	24000	¦ug/L	97	1.2	SW846	8260B
Toluene	ND	25000	25000	ug/L	99		SW846	8260B
	ND	25000	25000	ug/L	99	0.59	SW846	8260B
Ethylbenzene	ND	25000	26000	ug/L	104		SW846	8260B
-	ND	25000	26000	ug/L	104	0.34	SW846	8260B
Xylenes (total)	ND	75000	77000	ug/L	103		SW846	8260B
-	ND	75000	79000	ug/L	105	1.6	SW846	8260B
cis-1,2-Dichloroethene	58000	25000	81000	ug/L	92		SW846	8260B
	58000	25000	81000	ug/L	89	0.70	SW846	8260B

	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	93	(73 - 122)		
	95	(73 - 122)		
1,2-Dichloroethane-d4	93	(61 - 128)		
	98	(61 - 128)		
Toluene-d8	104	(76 - 110)		
	103	(76 - 110)		
4-Bromofluorobenzene	108	(74 - 116)		
	110	(74 - 116)		

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A0I100466 MS Lot-Sample #: A0I100511-002	Work Order #:	L6TF81AE-MS Mat: L6TF81AF-MSD	rix WATER
	PERCENT	RECOVERY	

RECOVERY

LIMITS

.

SURROGATE

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.

TestAmerica						ord	Rec	tođy	Cus	ı of	hair	С							
THE LEADER IN ENVIRONMENTAL TESTING				Other		<u>.</u>			PDES		· (DW		cation: ogram:	natory k atory pe	a Labari Regula	merica	TestAm	1
TestAmerica Laboratories, Inc. COC No:		hant:	Lah Cant						·	Su- (Mana	. Banda at 1	CTI		Citent Centact
			Telenhan				<u>e</u>	SAn	(Take			ôm	<u>9</u> m	Ber	ee (L	Corp	RBC Manufacturing Co
of COCs								** * * *					Ч	810	675	151	<u>ר</u>		ooe. Randolph St
	Analyses	Алајузез						lee.bergmanneregalbe				<u>e.b</u>	10		Wousdu, WI SULIOI				
						eks	l 3 w		1.018										7156758104
						eks ek] 2 wn] 1 wn							arrier:	panent/(ed of Ship	Methe	A	eject Name: EN-1
						ys Y	2.da 1.da								cking No	sing/Trac	Shtppi	s	eject Number:
						∷									Τ				D4
Sourpe Special Instructions:					ji B			ĝ	NOOS	NOSEH I	Ю]]]	ĮĮ	le Tiese	Saing	uplo Dute	Sam		Sample Identification
Influent				NG				-					-	0A	؛۹	19/10	9/		W1090910-490-1
				рQ				-					-	DA	9:	1			WI 09 0910 - 490 - 2
				NG				-					-	DA	9:		\Box		W1090910-490-3
Effluent				NG				-					-	9 9 A	٩:				W1090910-491-1
				۳G				-					1	09A	9:		Ш		W1090910-491-2
				NG			_	-			ļ			05а	9		H		W1090910 - 491 - 3
		╶╂╌┨╌┥		┨╌┼╌			-			-		+	╶┼┼						
				╂┼─		+	-			┢		+-							
				╏┼╴		1-	+			┢		+	+		+		<u> </u>		·····
Months	з 1 month) For	and longer that Archive	are retab .ab	H sample posal By L	Dia	iny be a	(A fee Cilent	Kepecal Return to		S	ulunown	ահա լ Մո		otson B		<u> </u>	. Teritaar	Skin⊺u	Possible Hagard Identification
														•					ecial Instructions/QC Requirements & Community:
Daie/Time:	Company:					iy:	ecetved	i a a l	: F r	, 9	9 //	Time:	Data			peny:	Come		elinning by:
Date/Time:	Солфану	0	1	0		y.	eceived				1.14	Time:	Date		onu	pany:	Comp		elinquished by:
Date Time: 210 09	Comper-	100	1	1/	Ħ		47					Time:	Date			pany:	Comp	. (elinquished by:

١

Sec. 10

20 of 23

TestAmerica Cool	er Receipt Form/Narrativa	
North Canton Faci	lity Lot Ni	umber: Aotloode
Client RIT M	ANDERIUNI	
Cooler Received on	CALLON Project EW-	By: Mathe 2004
FedEx D UPS DH	L FAS Stetson Client Days Off Law	(Signat(ure)
TestAmerica Cooler #		Courier 🔲 Other
1. Were custody seals	on the outside of the cooler(c)? You Day http://	Cooler Other
If YES, Quantity	Ouentity Linescharachia	
Were custody seals	on the outside of cooler(s) signed and dated?	
Were custody seals	on the bottle(s)?	
If YES, are there an	y exceptions?	
2. Shippers' packing sli	ip attached to the cooler(s)?	
3. Did custody papers a	accompany the sample(s)? Yes 🗹 No 🗔	
4. Were the custody pa	apers signed in the appropriate place?	
5. Packing material use	ed: Bubble Wrap 🛛 /Foam 🔽 None 🗔 Other	PLACETCOAG
6. Cooler temperature	upon receipt °C See back of form for multin	
METHOD:	IR X Other Z	
COOLANT: Wet	ice K Blue ice Dry ice Water None I	
7. Did all bottles arrive	in good condition (Unbroken)?	
o. Could all bottle label	s be reconciled with the COC?	Yes IN No R
9. vvere sample(s) at th	ne correct pH upon receipt?	Yes I No I NA RT
10. Were correct bottle(s	b) used for the test(s) indicated?	Yes/X No
11. Were air Dubbles >6	mm in any VOA vials?	Yes No R NA
12. Sumicient quantity re	ceived to perform indicated analyses?	Yes 🗹 No 🗋
To. was a trip blank pres	sent in the cooler(s)? Yes 🔣 No 🗌 Were VOAs on the	COC? Kes A No
	<u>24</u> Date <u>7-10-10</u> by <u>NS</u> via V	erbal 🛛 Voice Mail 🗌 Other 🖂
	11.14	
The following discrements		
TRIP DHA. 1	CIVYD DETING	
- They Bury	LINCONT PERS, NO ON [0	(Will 10g.
	· · · · · · · · · · · · · · · · · · ·	
15. SAMPLE CONDITIO		
Sample(s)	were received after the recomm	ended holding time had expired
Sample(s)	were	received in a broken container
	were received with bubble	>6 mm in diameter. (Notify PM)
Somple PRESERV	ATION	
Sample(S)	were furthe	er preserved in Sample
Hydroxide Lot# 100108 -Ma	CH Hudmehloria Acid Lette 000000 1101 - HNO3; Sulfuric Acid	Lot# 051010-H2SO4; Sodium
(CH3COO)2ZN/NaOH. Whi	on, nyurochionic Acid Lon# U92006-HCI; Sodium Hydroxide end Zir	nc Acetate Lot# 100108-
Client ID		
	<u>pn</u>	<u>DateInitials</u>

.

....

TestAmerica Cooler	Receipt Form/Narrative		
Client ID	oH		
		Date	
			·····
	· · · · · · · · · · · · · · · · · · ·		
			<u> </u>
· · · · · · · · · · · · · · · · · · ·			
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		ļ
			
	· · · ·		
•			
0			
Cooler #	Temp, °C	Method	Coolant
Cooler #	Temp, °C	Method	<u>Coolant</u>
Cooler #	Temp. °C	Method	<u>Coolant</u>
Cooler #	Temp, °C	Method	Coolant
Cooler #	Temp, °C	Method	<u>Coolant</u>
Cooler #	Temp. °C	<u>Method</u>	Coolant
Cooler #	Temp, °C		<u>Coolant</u>
Cooler #	Temp, °C		<u>Coolant</u>
Cooler #	Temp. °C		Coolant
Cooler #			Coolant
Cooler #			Coolant
Cooler # Discrepancies Confd			
Cooler # Discrepancies Cont'd	Temp, °C		
Cooler # Discrepancies Cont'd:	Temp, °C		Coolant
Cooler # Discrepancies Confd	Temp. °C		
Cooler # Discrepancies Confd			
Cooler #			

.

ĵ



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

DATA VALIDATION MEMO

003978BIAN10-ATTP



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

	MEMORANDUM		
TO:	Chuck Ahrens, CRA	Ref. No.:	003978-10
FROM:	Ruth Mickle/sb/6	DATE:	October 4, 2010
CC:	Analytical Data File		
RE:	Data Quality Assessment September 9, 2010 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected September 9, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W100909MV-490-1,2,3 (Influent) and W100909MV-491-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).¹ The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).²

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

CRA MEMORANDUM

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. With the exception of acetone, the trip blank was free of target analytes. Since there were no associated acetone detections, no data qualification was required based on trip blank data.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.



January 27, 2011

1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

Reference No. 003978-10

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

RECEIVED

JAN 2 8 2011

DNH-WCR

Ms. Erin Endsley WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont Avenue PO Box 4001 Eau Claire, WI 54702-4001

Dear Ms. Bianchin and Ms. Endsley:

Re: Fourth Quarter 2010 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this fourth quarter 2010 report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at RBC Manufacturing Inc. (formerly Marathon Electric) on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river.

Fourth quarter 2010 samples were collected on November 17, 2010, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	8.9	3.8	41,000
cis-1,2-dichloroethene	0.48J	0.23J	none
chloroform	<1.0	2.1	29,000
acetone	1.8J	<10	none

Notes:

J - estimated value, below the method reporting limit. Units: $\mu g/L$.

Equal Employment Opportunity Employer ENGINEERING DESIGN


January 27, 2011

Reference No. 003978-10

The acetone detection is suspect. Historically, acetone has not been associated with the Site contaminants and it is a common laboratory artifact.

EW1 operated continuously during the fourth quarter of 2010 except for 32 minutes on October 7 to clean the filter screen and from December 28th through the 31st due to pump failure. From October 1, 2010, through December 31, 2010, the pump operated at an average flow rate of 606 gpm. Approximately 80,000,000 gallons of water were treated by EW1 in the fourth quarter of 2010.

-2-

During routine inspection on January 4, 2011, it was discovered that the EW1 pump had failed. After troubleshooting, the pump was removed and was found to have a broken line shaft. The pump was repaired and reinstalled on January 26, 2011. While the pump was out of the well, RBC used the opportunity to have the well rehabilitated. Rehabilitation included wire-brushing the screen, acid treating, and disinfection. Groundwater containing the treatment chemicals was pumped to a storage container and pH balanced prior to discharging, with City of Wausau approval, to the sanitary sewer. A total of 12,000 gallons was discharged to the sewer.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

allum

Charles Ahrens

CEA/sb/11 Encl.

cc: Lee Bergmann, Regal Beloit Dave Erickson, City of Wausau

A EW-1 well vehab completed January 2011

ATTACHMENT A

LABORATORY REPORT

003978BLAN11-ATTP



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Ruth Mickle Conestoga-Rovers & Associates, Inc. PROJECT NO. EW-1 EW-1

SAMPLE SUMMARY

 WO #
 LABORATORY ID

 L9839
 A0K180548-001

 L984D
 A0K180548-002

 L984E
 A0K180548-003

SAMPLE IDENTIFICATION

W1111710-492-1,2,3 W1111710-493-1,2,3 TRIP BLANK

Designee for

Denise D. Heckler Project Manager denise.heckler@testamericainc.com

December 06, 2010

Approved for release. Nathan Pietras Project Manager 12/6/2010 12:14 PM



TestAmerica Laboratorles, Inc. TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720 Tel (330)497-9396 Fax (330)497-0772 www.testamericainc.com

CASE NARRATIVE A0K180548

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the EW-1 Site. The samples were received November 18, 2010, according to documented sample acceptance procedures.

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 Ruth Mickle on December 01, 2010. 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.

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. This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

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, Denise D. Heckler, 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 3.2°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

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.

The matrix spike/matrix spike duplicate(s) for batch(es) 0335122 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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

<u>QC BATCH</u>

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 repreparation 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.)

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

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 repreparation 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 Certifications and Approvals:

The laboratory is certified for the analytes listed on the documents below. These are available upon-request. California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY, USDA Soil Permit

N:\QAQC\Customer Service\Narrative - Combined RCRA CWA 032609.doc

EXECUTIVE SUMMARY - Detection Highlights

A0K180548

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
W1111710-492-1,2,3 11/17/10 10:15	001			
cis-1,2-Dichloroethene	0.48 J	1.0	ug/L	SW846 8260B
Acetone	1.8 J	10	ug/L	SW846 8260B
Trichloroethene	8.9	1.0	ug/L	SW846 8260B
W1111710-493-1,2,3 11/17/10 10:20	002			٤
cis-1,2-Dichloroethene	0.23 J	1.0	ug/L	SW846 8260B
Chloroform	2.1	1.0	ug/L	SW846 8260B
Trichloroethene	3.8	1.0	ug/L	SW846 8260B
TRIP BLANK 11/17/10 003				
Methylene chloride	0.49 J,B	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A0K180548

PARAMETER	ANALYTICAL METHOD		
Volatile Organics by GC/MS	``````````````````````````````````````	SW846 8260B	
References:			

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

SAMPLE SUMMARY

A0K180548

WO # SAMPLE#	CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
L9839 001	W1111710-492-1,2,3	11/17/10.10:15
L984D 002	W1111710-493-1,2,3	11/17/10 10:20
L984E 003	TRIP BLANK	11/17/10

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.

Conestoga-Rovers & Associates, Inc.

Influent

Client Sample ID: W1111710-492-1,2,3

GC/MS Volatiles

Lot-Sample #:	A0K180548-001	Work Order #:	L98391AA	Matrix WG
Date Sampled:	11/17/10 10:15	Date Received:	11/18/10	
Prep Date:	12/01/10	Analysis Date:	12/01/10	
Prep Batch #:	0335122			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.48 J	1.0	ug/L
Acetone	1.8 J	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	8.9	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	115	(75 - 12	1)
1,2-Dichloroethane-d4	104	(63 - 12	9)
Toluene-d8	91	(74 - 11	5)
4-Bromofluorobenzene	77	(66 - 11	7)

NOTE (S):

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Effluent

Client Sample ID: W1111710-493-1,2,3

GC/MS Volatiles

Lot-Sample #:	A0K180548-002	Work Order #:	L984D1AA	Matrix: WG
Date Sampled:	11/17/10 10:20	Date Received:	11/18/10	
Prep Date:	12/01/10	Analysis Date:	12/01/10	
Prep Batch #:	0335122			
Dilution Factor:	1	Method:	SW846 8260B	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.23 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	2.1	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	3.8	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	118	(75 - 121)	
1,2-Dichloroethane-d4	105	(63 - 129)	
Toluene-d8	92	(74 - 115)	
4-Bromofluorobenzene	77	(66 - 117)	

NOTE (S) :

J Estimated result. Result is less than RL.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #: A	A0K180548-003	Work Order #:	L984E1AA	Matrix:	WQ
Date Sampled: 1	11/17/10	Date Received:	11/18/10		
Prep Date: 1	12/01/10	Analysis Date:	12/01/10		
Prep Batch #: (0335122				
Dilution Factor: 1	1	Method:	SW846 8260B		

.

.

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	0.49 J,B	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY :	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	116	(75 - 121)	
1,2-Dichloroethane-d4	101	(63 - 129)	
Toluene-d8	91	(74 - 115)	
4-Bromofluorobenzene	76	(66 - 117)	

NOTE (S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

40 600

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #: A0K180548	Work Order #:	MANQ31AA	Matrix: W	ATER
MB Lot-Sample #: A0L010000-122				
	Prep Date:	11/30/10		
Analysis Date: 11/30/10	Prep Batch #:	0335122		
Dilution Factor: 1			,	

		REPORTI	REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD	
Acetone	ND	10	ug/L	SW846 8260B	
Benzene	ND	1.0	ug/L	SW846 8260B	
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B	
Chloroform	ND	1.0	ug/L	SW846 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B	
Ethylbenzene	ND	1.0	ug/L	SW846 8260B	
Methylene chloride	0.36 J	1.0	ug/L	SW846 8260B	
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B	
Toluene	ND	1.0	ug/L	SW846 8260B	
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B	
Trichloroethene	ND	1.0	ug/L	SW846 8260B	
Vinyl chloride	ND	1.0	ug/L	SW846 8260B	
Xylenes (total)	ND	1.0	ug/L	SW846 8260B	
	PERCENT	RECOVER	Y		
SURROGATE	RECOVERY	LIMITS			
Dibromofluoromethane	108	(75 - 12	21)		
1,2-Dichloroethane-d4	103	(63 - 12	29)		
Toluene-d8	94	(74 - 1)	15)		
4-Bromofluorobenzene	82	(66 - 1)	17)		

NOTE (S):

•

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

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #:	A0K180548	Work Order #:	MANQ31AC-LCS	Matrix:	WATER
LCS Lot-Sample#:	A0L010000-122		MANQ31AD-LCSD		
Prep Date:	11/30/10	Analysis Date:	11/30/10		
Prep Batch #:	0335122				
Dilution Factor:	1				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Vinyl chloride	89	(53 - 127)			SW846 8260B
	85	(53 - 127)	4.8	(0-30)	SW846 8260B
Methylene chloride	99	(66 - 131)			SW846 8260B
	95	(66 - 131)	4.4	(0-30)	SW846 8260B
Acetone	70	(43 - 136)			SW846 8260B
	67	(43 - 136)	4.2	(0-30)	SW846 8260B
1,1-Dichloroethene	105	(78 - 131)			SW846 8260B
	100	(78 - 131)	4.1	(0-30)	SW846 8260B
Chloroform	102	(79 - 117)			SW846 8260B
	101	(79 - 117)	0.92	(0-30)	SW846 8260B
Carbon tetrachloride	127	(66 - 128)			SW846 8260B
	123	(66 - 128)	3.1	(0-30)	SW846 8260B
Trichloroethene	107	(76 - 117)			SW846 8260B
	106	(76 - 117)	0.99	(0-20)	SW846 8260B
1,1,2-Trichloroethane	96	(80 - 112)			SW846 8260B
	97	(80 - 112)	1.1	(0-30)	SW846 8260B
Benzene	100	(83 - 112)			SW846 8260B
	98	(83 - 112)	1.7	(0-30)	SW846 8260B
Tetrachloroethene	102	(79 - 114)			SW846 8260B
	105	(79 - 114)	2.2	(0-30)	SW846 8260B
Toluene	9 9	(84 - 111)			SW846 8260B
	100	(84 - 111)	1.3	(0-30)	SW846 8260B
Ethylbenzene	100	(83 - 112)			SW846 8260B
	9 9 ·	(83 - 112)	0.65	(0-30)	SW846 8260B
Xylenes (total)	101	(83 - 112)			SW846 8260B
	102	(83 - 112)	0.65	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	105	(80 - 113)			SW846 8260B
	104	(80 - 113)	0.66	(0 - 30)	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	104	(75 - 121)
	102	(75 - 121)
1,2-Dichloroethane-d4	94	(63 - 129)
	94	(63 - 129)
Toluene-d8	102	(74 - 115)
	100	(74 - 115)
4-Bromofluorobenzene	101	(66 - 117)
	101	(66 - 117)

NOTE (S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A0K180548 Work Order #...: MANQ31AC-LCS Matrix.....: WATER LCS Lot-Sample#: A0L010000-122 MANQ31AD-LCSD **Prep Date....:** 11/30/10 Analysis Date..: 11/30/10 **Prep Batch #...:** 0335122 Dilution Factor: 1

	SPIKE	MEASUREI)	PERCENT		
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
Vinyl chloride	10	8.9	ug/L	89		SW846 8260B
	10	8.5	ug/L	85	4.8	SW846 8260B
Methylene chloride	10	9.9	ug/L	99		SW846 8260B
	10	9.5	ug/L	95	4.4	SW846 8260B
Acetone	20	14	ug/L	70		SW846 8260B
	20	13	ug/L	67	4.2	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	105		SW846 8260B
	10	10	ug/L	100	4.1	SW846 8260B
Chloroform	10	10	ug/L	102		SW846 8260B
	10	10	ug/L	101	0.92	SW846 8260B
Carbon tetrachloride	10	13	ug/L	127		SW846 8260B
	10	12	ug/L	123	3.1	SW846 8260B
Trichloroethene	10	11	ug/L	107		SW846 8260B
	10	11	ug/L	106	0.99	SW846 8260B
1,1,2-Trichloroethane	10	9.6	ug/L	96		SW846 8260B
:	10	9.7	ug/L	97	1.1	SW846 8260B
Benzene	10	10	ug/L	100		SW846 8260B
	10	9.8	ug/L	98	1.7	SW846 8260B
Tetrachloroethene	10	10	ug/L	102		SW846 8260B
	10	10	ug/L	105	2.2	SW846 8260B
Toluene	10	9.9	ug/L	99		SW846 8260B
	10	10	ug/L	100	1.3	SW846 8260B
Ethylbenzene	10	10	ug/L	100		SW846 8260B
	10	9.9	ug/L	99	0.65	SW846 8260B
Xylenes (total)	30	30	ug/L	101		SW846 8260B
	30	31	ug/L	102	0.65	SW846 8260B
cis-1,2-Dichloroethene	10	10	ug/L	105		SW846 8260B
	10	10	ug/L	104	0.66	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	104	(75 - 121)
	102	(75 - 121)
1,2-Dichloroethane-d4	94	(63 - 129)
	94	(63 - 129)
Toluene-d8	102	(74 - 115)
	100	(74 - 115)
4-Bromofluorobenzene	101	(66 - 117)
	101	(66 - 117) [·]

NOTE (S) :

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

.

GC/MS Volatiles

Client Lot #:	A0K180548	Work Order #:	L98TC1AC-MS	Matrix:	WATER
MS Lot-Sample #:	A0K180520-001		L98TC1AD-MSD		
Date Sampled:	11/17/10 09:20	Date Received:	11/18/10		
Prep Date:	12/01/10	Analysis Date:	12/01/10		
Prep Batch #:	0335122				
Dilution Factor:	1				

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	109	(74 - 135)			SW846 8260B
	87	(74 - 135)	9.9	(0-30)	SW846 8260B
Vinyl chloride	93	(49 - 130)			SW846 8260B
	84	(49 - 130)	9.9	(0-30)	SW846 8260B
Methylene chloride	95	(63 - 128)			SW846 8260B
	90	(63 - 128)	5.0	(0-30)	SW846 8260B
Acetone	64	(33 - 145)ir			SW846 8260B
	61	(33 - 145)	4.3	(0-30)	SW846 8260B
Chloroform	104	(76 - 118)			SW846 8260B
	92	(76 - 118)	7.0	(0-30)	SW846 8260B
Carbon tetrachloride	146 a	(59 - 129)			SW846 8260B
	111	(59 - 129)	12	(0-30)	SW846 8260B
Trichloroethene	106	(66 - 120)			SW846 8260B
	99	(66 - 120)	5.5	(0-30)	SW846 8260B
1,1,2-Trichloroethane	88	(75 - 115)			SW846 8260B
	89	(75 - 115)	0.83	(0-30)	SW846 8260B
Benzene	97	(72 - 121)			SW846 8260B
	94	(72 - 121)	3.6´	(0-30)	SW846 8260B
Tetrachloroethene	105	(70 - 117)			SW846 8260B
	101	(70 - 117)	3.7	(0-30)	SW846 8260B
Toluene	97	(78 - 114)			SW846 8260B
	96	(78 - 114)	1.8	(0-30)	SW846 8260B
Ethylbenzene	98	(75 - 116)			SW846 8260B
	97	(75 - 116)	0.99	(0-30)	SW846 8260B
Xylenes (total)	101	(76 - 116)			SW846 8260B
	98	(76 - 116)	3.2	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	106	(70 - 120)			SW846 8260B
	100	(70 - 120)	6.4	(0-30)	SW846 8260B

,

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	108	(75 - 121)
	102	(75 - 121)
1,2-Dichloroethane-d4	93	(63 - 129)
	90	(63 - 129)
Toluene-d8	100	(74 - 115)
	97	(74 - 115)
4-Bromofluorobenzene	101	(66 - 117)
8	100	(66 - 117)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #: A0K180548	Work Order #: L98TC1	IAC-MS Matrix W i	ATER
MS Lot-Sample #: A0K180520-001	L98TC1	IAD-MSD	
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	

.

.

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 DATA REPORT

GC/MS Volatiles

Client Lot #:	A0K180548	Work Order #:	L98TC1AC-MS	Matrix:	WATER
MS Lot-Sample #:	A0K180520-001		L98TC1AD-MSD		
Date Sampled:	11/17/10 09:20	Date Received:	11/18/10		
Prep Date:	12/01/10	Analysis Date:	12/01/10		
Prep Batch #:	0335122				
Dilution Factor:	1				

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHO)
1,1-Dichloroethene	12	10	23	ug/L	109		SW846	8260B
	12	10	21	ug/L	87	9.9	SW846	8260B
Vinyl chloride	ND	10	9.3	ug/L	93		SW846	8260B
	ND	10	8.4	ug/L	84	9.9	SW846	8260B
Methylene chloride	0.35	10	9.8	ug/L	95		SW846	8260B
	0.35	10	9.4	ug/L	90	5.0	SW846	8260B
Acetone	ND	20	13	ug/L	64		SW846	8260B
	ND	20	12	ug/L	61	4.3	SW846	8260B
Chloroform	6.7	10	17	ug/L	104		SW846	8260B
	6.7	-10	16	ug/L	92	7.0	SW846	8260B
Carbon tetrachloride	17	10	32	ug/L	146 a		SW846	8260B
	17	10	29	ug/L	111	12	SW846	8260B
Trichloroethene	2.4	10	13	ug/L	106		SW846	8260B
	2.4	10	12	ug/L	99	5.5	SW846	8260B
1,1,2-Trichloroethane	ND	10	8.8	ug/L	88		SW846	8260B
	ND	10	8.9	ug/L	89	0.83	SW846	8260B
Benzene	ND	10	9.7	ug/L	97		SW846	8260B
	ND	10	9.4	ug/L	94	3.6	SW846	8260B
Tetrachloroethene	0.42	10	11	ug/L	105		SW846	8260B
	0.42	10	10	ug/L	101	3.7	SW846	8260B
Toluene	ND	10	9.7	ug/L	97		SW846	8260B
	ND	10	9.6	ug/L	96	1.8	SW846	8260B
Ethylbenzene	ND	10	9.8	ug/L	98		SW846	8260B
	ND	10	9.7	ug/L	97	0.99	SW846	8260B
Xylenes (total)	ND	30	30	ug/L	101		SW846	8260B
	ND	30	29	ug/L	98	3.2	SW846	8260B
cis-1,2-Dichloroethene	0.24	10	11	ug/L	106		SW846	8260B 。
	0.24	10	10	ug/L	100	6.4	SW846	8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	108	(75 - 121)
	102	(75 - 121)
1,2-Dichloroethane-d4	93	(63 - 129)
	90	(63 - 129)
Toluene-d8	100	(74 - 115)
	97	(74 - 115)
4-Bromofluorobenzene	101	(66 - 117)
	100	(66 - 117)

.

.

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A0K180548	Work Order #: L98TC	CIAC-MS Matrix:	WATER
MS Lot-Sample #: A0K180520-001	L98TC	CIAD-MSD	
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	

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.

_				1	Cha Voi	in of 2.74	f Cu	stod	y R	eco:	rd Oh	f	•								THELE	STA ADER IN E		
Te	stAmerica Labo Regul	atory location: atory program:	 [DW		NPDE	s (RCRA			Oth	er							Те	st A meri	ra Laborato	ries.
Client Contact	Client Projec	t Manager:				Site	e Costa	et:		,				Lab	Contact:						<u> </u>	COC No		
C. Manufacturing	Lee	Bergn	non	5			5	An	ne	<u></u>														
	Telephone:			1		Tel	lephane		P	_		•		Tele	obone:								of C	OCs
DE Kandolph Dt		.015.0	101			-			y ar					•			_							
AUSIAU, WI 54401	lee.t	rengnan	ne	rec	jalt	el	2.14		•	**:	۰.	<u>,</u>					Aas	lyses	Т — Т					
5 1 7 5 9104					,		TAT	if different	t from be	elow 3 weel			40											
	Method of Si	tipmeşt/Carrier:			÷=					2 weel	(5													
N-1	Shinning/Tri	ckine No:				_				1 week	C	••	•4),							ľ				
mber:	Smppury In									l day	<u>من رو او</u>	., ,	*											
			×			ن 11	5.6					امد عد ^{ري}										· · · • •		
·					3		<u>5</u> , 5		Ŧ	e k	g	Li A										Sam Sp	pie Specific N ecial Instructi	iotes ions:
Sample Identification	Sample Da	te Sample Time	2		38		1)色	<u> </u>	Ž	ZN	5	ð				+		+	<u> · _ </u>		+		. 1	
111710 - 492-1	11/17/	10 10:15A	1	1				-					21	3	↓							Int	luent	
492.2	1	10:16A	•	-				-					4	3										
402-3		10:164	<u>†</u> †.	-			_	-	1				N	3					T					
(1110 - 442 - 5		10.20	╂┼	╁┤				+-	<u> </u>	\vdash			N	2	\uparrow			1				FA	luen	7
111710 - 493-1		10.00	+	+	$\left \cdot \right $	-+-			+	┢──					╀╌┼╸	+-	+	╈	┼╌┤			<u> </u>	1	-
11110 -493-2		10:20n	<u> </u> '	1				-	_	_			 ~ 	<u>ف</u>	╂┈╂╴			╂						
111710 -493-3	4	10:21A	ŀ					-					N	G			_						<u>↓</u>	
															·								<u>.</u>	
			††														Ţ						ા	
			╂┽	+	┼┼╴	-+	+	+	╈	+			╉┤		┼╌┼╴		+	1						
·			╁╁	- ·	╞┼┼	╤╋		+		╂			╉┤	·	╉╌╂╴		+	+	╁╾┥				·.	
						5				Ļ												Ĺ		
Ne Hazard Identification	Skin Irritant	Poison I	3.		Unkn). ØWD	Sampi	Return	n to Cli	ient	ji be i	Dis	posal E	by Lab		Archiv	e For				Months			<u> </u>
tructions/QC Requirements & Comments:						¥,							•					•		<i>:</i> '				
alad but 10	Company:		.	Date/Ti	me:				Rece	ived by	<i>ı</i> :	<u></u>					Con	npany:				Date/Tin	ne:	
4 Sugmann_	KBC	monutaet	טיית	1/ ate/Ti	/17/	10	11:0	OAA	Rece	ived by	<u>r.</u>				<u></u>		Con	пралу:				Date/Tin	ne:	
abod by:	Company.																		_ <u>_ </u>	•		Date/Ti-	ne. /	
ished by:	Company:		1	Date/Ti	me:				Rec		Labo	Constants	⊌у: Д	. /	-tf	, 		npany: 774	tc	N	~	11/1	8/10 2	83
4										N	un	K.	A	r	er.						_	-+		نىيىتىيى <u>.</u>

TestAmerica Cooler Rec	eipt Form/Narrative	Lot Number: <u>H0K-180548</u>						
North Canton Facility			·					
Client RBC, Manuel	Tetuna Project _ Eug-1_	By Brand Schort	\leq					
Cooler Received on	8 (10 () Opened on 11 17 10	(Signature)						
	AS 🔲 Stetson 🗌 Client Drop Off 🗍 Tes	America Courier U Other	—— I					
TestAmerica Cooler #	Multiple Coolers 🔲 Foam Box	Client Cooler Other						
1 Were custody seals on the	outside of the cooler(s)? Yes Vo O	Intact? Yes 🖉 No 🔲 NA 📙						
If VES 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 VES are there any exce	ptions?							
2 Shippers' packing slip atta	ched to the cooler(s)?		• _					
2. Shippers packing sip attached to the coefficient of No Did custody papers accompany the sample(s)? Yes No Did custody papers accompany the sample(s)? Yes No Did custody papers accompany the sample(s)?								
A Were the custody papers s	signed in the appropriate place?	Yes 🖉 No 🗌						
4. Were the custody papers a	Subble Wrap 7 Foam 7 None	Other						
5. Facking matchai used.	receipt 3,2 °C See back of form	for multiple coolers/temps						
	Other							
	Blue Ice Dry Ice Water							
Z Did all bettles arrive in COC	d condition (Inbroken)?	Yes No T						
. Out all bottles allive in goo	econciled with the COC2	Yes V No						
	rect nH upon receint?	Yes No NA NA						
9. Were sample(s) at the con	d for the test(s) indicated?	Yes No 🗍						
	n any VOA viele?							
11. Were air bubbles >6 mm	d to porform indicated analyses?							
12. Sufficient quantity receive	a the ecolor(c)? Yes V No Vere V	OAs on the COC2 Yes VINO						
13. Was a trip blank present in			er 🗖 🛛					
Contacted PM A CI								
	19							
14 CHAIN OF CUSTODY								
14 CHAIN OF CUSTODY The following discrepancies o	ccurred:							
The following discrepancies on recally 40 trip blank	courred:							
14 CHAIN OF CUSTODY The following discrepancies o <u>wid/x 40 trip blank</u> No test listed	courred: not on COC will log. Arr analysis will log u	oc per 3×40 vials read						
The following discrepancies o <u>Nuclal × 40 trip blank</u> <u>Ala test listed</u>	ccurred: not on COC will log . Arr analysis will log u	oc per 3×40 vials stard						
The following discrepancies o <u>pud/x 40 trip blank</u> <u>Alo test listed</u>	ccurred: not_on_COC_will_log_ Avr analysis_will log_u	oc per 3×40 vials reard						
14 CHAIN OF CUSTODY The following discrepancies o Nocid / × 40 trip blank 	ccurred: not_on_COC_will_log_ Arr analysis_will_log_M	rc per 3×40 vials traid						
14 CHAIN OF CUSTODY The following discrepancies o <u>pud/x 40 trip blank</u> 	ccurred: not on COC will log Arr analysis will log u	oc per 3×40 vials stard						
The following discrepancies o <u>public 40 trip blank</u> <u>Ala test listed</u>	ccurred: not on COC will log . Arr analysis will log M	oc per 3×40 vials read						
14 CHAIN OF CUSTODY The following discrepancies o Nod / × 40 trip blank 	ccurred: <u>not on COC will log</u> Avr analysis will log M	rc per 3×40 vials Track						
14 CHAIN OF CUSTODY The following discrepancies o <u>recal × 40 trip blank</u> <u>ADo test listed</u> 15 SAMPLE CONDITION	ccurred: 	the recommended holding time had exc						
14 CHAIN OF CUSTODY The following discrepancies o <u>public 40 trip blank</u> <u>Alo test listed</u> 15 SAMPLE CONDITION Sample(s)	ccurred: not on COC will log Arr analysis will log u were received after	the recommended holding time had exp	pired.					
14 CHAIN OF CUSTODY The following discrepancies o <u>wid/x 40 trip blank</u> <u>Ala test listed</u> 15 SAMPLE CONDITION Sample(s) Sample(s)	ccurred: 	the recommended holding time had exp were received in a broken conta	pired.					
14 CHAIN OF CUSTODY The following discrepancies o <u>NUA X 40 Trip blank</u> <u>A Jo test listed</u> 15 SAMPLE CONDITION Sample(s) Sample(s)	ccurred: <u>not on COC will log</u> <u>Arr analysis will log</u> were received after were received	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify	pired. iiner.					
14 CHAIN OF CUSTODY The following discrepancies o NUA X 40 Trip blank A o test listed 15 SAMPLE CONDITION Sample(s) Sample(s) 16 SAMPLE PRESERVATION	ccurred: <u>not on COC will log</u> <u>Avr analysis will log</u> were received after <u>were received</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify	pired. iner. (PM)					
Concerning	ccurred: 	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample	pired. iner. (PM)					
Concerning	ccurred: <u>not on COC will log</u> <u>Arr analysis will log</u> were received after were received <u>on</u> moded pH level(s). Nitric Acid Lot# 051010-HNO	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Sulfuric Acid Lot# 051010-H ₂ SO ₄ ; Sodium	pired. iner. (PM)					
14 CHAIN OF CUSTODY The following discrepancies o NUM/X 4 0 Trip blank 	ccurred: <u>not on COC will log</u> <u>Ar analysis will log</u> were received after <u>were received</u> <u>were received</u> <u>onded pH level(s). Nitric Acid Lot# 051010-HNO</u> Hydrochloric Acid Lot# 092006-HCl; Sodium Hydrochloric Acid Lot# 092006-HCl; S	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Sulfuric Acid Lot# 051010-H2SO4; Sodium Iroxide and Zinc Acetate Lot# 100108-	pired. iiner. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discre	ccurred: <u>not</u> on <u>COC</u> will <u>log</u> <u>Ar analysis</u> will <u>log</u> were received after were received after <u>were received</u> <u>on</u> were received <u>on</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>on</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>o</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample S Sulfuric Acid Lot# 051010-H2SO4, Sodium troxide and Zinc Acetate Lot# 100108-	pired. ainer. (PM)					
14 CHAIN OF CUSTODY 14 CHAIN OF CUSTODY The following discrepancies or No frip blank 10 frip blank 15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERVATION Sample(s) Receiving to meet recommer Hydroxide Lot# 100108 -NaOH; (CH_3COO)_2ZN/NaOH. What time Client ID ID	ccurred: <u>not</u> on <u>COC</u> will <u>log</u> <u>Avr</u> <u>analysis</u> will <u>log</u> <u>were received after</u> <u>were received after</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u> <u>on</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Staturic Acid Lot# 051010-H2SO4, Sodium Iroxide and Zinc Acetate Lot# 100108-	pired. iner. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discre	ccurred: Ar	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Stationic Acid Lot# 051010-H2SO4, Sodium broxide and Zinc Acetate Lot# 100108-	pired. iiner. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discre	ccurred: <u>not on COC will log</u> <u>Ar analysis will log</u> were received after were received <u>on</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>pH</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample s; Sulfuric Acid Lot# 051010-H2SO4; Sodium troxide and Zinc Acetate Lot# 100108-	pired. iner. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discre	ccurred: <u>not</u> <u>on</u> <u>COC</u> <u>will</u> <u>log</u> <u>Ar analysis</u> <u>will</u> <u>log</u> <u>will</u> <u>log</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>onded pH level(s)</u> . <u>Nitric Acid Lot# 051010-HNO</u> <u>Hydrochloric Acid Lot# 092006-HCl; Sodium Hydrochloric Acid Lot# 092006-HCl; Sodium Hydrochlori</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Sulfuric Acid Lot# 051010-H2SO4; Sodium Iroxide and Zinc Acetate Lot# 100108-	pired. ainer. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discre	ccurred: <u>not</u> on <u>COC</u> will <u>log</u> <u>Ar analysis</u> will <u>log</u> <u>were analysis</u> will <u>log</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>onded pH level(s)</u> . <i>Nitric Acid Lot#</i> 051010- <i>HNO</i> <i>Hydrochloric Acid Lot#</i> 092006- <i>HCl; Sodium Hyd</i> <u>me was preservative added to sample(s)?</u> <u>pH</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Sulfuric Acid Lot# 051010-H2SO4; Sodium broxide and Zinc Acetate Lot# 100108-	pired. iiner. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on wid / x 4 0 trip blank Allowed trip blank Sample(s) Sample(s) Receiving to meet recommer Hydroxide Lot# 100108 -NaOH; (Client ID Allowed trip blank	ccurred: <u>not</u> on <u>COC</u> will <u>log</u> <u>Ar analysis</u> will <u>log</u> were received after were received after <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>were received</u> <u>on</u> <u>pH</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample Sulfuric Acid Lot# 051010-H2SO4, Sodium troxide and Zinc Acetate Lot# 100108-	pired. ainer. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discrepancies of the following discrepancies on the following discre	ccurred: <u>not</u> on <u>COC</u> will <u>log</u> <u>Avr analysis</u> will <u>log</u> <u>were received after</u> <u>were received</u> <u>onded pH level(s)</u> . Nitric Acid Lot# 051010-HNO Hydrochloric Acid Lot# 092006-HCl; Sodium Hydro me was preservative added to sample(s)? <u>pH</u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample s; Sulfuric Acid Lot# 051010-H2SO4; Sodium troxide and Zinc Acetate Lot# 100108-	pired. ainer. (PM)					
Concerning 14 CHAIN OF CUSTODY The following discrepancies on the following discre	ccurred: <u>not</u> on <u>COC</u> will <u>log</u> <u>Ar analysis</u> will <u>log</u> <u>were analysis</u> will <u>log</u> <u>were analysis</u> <u>were received</u> <u>were received</u> <u>were received</u> <u>onded pH level(s)</u> . <u>Nitric Acid Lot# 051010-HNO</u> <u>Hydrochloric Acid Lot# 092006-HCl; Sodium Hydrome was preservative added to sample(s)? <u>pH</u></u>	the recommended holding time had exp were received in a broken conta with bubble >6 mm in diameter. (Notify were further preserved in Sample s; Sulfuric Acid Lot# 051010-H2SO4; Sodium troxide and Zinc Acetate Lot# 100108-	pired. iner. (PM)					

SOP: NC-SC-0005, Sample Receiving N:\QAQC\NARRATIVE\TestAmerica\Caoler Receipt TestAmerica\COOLER_TestAmerica_Rev 78_063010.doc

		Date	Initials
Client ID	Ha		
			•
			1
· · ·			†
			†
· · · · · · · · · · · · · · · · · · ·	I		†
			1
		<u> </u>	1
			+
			+
		Method	Coola
Cooler #	Temp. °C	(Matilda)	
			+
		+	+
		·	+
		+	+
the second s			
			╺╋╧╍╼╧
		<u> </u>	
acrenancies Cont'd:			
screpancies Cont'd:		4 7 79 7 8 9 4 <u>8</u>	
screpancies Cont'd:		<u>, i per per di</u>	
screpancies Cont'd:			

SOP: NC-SC-0005, Sample Receiving C:\Documents and Sellings\blakemana\Desktop\COOLER_TestAmerica_Rev 77_060410.doc

.



END OF REPORT

23 of 23

•

003978BLAN11-ATTP

DATA VALIDATION MEMO

. ATTACHMENT B



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

To:	Chuck Ahrens, CRA	Ref. No.:	003978-10
FROM:	Ruth Mickle/sb/7	DATE:	December 17, 2010
CC:	Analytical Data File		
RE:	Data Quality Assessment November 17, 2010 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected November 17, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W111710-492-1,2,3 (Influent) and W111710-493-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs)¹. The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP)².

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. With the exception of methylene chloride, the method blank was free of target analytes. Since there were no associated methylene chloride detections, no data qualification was required based on method blank data.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. With the exception of methylene chloride, the trip blank was free of target analytes. Since there were no associated methylene chloride detections, no data qualification was required based on trip blank data.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.



1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112 Telephone: 651-639-0913 Facsimile: 651-639-0923 www.CRAworld.com

RECEIVED

July 22, 2011

JUL 2 6 1911

DNM-WCH

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604 Reference No. 003978-10

Ms. Erin Endsley WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont Avenue PO Box 4001 Eau Claire, WI 54702-4001

Dear Ms. Bianchin and Ms. Endsley:

Re: First and Second Quarter 2011 Reports EW1 Treatment and Discharge Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this report of the extraction, treatment, and discharge from Extraction Well No. 1 (EW1) at RBC Manufacturing Inc. (formerly Marathon Electric) on the Wausau Water Supply NPL Site. Groundwater is pumped from EW1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river. Due to pump failure and well rehabilitation conducted during the first quarter of 2011, discharge monitoring was not performed. Hence, this report covers the first two quarters of 2011.

Second quarter 2011 samples were collected on May 12, 2011, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	8.6	4.3	41,000
cis-1,2-dichloroethene	0.52J	0.32J	none
chloroform	<1.0	0.20J	29,000

Notes:

J - estimated value, below the method reporting limit.

Equal Employment Opportunity Employer



July 22, 2011

Reference No. 003978-10

Units: µg/L

EW1 has undergone extensive repair and rehabilitation over the previous two quarters. As conveyed in the 2010 Annual Monitoring Report (CRA, March 2011), the EW1 pump failed in late December 2010. Pump replacement and well rehabilitation was conducted through most of January. The new pump was started up on January 26, 2011, but the pumping rate could not be maintained above 500 gallons per minute (gpm). The new pump was removed on March 16, 2011, to televise the well screen and perform double disk surging of the screen. EW1 was pumping for approximately 48 days during the first quarter. The pump was reinstalled and began operating on April 28, 2011. The pumping rate has slowly improved since April and by the end of the second quarter was pumping at a rate exceeding 500 gpm. EW1 operated for 63 days during the second quarter.

-2-

Approximately 25,000,000 gallons of water were treated by EW1 in the first quarter and 45,500,000 gallons were treated during the second quarter. Table 1 summarizes the EW-1 pumping volumes and average pumping rates over the first two quarters of 2011.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Aller

Charles Ahrens

CEA/sb/13 Encl.

cc: Lee Bergmann, Regal Beloit Dave Erickson, City of Wausau

TABLE 1

EXTRACTION WELL EW1 PUMPING RATES FIRST AND SECOND QUARTER 2011 WAUSAU WATER SUPPLY NPL SITE WAUSAU, WISCONSIN

	Elapsed Time		Total Flow	Average Flow
Date	(minutes)	Meter Reading	(gallons)	Rate (gpm)
1/1/11	30,860	348,850,000		
1/26/11	31,605	348,850,000	0	
2/24/11	42,305	363,876,000	15,026,000	
3/16/11	28,360	373,968,000	10,092,000	
4/28/11	40,320	373,968,000	0	
5/26/11	40,416	393,985,000	20,017,000	
6/22/11	38,004	414,272,000	20,287,000	
7/19/11	38,880	425,506,000	17,558,000	
1st Qtr Totals	129,600		25,118,000	194
2nd Qtr Totals	131,700		45,506,000	346

Notes:

Pump failure discovered 1/4/2011. Estimate pump stoppage @ noon on 12/28/2010 Pump back on-line 1/26/2011. Pumping rate less than 400 gpm.

Pump removed 3/16/2011 to televise screen interval and for additional troubleshooting. Pump reinstalled 4/28/2011 following double disc surge blocking to increase production.

ATTACHMENT A

LABORATORY REPORT

÷

003978-10



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Ruth Mickle Conestoga-Rovers & Associates, Inc. PROJECT NO. 3978 WAUSAU QUARTERLY

SAMPLE SUMMARY

WO # MJEJQ MJEJX MJEJ2 LABORATORY ID A1E130559-001 A1E130559-002 A1E130559-003

SAMPLE IDENTIFICATION0512111-01,02,03Influent051211E-01,02,03EffluentTRIP BLANKInfluent

TESTAMERICA LABORATORIES, INC.

Denise Dileckler

Denise D. Heckler Project Manager denise.heckler@testamericainc.com

May 31, 2011

Approved for release. Denise D. Heckler Project Manager 5/31/2011 12:51 PM



TestAmerica Laboratories, Inc. TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720 Tel (330)497-9396 Fax (330)497-0772 www.testamericainc.com

CASE NARRATIVE A1E130559

The following report contains the analytical results for two water samples and one quality control sample submitted to TestAmerica North Canton by Conestoga-Rovers & Associates, Inc. from the WAUSAU QUARTERLY Site, project number 3978. The samples were received May 13, 2011, according to documented sample acceptance procedures.

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 Ruth Mickle on May 27, 2011. 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.

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. This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

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, Denise D. Heckler, 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 2.7°C.

:

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

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.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica 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. Program or agency specific requirements take precedence over the requirements listed in this narrative.

OC 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, a Matrix Spike/Matrix Spike Duplicate (MS/MSD) pair or a Matrix Spike/Sample Duplicate (MS/DU) pair.

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. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch, with the exception of poor performing analytes. A list of these analytes is listed below. No corrective action is taken if these analytes do not meet criteria.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.

Poor performers	
Method 8270 Water and Solid:	
4-Nitrophenol	3,3' – Dichlorobenzidine
Benzoic Acid	2,4,6 - Tribromophenol
Phenol	2,4-Dinitrophenol
Phenol-d5	Pentachiorophenol
4,6-Dinitro-2-methylphenol	Hexachlorocyclopentadiene (LCG only)
Benzyl Alcohol	4-Chloroaniline
Method 8151 Solid	
Dinoseb	
Method 8260 Water and Solid	
Dichlorodifluoromethane	Hexachlorobutadiene
Trichlorofluoromethane	Naphthalene
Chloroethane	1,2,3-Trichlorobenzene
Acetone	1,2,4-Trichlorobenzene
Bromomethane	2,2-Dichloropropane
Bromoform	Chloromethane

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 ten fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)
QUALITY CONTROL ELEMENTS NARRATIVE (continued)

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

- 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 repreparation 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 do 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 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 or Matrix Spike/Sample Duplicate.

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, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, 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 Certifications and Approvals:



The laboratory is certified for the analytes listed on the documents below. These are available upon request. California (#01144CA), Connecticut (#PH-0590), Florida (#E87225).

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A). OhioVAP (#CL0024). Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), DoD ELAP (ADE-1437) USDA Soil Permit (P33-08-00123)

EXECUTIVE SUMMARY - Detection Highlights

.

WIET20222	A	1E	13	05	59
-----------	---	----	----	----	----

.

PARAMETER		RESULT	REPORTING	UNITS	ANALYI METHOD	ICAL	: :
0512111-01,02,03 05/12/11 08:30	001						
cis-1,2-Dichloroethene Trichloroethene		0.52 J 8.6	1.0 1.0	ug/L ug/L	SW846 SW846	8260B 8260B	
051211E-01,02,03 05/12/11 08:30	002						
cis-1,2-Dichloroethene Chloroform Trichloroethene		0.32 J 0.20 J 4.3	1.0 1.0 1.0	ug/L ug/L ug/L	SW846 SW846 SW846	8260B 8260B 8260B	
TRIP BLANK 05/12/11 003					-	а. А,	
Acetone		5.2 J	10	ug/L	SW846	8260B	

:

:

ANALYTICAL METHODS SUMMARY

A1E130559

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

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

SAMPLE SUMMARY

A1E130559

<u>WO #</u>	SAMPLE# CLIENT SAMPLE ID	SAMPLED SAMP DATETIME
N 777 70		
MJEJQ	001 0512111-01,02,03	05/12/11 08:30
MJEJX	002 ° 051211E-01,02,03	05/12/11 08:30
MJĖJ2	003 TRIP BLANK	05/12/11
· · ·		

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.

Conestoga-Rovers & Assoc., Inc.

Influent

Client Sample ID: 0512111-01,02,03

GC/MS Volatiles

Lot-Sample #:	A1E130559-001	Work Order #: MJEJQ1AA	Matrix W G
Date Sampled:	05/12/11 08:30	Date Received: 05/13/11	
Prep Date:	05/23/11	Analysis Date: 05/23/11	
Prep Batch #:	1143168		
Dilution Factor:	1	Method SW846 8260	В

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
cis-1,2-Dichloroethene	0.52 J	1.0	ug/L
Acetone	ND	. 10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	8.6	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	102	(75 - 12	21)
1,2-Dichloroethane-d4	103	(63 - 12	:9)
Toluene-d8	100	(74 - 11	.5)
4-Bromofluorobenzene	91	(66 - 11	.7)

NOTE (S):

J Estimated result. Result is less than RL.

Conestoga-Rovers & Assoc., Inc.

Effluent

.: WG

:

Client Sample ID: 051211E-01,02,03

GC/MS Volatiles

Lot-Sample #:	A1E130559-002	Work Order #:	MJEJX1AA	Matrix
Date Sampled:	05/12/11 08:30	Date Received:	05/13/11	
Prep Date:	05/23/11	Analysis Date:	05/23/11	
Prep Batch #:	1143168			
Dilution Factor:	1	Method:	SW846 8260B	

	,		
		REPORTIN	G
PARAMETER	RESULT	LIMIT_	UNITS
cis-1,2-Dichloroethene	0.32 J	1.0	ug/L
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	0.20 J	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	4.3	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
· · ·	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	100	(75 - 12	1)
1,2-Dichloroethane-d4	102	(63 - 12	9)
Toluene-d8	· 95	(74 - 11	5)
4-Bromofluorobenzene	88	(66 - 11	7)

NOTE (S) :

J Estimated result. Result is less than RL.

Conestoga-Rovers & Assoc., Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #:	A1E130559-003	Work Order #: MJEJ21AA	Matrix WQ
Date Sampled:	05/12/11	Date Received: 05/13/11	
Prep Date:	05/23/11	Analysis Date: 05/23/11	
Prep Batch #:	1143168		
Dilution Factor:	1	Method: SW846 8260B	

Method.....: SW846 8260B

:

,

PARAMETER	RESULT	REPORTING	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
Acetone	5.2 J	10	ug/L
Benzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chloroform	ND .	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene .	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	94	(75 - 121)	
1,2-Dichloroethane-d4	95	(63 - 129)	•
Toluene-d8	95	(74 - 115)	
4-Bromofluorobenzene	90	(66 - 117)	

NOTE (S) :

.

•

,

J Estimated result. Result is less than RL.



THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

.

GC/MS Volatiles

Client Lot #: A1E130559 MB Lot-Sample #: A1E230000-168	Work Order #: MJN0C1AA	Matrix: WATER
	Prep Date: 05/23/11	
Analysis Date: 05/23/11	Prep Batch #: 1143168	

Analysis Date..: 05/23/11 Dilution Factor: 1

. .

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Acetone	ND ·	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND .	1.0	ug/L	SW846 8260B
Chloroform	. ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	96	(75 - 12	21)	
1,2-Dichloroethane-d4	9 5 .	(63 - 12	29)	
Toluene-d8	95	(74 - 1)	15)	
4-Bromofluorobenzene	91	(66 - 1)	17)	

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 #:	A1E130559	Work Order #: MJN0C1	IAC Matrix W	ATER
LCS Lot-Sample#:	A1E230000-168			
Prep Date:	05/23/11	Analysis Date: 05/23/	/11	
Prep Batch #:	1143168			
Dilution Factor:	1			

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Vinyl chloride	93	(53 - 127)	SW846 8260B
Methylene chloride	106	(66 - 131)	SW846 8260B
Acetone	95	(43 - 136)	SW846 8260B
1,1-Dichloroethene	105	(78 - 131)	SW846 8260B
Chloroform	105	(79 - 117)	SW846 8260B
Carbon tetrachloride	101	(66 - 128)	SW846 8260B
Trichloroethene	99	(76 - 117)	SW846 8260B
1,1,2-Trichloroethane	106	(80 - 112)	SW846 8260B
Benzene	102	(83 - 112)	SW846 8260B
Tetrachloroethene	101	(79 - 114)	SW846 8260B
Toluene	107 .	(84 - 111)	SW846 8260B
Ethylbenzene	103	(83 - 112)	SW846 8260B
Xylenes (total)	104	(83 - 112)	SW846 8260B
cis-1,2-Dichloroethene	99	(80 - 113)	SW846 8260B
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Dibromofluoromethane		96	(75 - 121)
1,2-Dichloroethane-d4		98	(63 - 129)
Toluene-d8		100	(74 - 115)
4-Bromofluorobenzene		106	(66 - 117)

NOTE (S):

.

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A1E130559	Work Order #: MJN0C1AC	Matrix WATER
LCS Lot-Sample#: A1E230000-168		
Prep Date: 05/23/11	Analysis Date: 05/23/11	
Prep Batch #: 1143168	-	•
Dilution Factor: 1		

	SPIKE	MEASURED		PERCENT	
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	METHOD
Vinyl chloride	10	9.3	ug/L	93	SW846 8260B
Methylene chloride	10	11	uq/L	10 6	SW846 8260B
Acetone	20	19	ug/L	95	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	105	SW846 8260B
Chloroform	10	11	ug/L	105	SW846 8260B
Carbon tetrachloride	10	10	uq/L	101	SW846 8260B
Trichloroethene	10	9.9	ug/L	99	SW846 8260B
1,1,2-Trichloroethane	10	11	uq/L	10 6	SW846 8260B
Benzene	10	10	ug/L	102	SW846 8260B
Tetrachloroethene	10	10	ug/L	101	SW846 8260B
Toluene	10	11	ug/L	107	SW846 8260B
Ethylbenzene	10	10	ug/L	103	SW846 8260B
Xylenes (total)	30	31	ug/L	104	SW846 8260B
cis-1,2-Dichloroethene	10	9.9	ug/L	99	SW846 8260B
		PERCENT	RECOVERY		
SURROGATE		RECOVERY	LIMITS		
Dibromofluoromethane		96	(75 - 121)	-	
1,2-Dichloroethane-d4		98	(63 - 129)		
Toluene-d8		100	(74 - 115)		
4-Bromofluorobenzene		106	(66 - 117)		

NOTE (S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

,

.

GC/MS Volatiles

 Client Lot #...: A1E130559
 Work Order #...: MJFFJ1AC-MS
 Matrix.....: WATER

 MS Lot-Sample #: A1E140430-009
 MJFFJ1AD-MSD
 Matrix....: WATER

 Date Sampled...: 05/12/11 10:15
 Date Received..: 05/14/11
 Prep Date.....: 05/23/11

 Prep Batch #...: 1143168
 Dilution Factor: 1

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	106	(74 - 135)			SW846 8260B
	104	(74 - 135)	1.8	(0-30)	SW846 8260B
Vinyl chloride	96	(49 - 130)			SW846 8260B
	94	(49 - 130)	2.6	(0-30)	SW846 8260B
Methylene chloride	98	(63 - 128)			SW846 8260B
	95	(63 - 128)	3.6	(0-30)	SW846 8260B
Acetone	101	(33 - 145)			SW846 8260B
	100	(33 - 145)	0.77	(0-30)	SW846 8260B
Chloroform	10 6	(76 - 118)			SW846 8260B
	101	(76 - 118)	4.3	(0-30)	SW846 8260B
Carbon tetrachloride	99	(59 - 129)			SW846 8260B
	96	(59 - 129)	3.5	(0-30)	SW846 8260B
Trichloroethene	101	(66 - 120)			SW846 8260B
	99	(66 - 120)	2.2	(0-30)	SW846 8260B
1,1,2-Trichloroethane	107	(75 – 115)			SW846 8260B
	105	(75 - 115)	1.2	(0-30)	SW846 8260B
Benzene	102	(72 - 121)			SW846 8260B
	99	(72 - 121)	2.8	(0-30)	SW846 8260B
Tetrachloroethene	99	(70 - 117)			SW846 8260B
	98	(70 - 117)	0.49	(0-30)	SW846 8260B
Toluene	107	(78 - 114)			SW846 8260B
	105	(78 - 114)	2.6	(0–30)	SW846 8260B
Ethylbenzene	103	(75 - 116)			SW846 8260B
	101	(75 – 116)	1.9	(0-30)	SW846 8260B
Xylenes (total)	105	(76 - 116)			SW846 8260B
	103	(76 - 116)	1.5	(0-30)	SW846 8260B
cis-1,2-Dichloroethene	101	(70 - 120)			SW846 8260B
	97	(70 - 120)	4.2	(0-30)	SW846 8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	94	(75 - 121)
	90	(75 - 121)
1,2-Dichloroethane-d4	95	(63 - 129)
	92	(63 - 129)
Toluene-d8	100	(74 - 115)
	98	(74 - 115)
4-Bromofluorobenzene	109	(66 - 117)
	107	(66 - 117)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #: A1E130559 MS Lot-Sample #: A1E140430-009	Work Order #:	MJFFJ1AC-MS Mat MJFFJ1AD-MSD	t rix:	WATER
	PERCENT	RECOVERY		

RECOVERY

:

LIMITS

SURROGATE

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

.

GC/MS Volatiles

 Client Lot #...: A1E130559
 Work Order #...: MJFFJ1AC-MS
 Matrix....: WATER

 MS Lot-Sample #: A1E140430-009
 MJFFJ1AD-MSD

 Date Sampled...: 05/12/11 10:15
 Date Received..: 05/14/11

 Prep Date....: 05/23/11
 Analysis Date..: 05/23/11

 Prep Batch #...: 1143168
 Dilution Factor: 1

	SAMPLE	SPIKE	MEASRD		PERCNT			
PARAMETER	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD	METHO	כ
1,1-Dichloroethene	ND ·	10	11	ug/L	106		SW846	8260B
	ND	10	10	ug/L	104	1.8	SW846	8260B
Vinyl chloride	ND	10	9.6	ug/L	96		SW846	8260B
	ND	10	9.4	ug/L	94	2.6	SW846	8260B
Methylene chloride	ND	10	9.8	ug/L	98		SW846	8260B
	ND	10	9.5	ug/L	95	3.6	SW846	8260B
Acetone	ND	20 ·	20	ug/L	101		SW846	8260B
	ND	20	20	ug/L	100	0.77	SW846	8260B
Chloroform	ND	10	11	ug/L	106		SW846	8260B
	ND	10	10	ug/L	101	4.3	SW846	8260B
Carbon tetrachloride	ND	10	9.9	ug/L	99		SW846	8260B
	ND	10	9.6	ug/L	96	3.5	SW846	8260B
Trichloroethene	0.37	10	10	ug/L	101		SW846	8260B
	0.37	10	10	ug/L	99	2.2	SW846	8260B
1,1,2-Trichloroethane	ND	10	11	ug/L	107		SW846	8260B
	ND	10	11	ug/L	105 :	1.2	SW846	8260B
Benzene	ND	10	10	ug/L	1 02		SW846	8260B
	ND	10	9.9	ug/L	99	2.8	SW846	8260B
Tetrachloroethene	ND	10	9.9	ug/L	99		SW846	8260B
	ND	10	9.8	ug/L	98	0.49	SW846	8260B
Toluene	ND	10	11	ug/L	107		SW846	8260B
	ND	10	10	ug/L	105	2.6	SW846	8260B
Ethylbenzene	ND	10	10	ug/L	103		SW846	8260B
	ND	10	10	ug/L	101	1.9	SW846	8260B
Xylenes (total)	ND	30	31	ug/L	1 05		SW846	8260B
	ND	30	31	ug/L	103	1.5	SW846	8260B
cis-1,2-Dichloroethene	ND	10	10	ug/L	1 01		SW846	8260B
	ND	10	9.7	uq/L	97	4.2	SW846	8260B

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Dibromofluoromethane	94	(75 - 121)
	90	(75 - 121)
1,2-Dichloroethane-d4	95	(63 - 129)
	92	(63 - 129)
Toluene-d8	100	(74 - 115)
	98	(74 - 115)
4-Bromofluorobenzene	109	(66 - 117)
	107	(66 - 117)

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #: A1E130559 MS Lot-Sample #: A1E140430-009	Work Order #: N	MJFFJ1AC-MS Matrix: MJFFJ1AD-MSD	WATER
	PERCENT	RECOVERY	

SURROGATE

PERCENT RECOVERY RECOVERY LIMITS

NOTE (S):

.

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

					Ch	ain of	f Cu	stod	ly R	ecol	rd									Te	estAmerico	נ
TestA	merica Labora	itory location:		No	eth	C	4n-	for	٦	01	<u> </u>									THE	LEADER IN ENVIRONMENTAL TESTIN	(G
	Regulat	tory program:			DW		NPDE	6		RCRA			Other									
Client Contact	Client Project N	Manager:				Site	Conta	et:	. • · · .					Lab	Contact:					 	COC N:4 COOO	٣
BBC Manufat ring (or P)	Lee B	ergma	50	^			5	tm	e												015606	
ddress:	Telephone:	<u> </u>				Tel	ephone	:						Telep	hone:							٦
loo E. Randelph St	7156	75 81	04				51	m	e		•										07 COC#	┛
ity/State/Zip:	Email:	0000		are	QAI F			11141 11141	2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11-55							A -	-				
Wausau, W1 54401	(ee.oc				1	- 64	TAT	if differen	s (nan be	eloudelei dow	110-15		44 - 147 84 - 148 84 - 148 84 - 148 14 - 148					alyses	, T	 		
76-675-3311				_						3 week	8											ŀ
roject Name:	Method of Ship	ment/Carrier:								2 week	5	* :										
EWI-GTRI	Fed (-					I week												,
roject Number:	Salpping/ Fries	TINE ING:								2 days I day		4 U.U.			·							
0#				H-;''		销准	iii.	مده د. الحافظ						x				·			Mar Har Mater Shi Sama 2	2
	1		Π		IT.	Τ.								v							Sample Specific Notes /	
Comple Identification	Sample Date	Sample Time	Į		Sofia Other	SE SE	HN03	Ē	HOw	PA BA	Unput Other										Special Instructions:	
0517/IT-01	5/12/11	¥:304		Ч				-						÷				T			Influent	
		1	11	オ				~				1					T	Ι.			1	_
0512112-02	┠-{	-1	╂╌╂	+	┢╌┢╌		+	+						-			+	1	┨╌┤	 +-	<u>+</u>	-
051211I-03	_\		┞┤	1				-					<u> </u>				+	<u> </u>	╀╌┨	 		-
0512116-01	<u> </u>	┟┈┨╶╌		1				-			-									 	(H went	_
0512116-02				1				-												 	↓(_
051216-03		1	\square	-				-	1									1		 	<u> </u>	
	<u> </u>		11				1						Τ							·		
		·				1	1	1					Ť.				Τ					
Possible Hazard Identification	<u> </u>	1			·		Sample	Dispor	1 mJ (A)	lee may	be asse	sied if:	samples	are n	tained	longer t	bau l x	onth)	السبية	 Month		٦
Non-Hazard Flammable Skir	ı Irritant (Poison B			Unkn	own I	<u> </u>	Keum	1 TO CIÚ			Urspo	ean by L			Aucil	veror_			 		-
pecial Instructions/QC Requirements & Commenus:									••										•	·		
																				 ·		_
telinguished by	Company:	a multiple	· ·]	Date/Ti	me:	a::	200		Recei	ved hy:							Con	npany: '			Lare/Lime:	
Hu Duproc-	Company:	notero		Date/Ti	me:			<u> </u>	Recei	ved by:	- 						Con	npany:		 	Date/Time:	
Relinquished by:	Company:			Date/Tu	me:				Recal	west-in 1	Laborat	tory by:	. /	2	•		Con	npany:	2~	 	Datetime: 1, 9	7
	<u> </u>									1 8	n	4	<u>-6</u>	~	n	ma		<u></u>		 	<u>P/P/II</u>	

.

.

. .

i, Tassfermitas Laboratorina, Inc., All sigitas resorved. Narios & Dealors III are traducente of Tassfermance Laborato iaa, inc.

A STATE

1000 (10A)

No.

-

.

Groundwater Monitoring Program Marathon Electric Mfg - Wausau, WI Sampling Record

•	
Well Details	
Well Depth (Ft BGS):	140
Well Diameter (Inches):	
Well Area (Sq Ft):	1.41
Sampling Detalls Well #EW1	
Sample Taken By:	Lee Bergmann
Weather	Overcast, 55 deg F
Operating PSI	8.5
Head (feet):	11.25
Previous Totalizer Reading	373.968
Previous Totalizer Date/Time	4/28/11 1:00pm
Present Totalizer Reading	383,717
Present Totalizer Date/Time	5/12/11 8/34am
Sample Volume	3-40 ml vials w/HCl
· •	
Sample Description	0512111-01
Sample Description	0512111-01 0512111-02
Sample Description	0512111-01 0512111-02 0512111-03
Sample Description	051211I-01 051211I-02 051211I-03
Sample Description <i>Effluent</i> Sample Location	0512111-01 0512111-02 0512111-03 End of spill way
Sample Description	0512111-01 0512111-02 0512111-03 End of spill way
Sample Description	0512111-01 0512111-02 0512111-03 End of spill way 3-40 ml vials w/HCI

÷

Sample Description: 051211E-01 051211E-02 051211E-03

TestAmerica Cooler I	Receipt Form/Narrative	Lot Number: AIEI BOTC	7
North Canton Eacility			
Client RBC.M	An u-facturi Project EWI-C	Hr By: (2) en Du	in
Cooler Received on 5/	13/11 Opened on 5/13	// (Signature)	· ·
FedEx UPS DHL	FAS Stetson Client Drop Off Te	stAmerica Courier 🗌 Other	<u> </u>
TestAmerica Cooler #	Muitiple Coolers 🔲 Foam Box	Client Cooler Other	·
1. Were custody seals on	the outside of the cooler(s)? Yes KNO	Intact? Yes 🔁 No 🗌 NA 🗌	
If YES, Quantity	Quantity Unsalvageable_		· ·
Were custody seals on	the outside of cooler(s) signed and dated?	Yes 🖉 No 🔲 NA 🗌	• 1
Were custody seals on	the bottle(s)?		
If YES, are there any ex	xceptions?		·
2. Shippers' packing slip a	attached to the cooler(s)?	Yes 🖉 No 🗌 🔄	`
3. Did custody papers acc	company the sample(s)? Yes No	Relinquished by client? Yes KNo	
4. Were the custody pape	rs signed in the appropriate place?		
5. Packing material used:	Bubble Wrap 🖉 Foam 🛃 None 🗌	Other	
6. Cooler temperature up	on receipt °C See back of for	m for multiple coolers/temps	
METHOD: IR			
COOLANT: Wet Ice			•
7. Did all bottles arrive in	good condition (Unbroken)?		•
8. Could all bottle labels b	the reconciled with the CUC?		
9. Were sample(s) at the	correct pH upon receipt?		• -
10. Were correct Dottle(S)			
11. Were air buddles >6 m	im in any VOA viais?		••••••
12. Sufficient quantity rece	ived to perform indicated analyses?		
13. Was a trip blank prese	DOTT -11-11 Were		—
Contacted PM	<u></u> Date <u></u> by <u></u>		
Concerning / 7		·····	
14 CHAIN OF CUSTOD	<u>/</u>		
	40 and the a		·
Kac I IX	10 me sug seans	not on co	
will long			
\sim			
			·.
· · ·			• .
15. SAMPLE CONDITION	V	· · · · · · · · · · · · · · · · · · ·	·
5. SAMPLE CONDITION Sample(s)	v were received after	er the recommended holding time had expi	red.
55 SAMPLE CONDITION Sample(s) Sample(s)	v were received afte	er the recommended holding time had expinence were received in a broken contain	red. ner.
15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s)	vwere received afte	er the recommended holding time had expirence were received in a broken contained with bubble >6 mm in diameter. (Notify F	red. ner. PM)
15 SAMPLE CONDITION Sample(s) Sample(s) 16 SAMPLE PRESERVA	were received after were received after were receive	er the recommended holding time had expirence were received in a broken contained with bubble >6 mm in diameter. (Notify F	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Sample(s)	were received after were r	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommendation	were received afte were received TION nended pH level(s). Nitric Acid Lot# 100110-HN0	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F were further preserved in Sample D3; Sulfuric Acid Lot# 110410-H2SO4; Sodium	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recommender Hydroxide Lot# 100108 -National	were received after were received TION nended pH level(s). Nitric Acid Lot# 100110-HNM DH; Hydrochloric Acid Lot# 092006-HCl; Sodium H	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F were further preserved in Sample D3; Sulfuric Acid Lot# 110410-H2SO4; Sodium Hydroxide and Zinc Acetate Lot# 100108-	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 316. SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -NaC (CH ₃ COO) ₂ ZN/NaOH. What	were received after were received ATION Nended pH level(s). Nitric Acid Lot# 100110-HNM OH; Hydrochloric Acid Lot# 092006-HCI; Sodium H It time was preservative added to sample(s)?	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F were further preserved in Sample Ds; Sulfuric Acid Lot# 110410-H ₂ SO4; Sodium lydroxide and Zinc Acetate Lot# 100108-	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) Ito: SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	were received after were received after ATION THION Were received ATION Nerve added to sample(s)?	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F were further preserved in Sample Date Init	red. ner. PM)
15: SAMPLE CONDITION Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	were received after were received after TION nended pH level(s). Nitric Acid Lot# 100110-HNM DH; Hydrochloric Acid Lot# 092006-HCl; Sodium H It time was preservative added to sample(s)?	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F were further preserved in Sample D3; Sulfuric Acid Lot# 110410-H2SO4; Sodium Hydroxide and Zinc Acetate Lot# 100108- Date Init	red. ner. PM)
15: SAMPLE CONDITION Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -Na0 (CH_3COO)_2ZN/NaOH. What Client ID	were received after were received after ATION nended pH level(s). Nitric Acid Lot# 100110-HNM DH; Hydrochloric Acid Lot# 092006-HCl; Sodium H It time was preservative added to sample(s)?	er the recommended holding time had expire were received in a broken contained with bubble >6 mm in diameter. (Notify F were further preserved in Sample D3; Sulfuric Acid Lot# 110410-H ₂ SO4; Sodium lydroxide and Zinc Acetate Lot# 100108- Date Init	red. ner. PM)
15: SAMPLE CONDITION Sample(s) Sample(s) 36: SAMPLE PRESERVA Sample(s) Receiving to meet recommendation Hydroxide Lot# 100108 -NaC (CH_3COO)_2ZN/NaOH. What Client ID	were received after were received ATION Thended pH level(s). Nitric Acid Lot# 100110-HNM DH; Hydrochloric Acid Lot# 092006-HCI; Sodium H to time was preservative added to sample(s)?	er the recommended holding time had expire were received in a broken contained ad with bubble >6 mm in diameter. (Notify F were further preserved in Sample D3; Sulfuric Acid Lot# 110410-H2SO4; Sodium lydroxide and Zinc Acetate Lot# 100108- Date Init	red. ner. PM)
15: SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERVA Sample(s) Receiving to meet recommendation Hydroxide Lot# 100108 -NaC (CH3COO)2ZN/NaOH. What Client ID	were received after were received ATION THE International Content of the I	er the recommended holding time had expirations were received in a broken contained with bubble >6 mm in diameter. (Notify Factor of the preserved in Sample D3; Sulfuric Acid Lot# 110410-H2SO4; Sodium lydroxide and Zinc Acetate Lot# 100108-	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	were received after were received after ATION THOM Were received ATION Nerve added to sample (s)?	er the recommended holding time had expiration were received in a broken contained with bubble >6 mm in diameter. (Notify F	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	were received after were received after ATION THOM Nended pH level(s). Nitric Acid Lot# 100110-HNM OH; Hydrochloric Acid Lot# 092006-HCl; Sodium H It time was preservative added to sample(s)?	er the recommended holding time had expiration were received in a broken contained with bubble >6 mm in diameter. (Notify F	red. ner. PM)
15. SAMPLE CONDITION Sample(s) Sample(s) 16. SAMPLE PRESERVA Sample(s) Receiving to meet recomm Hydroxide Lot# 100108 -NaC (CH ₃ COO) ₂ ZN/NaOH. What Client ID	were received after were received after ATION mended pH level(s). Nitric Acid Lot# 100110-HNM OH; Hydrochloric Acid Lot# 092006-HCl; Sodium H It time was preservative added to sample(s)? pH	er the recommended holding time had expiration were received in a broken contained with bubble >6 mm in diameter. (Notify F	red. ner. PM)

	And Alexandreas and the product of the second se	Data	aleitial
Client ID	<u>pn</u>		Intrata
	<u></u>		
·····			
·	• 3		
·			
· · · · · · · · · · · · · · · · · · ·			
Cooler #	Temp. °C	Method	Coolar
	· · · · · · · · · · · · · · · · · · ·		
÷	· · · · · · · · · · · · · · · · · · ·		1
			h

;

•

•

..

:

. .



THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ATTACHMENT B

DATA VALIDATION MEMO

.



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

To:	Chuck Ahrens, CRA	Ref. No.:	003978-10
FROM:	Ruth Mickle/sb/10	DATE:	June 7, 2011
CC:	Analytical Data File		
RE:	Data Quality Assessment May 12, 2011 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected May 12, 2011, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as 051211I-01,02,03 (Influent) and 051211E-01,02,03 (Effluent) were analyzed for Site list volatile organic compounds (VOCs)¹. The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP)².

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.
 Application of a life

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. With the exception of acetone, the trip blank was free of target analytes. Since there were no associated acetone detections, no data qualification was required based on trip blank data.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

Endsley, Erin A - DNR

From:	Ahrens, Chuck [cahrens@craworld.com]
Sent:	Tuesday, October 18, 2011 4:21 PM
То:	Bianchin.Sheri; Endsley, Erin A - DNR
Cc:	Lee Bergmann; Dave Erickson; Project Email Hold
Subject:	Wausau Water Supply EW-1 Third Quarter 2011 Monitoring Report ~COR-003978-10~
Follow Up Flag:	Follow up
Due By:	Monday, October 24, 2011 11:00 AM
Flag Status:	Red
Attachments:	003978BIAN-014-101811.pdf

Ms. Bianchin and Ms. Endsley,

The third quarter 2011 monitoring report for the extraction and treatment of groundwater at EW-1, Wausau Water Supply NPL Site, is attached. This report is being provided in electronic format. If you prefer a hard copy, please let me know. Please contact me if you have any questions. Thank you, Chuck

Charles Ahrens, P.G. Conestoga-Rovers & Associates (CRA) 1801 Old Highway 8 NW, Suite 114 St Paul, MN 55112

Direct: 651.639.0439 ext. 310 Main: 651.639.0913 Fax: 651.639.0923 Email: <u>cahrens@craworld.com</u> <u>www.craworld.com</u>

Perform every task the safe way, the right way, every time!

CRA is an Equal Opportunity Employment Employer

This communication and any accompanying document(s) are confidential and are intended for the sole use of the addressee. If you are not the intended recipient, please notify me at the telephone number shown above or by return e-mail and delete this e-mail and any copies. You are advised that any disclosure, copying, distribution, or the taking of any action in reliance upon the communication without consent is strictly prohibited. Thank you.

10/25/2011



CONESTOGA-ROVERS & ASSOCIATES

October 18, 2011

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Ms. Endsley:

Re: Third Quarter 2011 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site 1801 Old Highway 8 Northwest, Suite 114, Minnesota 55112Telephone: 651-639-0913Facsimile: 651-639-0923www.CRAworld.com

Reference No. 003978-10 VIA EMAIL ONLY (PDF)

Ms. Erin Endsley WISCONSIN DEPARTMENT OF NATURAL RESOURCES 1300 W. Clairemont Avenue PO Box 4001 Eau Claire, WI 54702-4001

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this report of the extraction, treatment, and discharge of groundwater from Extraction Well No. 1 (EW-1) at RBC Manufacturing Inc. (formerly Marathon Electric) on the Wausau Water Supply NPL Site. Groundwater is pumped from EW-1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river. This report covers the third quarter of 2011.

Third quarter 2011 samples were collected on August 3, 2011, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. A summary of the detected VOC concentrations is reported below. As shown, concentrations are well below the surface water discharge limits for EW1.

Analyte	Influent	Effluent	Discharge Limit
trichloroethene	8.4	4.2	41,000
cis-1,2-dichloroethene	0.52J	<1.0	none
chloroform	<1.0	0.18J	29,000

Notes:

J - estimated value, below the method reporting limit. Units: $\mu g/L$





October 18, 2011

Reference No. 003978-10

-2-

Although acetone was reported as a detected compound in both the influent and effluent samples, it was also detected in the Trip Blank and was, therefore, qualified as "non detect".

As explained in the previous quarterly report, extensive repair and rehabilitation was performed on EW-1 during the first two quarters of 2011. The well has operated continuously since April 28, 2011, and the pumping rate continued to increase steadily through the end of the third quarter. The average pumping rate for the month of September was greater than 600 gpm.

Approximately 67,000,000 gallons of water were treated by EW1 during the third quarter. Table 1 summarizes the EW-1 pumping volumes and average pumping rates over the third quarter of 2011.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charles Ahrens

CA/sb/14 Encl.

cc: Lee Bergmann, Regal Beloit Dave Erickson, City of Wausau

TABLE 1

EXTRACTION WELL EW-1 PUMPING RATES THIRD QUARTER 2011 WAUSAU WATER SUPPLY NPL SITE WAUSAU, WISCONSIN

	Elapsed Time		Total Flow	Average Flow
Date	(minutes)	Meter Reading	(gallons)	Rate (gpm)
06/22/11		414,272,000	· .	
07/19/11	27,360	426,806,000	8,824,560	323
08/03/11	21,378	436,681,000	9,875,000	462
08/29/11	37,423	456,975,000	20,294,000	542
09/30/11	46,238	484,873,000	27,898,000	603
3rd Qtr Totals	132,399		66,891,560	505

Notes:

EW-1 operated continuously through the third quarter of 2011.

The total flow value shown for the period of 6/22/11 through 7/19/11 is prorated to represent the number of gallons pumped from 7/1/11 through 7/19/11.

6

CRA 003978BIAN14-T1

5

-

 $\overline{\mathcal{D}}$

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc. TestAmerica North Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-2551-1 Client Project/Site: 3978, Wausau

For:

...... LINKS

Review your project results through

Total Access

Have a Question?

www.testamericainc.com

Visit us at:

₹SK The Conestoga-Rovers & Associates, Inc. 1801 Old Highway 8 NW Suite 114 St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson

enuse DHeckler

Authorized for release by: 08/19/2011 04:30:12 PM

Denise Heckler Project Manager II denise.heckler@testamericainc.com

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

Page 1 of 19

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	5
Sample Summary	6
Detection Summary	7
Client Sample Results	8
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	13
Lab Chronicle	14
Certification Summary	15
Chain of Custody	16
Receipt Checklists	19

.

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

ŧ

TestAmerica Job ID: 240-2551-1

Qualifiers

GC/MS VOA	
Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
В	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¢	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

9 3 4 6 6 Ŋ 8 9 (•) (•) 12 13 <u>é</u> ,

1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

Job ID: 240-2551-1

Laboratory: TestAmerica North Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 3978, Wausau

Report Number: 240-2551-1

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

TestAmerica 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 application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 08/04/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.0 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples 080311-01,02,03 EFF (240-2551-1), 080311-04,05,06 INF (240-2551-2) and TRIP BLANK (240-2551-3) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/12/2011.

Trichloroethene was detected in method blank MB 240-11831/11 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

•

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

J

2

(**1**)

4

5

6

7

8

9

12

13

•

÷,

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NC
Protocol R	eferences:		
SW846	= "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, Nover	mber 1986 And Its Updates.	
Laboratory	References:		
TAL NO	= TestAmerica North Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497	7-9396	

Sample Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

TestAmerica Job ID: 240-2551-1

ป

12

13

	<u></u>			
ab Sample ID	Client Sample ID	Matrix	Collected	Received
0-2551-1	080311-01,02,03 EFF	Water	08/03/11 11:14	08/04/11 08:00
40-2551-2	080311-04,05,06 INF	Water	08/03/11 11:20	08/04/11 08:00
40-2551-3	TRIP BLANK	Water	08/03/11 00:00	08/04/11 08:00

Detection Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau TestAmerica Job ID: 240-2551-1

Lab Sample ID: 240-2551-2

Lab Sample ID: 240-2551-3

Client Sample ID: 080311-01,02,03 EFF						Lab Sample ID: 240-2551-1				
– Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type		
Acetone	2.6	<u> </u>	10	1.1	ug/L	1	8260B	Total/NA		
Chloroform	0.18	J	1.0	0.16	ug/L	1	8260B	Total/NA		
Trichloroethene	4.2	В	1.0	0.17	ug/L	1	8260B	Total/NA		
—										

Client Sample ID: 080311-04,05,06 INF

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Me	thod	Prep Type
Acetone	2.5	J	10	1.1	ug/L	1	82	60B.	Total/NA
cis-1,2-Dichloroethene	0.52	J	1.0	0.17	ug/L	1	82	60B	Total/NA
Trichloroethene	8.4	В	1.0	0.17	ug/L	1	82	60B	Total/NA

Client Sample ID: TRIP BLANK

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Ргер Туре
Acetone	1.1	J	10	1.1	ug/L	1	_	8260B	 Total/NA
Trichloroethene	0.21	JB	1.0	0.17	ug/L	1		8260B	Total/NA

 \mathbb{D} 3

Ð

1

1

4

5

6.

7

8

4 🔮

tin T

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau TestAmerica Job ID: 240-2551-1

Client Sample ID: 080311-01,02,03 EFF Date Collected: 08/03/11 11:14 Date Received: 08/04/11 08:00

Lab Sample ID: 240-2551-1 Matrix: Water

9

- Method: 8260B - Volatile Orga	anic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL.	Unit	Ð	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/12/11 22:38	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/12/11 22:38	1
Acetone	2.6	J	10	1.1	ug/L			08/12/11 22:38	1
Benzene	1.0	U	1.0	0.13	ug/L			08/12/11 22:38	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L	•		08/12/11 22:38	1
Chloroform	0.18	J	1.0	0.16	ug/L			08/12/11 22:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L		···· ··· ····	08/12/11 22:38	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/12/11 22:38	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/12/11 22:38	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/12/11 22:38	1
Toluene	1.0	U	1.0	0.13	ug/L			08/12/11 22:38	1
Trichloroethene	4.2	в	1.0	0.17	ug/L			08/12/11 22:38	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/12/11 22:38	1
Xylenes, Total	1.0	U	1.0	0.28	ug/L			08/12/11 22:38	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		63 - 129			-	-	08/12/11 22:38	1
4-Bromofluorobenzene (Surr)	100		66 - 117					08/12/11 22:38	1
Toluene-d8 (Surr)	100		74 ₋ 115					08/12/11 22:38	1
Dibromofluoromethane (Surr)	95		75 - 121					08/12/11 22:38	1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau TestAmerica Job ID: 240-2551-1

~

12

13

<u>(4 1</u>)

Client Sample ID: 080311-04,05,06 INF Date Collected: 08/03/11 11:20 Date Received: 08/04/11 08:00

Lab Sample ID: 240-2551-2

Matrix: Water

Analyto	anic Compounds	(GC/WS)	ы	MIDI	11	_	0	A = ab = ad	D!!
Analyte	Result	Qualifier	RL				Prepared	Analyzed	Direc
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/12/11 22:59	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/12/11 22:59	1
Acetone	2.5	J	10	1.1	ug/L			08/12/11 22:59	1
Benzene	. 1.0	U	1.0	0.13	ug/L			08/12/11 22:59	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/12/11 22:59	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/12/11 22:59	1
cis-1,2-Dichloroethene	0.52	J	1.0	0.17	ug/L	• • • • • • • •		08/12/11 22:59	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/12/11 22:59	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/12/11 22:59	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/12/11 22:59	1
Toluene	1.0	U	1.0	0.13	ug/L			08/12/11 22:59	1
Trichloroethene	8.4	в	1.0	0.17	ug/L			08/12/11 22:59	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/12/11 22:59	1
Xylenes, Total	1.0	U	1.0	0.28	ug/L			08/12/11 22:59	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129			-		08/12/11 22:59	1
4-Bromofluorobenzene (Surr)	102		66 - 117					08/12/11 22:59	1
Toluene-d8 (Surr)	. 100		74 - 115					08/12/11 22:59	1
Dibromofluoromethane (Surr)	96		75 - 121					08/12/11 22:59	1
RL

1.0

1.0

10

1.0

1.0

1.0

1.0

1.0

1.0

1.0

1.0

1.0

1.0

1.0

Result Qualifier

1.0 U

1.0 U

1.1 J

1.0 U

1.0 U

1.0 U

1.0 Ü

1.0 U

1.0 U

1.0 U

1.0 U

0.21 JB

1.0 U

1.0 U

MDL Unit

0.27 ug/L

0.19 ug/L

1.1 ug/L

0.13 ug/L

0.13 ug/L

0.16 ug/L

0.17 ug/L

0.17 ug/L

0.33 ug/L

0.29 ug/L

0.13 ug/L

0.17 ug/L

0.22 ug/L

0.28 ug/L

D

Prepared

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

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

TestAmerica Job ID: 240-2551-1

Client Sample ID: TRIP BLANK

Date Collected: 08/03/11 00:00

Lab Sample ID: 240-2551-3 Matrix: Water

Analyzed

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

08/12/11 23:20

5

Dil Fac

1

1

1

1

1

1

1

1

1

1		<u> </u>
	Ç	s);
	, •	(n` .~/)

0

3

Surrogate	% Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129	,		08/12/11 23:20	1
4-Bromofluorobenzene (Surr)	100		66 - 117			08/12/11 23:20	1
Toluene-d8 (Surr)	100		74 - 115			08/12/11 23:20	1
Dibromofluoromethane (Surr)	96		75 - 121			08/12/11 23:20	1

Date Received: 08/04/11 08:00

Analyte

Acetone

Benzene

Chloroform

Ethylbenzene

Toluene

1,1,2-Trichloroethane

1,1-Dichloroethene

Carbon tetrachloride

cis-1,2-Dichloroethene

Methylene Chloride

Tetrachloroethene

Trichloroethene

Vinyl chloride

Xylenes, Total

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

Matrix: Water						Prep Type: Total/NA
Γ				Percent Su	rogate Recov	ery (Acceptance Limits)
		12DCE	BFB	TOL	DBFM	•
Lab Sample ID	Client Sample ID	<u>(63-129)</u>	(66-117)	(74-115)	(75-121)	
240-2551-1	080311-01,02,03 EFF	91	100	100	95	
240-2551-2	080311-04,05,06 INF	95	102	100	96	
240-2551-3	TRIP BLANK	94	100	100	96	
LCS 240-11831/9	Lab Control Sample	96	106	100	94	
MB 240-11831/11	Method Blank	91	104	100	95	

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

a.

S.

Ì

7 8

6

10

12

13

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

Lab Sample ID: MB 240-11831/ Matrix: Water	'11						Client S	ample ID: Metho Prep Type: T	d Blank otal/NA
Analysis Batch: 11831									
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/12/11 18:41	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/12/11 18:41	1
Acetone	10	U	10	1.1	ug/L			08/12/11 18:41	1
Benzene	1.0	U	1.0	0.13	ug/L			08/12/11 18:41	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/12/11 18:41	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/12/11 18:41	1
cis-1,2-Dichloroethene	1.0	Ũ	1.0	0.17	ug/L	• •	• • •	08/12/11 18:41	1
Ethylbenzene	[`] 1.0	U	1.0	0.17	ug/L			08/12/11 18:41	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/12/11 18:41	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L	••••••		08/12/11 18:41	1
Toluene	1.0	U	1.0	0.13	ug/L			08/12/11 18:41	1
Trichloroethene	0.202	J	1.0	0.17	ug/L			08/12/11 18:41	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/12/11 18:41	1
Xylenes, Total	1.0	U	1.0	0.28	ug/L			08/12/11 18:41	1
	МВ	МВ							
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91	· • • • • • • • • • • • • • • • • • • •	63 - 129					08/12/11 18:41	1
4-Bromofluorobenzene (Surr)	104		66 - 117					08/12/11 18:41	1
Toluene-d8 (Surr)	100		74 - 115					08/12/11 1 8 :41	1
Dibromofluoromethane (Surr)	95	• •	75 - 121	•••••	-	• •		08/12/11 18:41	1

Lab Sample ID: LCS 240-11831/9 Matrix: Water

Analysis Batch: 11831

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

-	Spike	LCS	LCS				% Rec.	
Analyte	Added	Result	Qualifier	Unit	D	% Rec	Limits	
1,1,2-Trichloroethane	10.0	10.4		ug/L		104	80 - 112	
1,1-Dichloroethene	10.0	10.9		ug/L		109	78 - 131	
Acetone	. 20.0	20.4		ug/L		102	43 - 136	
Benzene	10.0	9.98	• • • • •	ug/L	- · · · · ·	100	83 - 112	
Carbon tetrachloride	10.0	11.0		ug/L		110	66 - 128	
Chloroform	10.0	10.0		ug/L		100	79 ₋ 117	
cis-1,2-Dichloroethene	10.0	9.81		ug/L		98	80 - 113	
Ethylbenzene	10.0	10.5		ug/L		105	83 - 112	
m-Xylene & p-Xylene	20.0	20.2		ug/L		101	83 - 113	
Methylene Chloride	10.0	9.46	••••••	ug/L		95	66 - 131	•••••
o-Xylene	. 10.0	10.2		ug/L		102	83 - 113	
Tetrachloroethene	10.0	10.4		ug/L		104	79 - 114	
Toluene	10.0	10.2		ug/L		102	84 - 111	
Trichloroethene	10.0	9.47		ug/L		95	76 - 117	
Vinyl chloride	10.0	9.87		ug/L		99	53 - 127	

Surrogate	% Recovery Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96	63 - 129
4-Bromofluorobenzene (Surr)	106	66 - 117
Toluene-d8 (Surr)	100	74 - 115
Dibromofluoromethane (Surr)	94	75 - 121

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau TestAmerica Job ID: 240-2551-1

GC/MS VOA

Analysis Batch: 1183	1				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-11831/9	Lab Control Sample	Total/NA	Water	8260B	
MB 240-11831/11	Method Blank	Total/NA	Water	8260B	
240-2551-1	080311-01,02,03 EFF	Total/NA	Water	8260B	
240-2551-2	080311-04,05,06 INF	Total/NA	Water	8260B	
240-2551-3	TRIP BLANK	Total/NA	Water	8260B	

โ 2 4 6 6 7 8 9 . ଶ୍ୱ 12 13 Y.

Lab Chronicle

TestAmerica Job ID: 240-2551-1

Client Samp	le ID: 08031	1-01,02,03 E	FF			·····	Lab Sample	D: 240-2551-1
Date Collected	: 08/03/11 11:	14					•	Matrix: Water
Date Received	: 08/04/11 08:0	00						
Γ	Batch	Batch		Dilution	Batch	Prenared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lah
Total/NA	Analysis	8260B		1	11831	08/12/11 22:38	RQ	TAL NC
Client Samp	le ID: 08031	1-04,05,06 IN	IF			······	Lab Sample	ID: 240-2551-2
Date Collected	: 08/03/11 11:	20					-	Matrix: Water
Date Received	: 08/04/11 08:0	00						
Г	Batch	Batch		Dilution	Batch	Prepared	,	
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	•	<u> </u>	11831	08/12/11 22:59	RQ	TAL NC
Client Samp	le ID: TRIP	BLANK			2010 B.P.C. Long & Women		Lab Sample	ID: 240-2551-3
Date Collected	: 08/03/11 00:0	00					-	Matrix: Water
Date Received	: 08/04/11 08:0	00						
Г	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	11831	08/12/11 23:20	RQ	TAL NC

Laboratory References:

TAL NC = TestAmerica North Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

2 <u>.</u> 4 5 3 7 8 9

12

13

(ke)

4.5

Certification Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

TestAmerica Job ID: 240-2551-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica North Canton	ACLASS	DoD ELAP		ADE-1437
TestAmerica North Canton	California	NELAC	9.	01144CA
TestAmerica North Canton	Connecticut	State Program	1	PH-0590
TestAmerica North Canton	Florida	NELAC	4	E87225
TestAmerica North Canton	Georgia	Georgia EPD	4	N/A
TestAmerica North Canton	Illinois	NELAC	5	200004
TestAmerica North Canton	Kansas	NELAC	7	E-10336
TestAmerica North Canton	Kentucky	State Program	4	58
TestAmerica North Canton	Minnesota	NELAC	5	039-999-348
TestAmerica North Canton	Nevada	State Program	9	OH-0004820084
TestAmerica North Canton	New Jersey	NELAC	2	OH001
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	Ohio	OVAP	5	CL0024
TestAmerica North Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica North Canton	USDA	USDA		P330-08-00123
TestAmerica North Canton	West Virginia	West Virginia DEP	3	210
TestAmerica North Canton	Wisconsin	State Program	5	, 999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

12

•		•	,* • .	.: -!	• •						۰,					•													·
• •					:						Chai	n of	Cuș	tody	y Re	cor	d								•		Т	es	stAmeric
			· · ·		TestA	merio	ca Labora	tory location:		Na	orth		Cà	nj	for	<u>), (</u>	OF	<u>ł.</u>								-	T:	HE LE/	DER IN ENVIRONMENTAL TEST
Г	+		i Client	Contact		l	Regulat	ory program:	- [DW ·	N []	PDES	<u>د</u>] R	CRA	. L	0	ther .									Te	tAmerica Laboratories,
С	m'pai	ny Nar 20			in Corp	Clien	nt Project M	lanager: Serrar	\mathbf{n}		:	Site C		: m	A					Lab C	onlact:						•	ľ	°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°
·A	Idres	<u> </u>			<u>ng co.t.</u>	Tele	phone:			<u>yr</u>	· · ·	Telep	hone:					•		Telept	one:								
	10		E. KAnde	<u>S nak</u>	<u>メ・</u>	Ema	<u>715</u>	218 10	18	<u>(</u>	:	12.94 H	75 X		N.S.			漏儀	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					_					
	Ŷ)A	المحموم والم	1 54	401);	ee.be	<u>nongr</u>	nn(0			Ana	lysis T (in	urnaro BUS da	und T (3)	ime		100				An	alyses	; 			· .	or lab use only
· P		15	218 74	186			rega	abeloit		on	^		TAT if c	different i	from bek	wccks		語語											ab pickup
P	oject	Name	W-1	ļ		Meti	hod of Ship	ment/Carrier:		·]			□ 2 □ 1	weeks week	5												ab sampling 🖓 🏒 🦲
~ P	oject	Nuni	ber:	 I	· · ·	Ship	ping/Track	ing No:				1				days		(X N)	rahi										ob/SDG No 🖂 🖉
P	0#	.	·			_				Ma	nir 🕅	1993	Co	intalner	s & Pre	aay servati	vesq		eé'i c			Ì							
										ment .		ŏ	8		E	2 H		tered S	lisodu	Vo								:	Sample Specific Notes / Special Instructions:
	1		Sample I	lentification		Sa	mple Date	Sample Time	2	2 3	55	Ē	HN	ξ	Nac	<u>Š</u> Ž	Ч.	.Ę	3		<u> </u>		+	+		+			
₋┟	Ø	<u>8¢</u>	>311-0	<u>i Efl</u>	F	8	3.3.11	[]:14A		1_		<u> </u>		-					_	~				·	<u> </u>	-			
ž	φ	8¢	311-02	<u>2 EFI</u>	<u>ج</u>		1	11:14A	 '	1		<u> </u>	.	-	·					\leq				1					
<u>, 1</u>	þ	84	311-03	EFF	-		· ·	1):15A	Ŀ					-						-									
2: 	C	8	0311-06	INF	· · · ·			11:20A	•	-				-						~									
° F	0	8¢	311- 05	S INF	:		\backslash	11:200		+	:			-			}												÷ .
	C	180	311-06	INF			1) /:Z/A		4				٢						1									
·								·																					,
Ì	1	ĺ				T														•					1.				
	•							}				\uparrow											- -						
·		•		· · ·		\mathbf{T}				+		-							† ·				+		+	·			
	.Pos	sible I	lazard Identificatio	n : Flammable	e 🗔 Ski	n Irrita	ant [Poison B	J	 	Unknow	n s	ample 1	L Dispose Return	al (A fi to Clier	e may	be asses	ged if sa Dispose	i mple I By I	s are ri .ab	etained I	onger ti Archiv	nan 1 n ve For	nonth)		1	м	onths	··· · · ···
	pecia	il Instr	uctions/QC Requir	ements & Com	iments:				<u>`</u>					-															
а 					.*						:									•									
	Leling	uished	by: Run	ma	· · · · · · · · · · · · · · · · · · ·	R	BC MA	nuf.Con		Date/Ti	8/03/1	1 1	1:4	Sta	Receiv	ed by:							Cor	mpany:					Date/Time:
20	celing	uished	by:			Con	mpany:			Date/Ti	me:				Receiv	ed by:							Cor	mpany:					Date/Time:
10/3	leling	uished	by:		<u> </u>	Con	mpany:			Date/Ti	me: .			•	Receiv	red in	Laborato	ry/0y:		_	0		Cor	mpany:	h		- •		Date Timt:
<u>š</u> l					<u></u>	<u> </u>								•	Ľ	M		\sim	7	<u> </u>	<u>~</u>			10					014/11 800
	62008. TeslAm	TeștAmer erica & De	ice Laboratories, inc., All righta Islan ™ aro tradamenta of Tes	inserved. America Laboratorics, Is	nc		· •				•								•										TAL 0018-1 (04/1
	1.		•																										

TestAmerica Coole	r Receipt Form/Narrative	Lot Number: <u>4255</u>
North Canton Facili	ty	
Client RBC	Project	By: Ch. L.
Cooler Received on	<u> </u>	<u>(Signatyłe)</u>
FedEx 🖄 UPS 🗌 DHL	FAS Stetson Client Drop Off	TestAmerica Courier 🔲 Other
TestAmerica Cooler #	Multiple Coolers 🔲 Foam B	lox 🔲 Client Cooler 🔀 Other
1. Were custody seals of	on the outside of the cooler(s)? Yes \square No	Intact? Yes X No NA
If YES, Quantity	/ Quantity Unsalvageab	le
Were custody seals of	on the outside of cooler(s) signed and dated?	
Were custody seals of	on the bottle(s)?	Yes 📋 No
If YES, are there any	exceptions?	
Shippers' packing slip	attached to the cooler(s)?	
Did custody papers a	ccompany the sample(s)? Yest No	
4. Were the custody par	bers signed in the appropriate place?	
5. Packing material use		
6. Cooler temperature u	pon receipt <u>3.0</u> °C See back of	
	be reconciled with the COC?	
	a correct nH upon receint?	
9. Were sample(s) at the	used for the test(s) indicated?	Yes 🛛 No 🗍
10. Were air hubblee >6	nm in any VOA vials?	Yes TNO TX NA
12. Sufficient quantity rec	eived to perform indicated analyses?	Yes 🗹 No 🕇
13 Mas a trin blank pres	ent in the cooler(s)? Yes 17 No 17 We	
Contacted PM	Date by	via Verbal 🖸 Voice Mail 🔲 Other [
Contacted PM	Dateby	via Verbal 🖸 Voice Mail 🗋 Other 🗌
Contacted PM Concerning 74: CHAIN OF CUSTOD The following discrepanc 1 4 40 +r p h[c	Dateby PY les occurred: m k Not on (01, only sen	via Verbal [] Voice Mail [] Other [] i+ 1+40 voc for each sample
Contacted PM Concerning 14. CHAIN OF CUSTOD The following discrepanc 1 4 4 0 +r p b[2 45*/SAMPLE CONDITIC Sample(s) Sample(s)	Date by ies occurred: M K Not on Coll, only services N were received a	after the recommended holding time had expired were received in a broken containe
Contacted PM Concerning 14 CHAIN OF CUSTOD The following discrepanc 1 4 40 +r p h[z 5 SAMPLE CONDITIC Sample(s) Sample(s) Sample(s)	Date by Presoccurred: M K Noton Col. only sen N were received a were received a	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM
Contacted PM Concerning 14: CHAIN OF CUSTOD The following discrepanc 14: 40 +r.p.b[2 15: SAMPLE CONDITIC Sample(s) Sample(s) Sample(s) Sample(s) Sample(s)	Date by by les occurred: h K Not on Coc. only sen were received a were received a were received a	after the recommended holding time had expired were received in a broken containe were further preserved in Sample
Contacted PM <u>Concerning</u> <u>14</u> CHAIN OF CUSTOD The following discrepanc <u>1440</u> fr <u>p</u> <u>15</u> SAMPLE CONDITIC Sample(s) Sample(s) <u>16</u> SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH ₃ COO) ₂ ZN/NaOH Wh	Date by by by by by by by by by by	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample 1NO ₃ ; Sulfuric Acid Lot# 110410-H ₂ SO ₄ ; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning <u>14</u> CHAIN OF CUSTOE The following discrepanc <u>1440</u> +r <u>p</u> <u>b</u> [<u>2</u> <u>15</u> SAMPLE CONDITIC Sample(s) Sample(s) <u>16</u> SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH ₃ COO) ₂ ZN/NaOH. Wh Client ID	Date by by by by by by by by by by	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample INO3; Sulfuric Acid Lot# 110410-H2SO4; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning 14 CHAIN OF CUSTOD The following discrepanc 14 Y 0 +r p h(z 15 SAMPLE CONDITIC Sample(s) Sample(s) Sample(s) Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH ₃ COO) ₂ ZN/NaOH. Wh <u>Client ID</u>	Date by PY les occurred: M K No f on Co.C. on Ly service M were received a were received a pH	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample INO ₃ ; Sulfuric Acid Lot# 110410-H ₂ SO ₄ ; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning The following discrepanc 1 & Yo F CUSTOD 1 & Yo F f f 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Date by by les occurred: by by les occurred: by by les occurred: by les occurred: les occurred: by les occured: l	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample INO3; Sulfuric Acid Lot# 110410-H2SO4; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning 14 CHAIN OF CUSTOD The following discrepanc 1 4 4 0 +r p h[z 15 XAMPLE CONDITIC Sample(s) Sample(s) Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH ₃ COO) ₂ ZN/NaOH. Wh <u>Client ID</u>	Date by by by by by by by by by by	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample INOs; Sulfuric Acid Lot# 110410-H2SO4; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning 14: CHAIN OF CUSTOD The following discrepanc 1 & Y 0 +r p b[a 15: SAMPLE CONDITIC Sample(s) Sample(s) Sample(s) Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH ₃ COO) ₂ ZN/NaOH. Wh <u>Client ID</u>	Date by by ies occurred: by by ies occurred: by by ies occurred: by were received a were received a were received a were received a were received a were received a intervention of the second secon	after the recommended holding time had expired were received in a broken containe were further preserved in Sample NO3; Sulfuric Acid Lot# 110410-H2SO4; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning 14 CHAIN OF CUSTOD The following discrepanc 1 & Yo +r p b[2 15:/SAMPLE CONDITIC Sample(s) Sample(s) Sample(s) 16: SAMPLE PRESERV Sample(s) Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH3COO)2ZN/NaOH. Wh Client ID	Date by by ies occurred: n k Not on Cot. on ly sen were received a were received a we	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample fNOs; Sulfuric Acid Lot# 110410-H2SO4; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning 14 CHAIN OF CUSTOD The following discrepanc 1 & Yo +r p h(z 15 XSAMPLE CONDITIC Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH_3COO)_2ZN/NaOH. Wh Client ID	Date by by ies occurred: n k Not on Cot. on ly sex were received a were received a were received a were received a were received a time was preservative added to sample(s) pH	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample INO3; Sulfuric Acid Lot# 110410-H2SO4; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?
Contacted PM Concerning 14 CHAIN OF CUSTOD The following discrepanc 1 4 4 0 +r p h[z 15 SAMPLE CONDITIC Sample(s) Sample(s) Sample(s) Receiving to meet recom Hydroxide Lot# 100108 -Na (CH_3COO)_ZN/NaOH. Wh Client ID	Date by by ies occurred: M & Notoh (6), only sex were received a were	after the recommended holding time had expired were received in a broken containe ived with bubble >6 mm in diameter. (Notify PM were further preserved in Sample INO ₃ ; Sulfuric Acid Lot# 110410-H ₂ SO ₄ ; Sodium in Hydroxide and Zinc Acetate Lot# 100108-)?

aye . . 2

08/19/2011

--.

orth Canton Eacili			
		Date	<u>Initials</u>
	· · · · · · · · · · · · · · · · · · ·		
	· · · · · · · · · · · · · · · · · · ·	· · ·	
		· ·	
	· · · · · · · · · · · · · · · · · · ·	·	
		1	1
			······································
Cooler #	Temp. °C	i <u>Method</u>	Coolant
·		- <u>.</u>	
			······································
······································			• • • • • • • • • • • • • • • • • • •
	,	·	-
			ii
· · · · · · · · · · · · · · · · · · ·			
			·
·····			
cnepancies(Contid n.i.		建設建設理論的原題	
· ·	· · · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·			
•			
· · ·		*	7
			· ··· · ···· · · · · · · · · · · · · ·
· ·			
			l.

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Login Number: 2551 List Number: 1

Creator: Livengood, Chris

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	•
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	• •

Job Number: 240-2551-1

List Source: TestAmerica North Canton

13 15

ATTACHMENT B

DATA VALIDATION MEMO

003978BIAN13-ATTP

. . · ·

.

· · · ·



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

TO:	Chuck Ahrens, CRA	Ref. No.:	003978-10
From:	Ruth Mickle/sb/11	Date:	September 6, 2011 revised
CC:	Analytical Data File		
RE:	Data Quality Assessment August 3, 2011 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected August 3, 2011, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as 080311-01,02,03 (Effluent) and 080311-04,05,06 (Influent) were analyzed for Site list volatile organic compounds (VOCs)¹. The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP)².

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.



¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. With the exception of trichloroethene, the method blank was free of target analytes. Since the associated trichloroethene detections were greater than the five times acceptance criteria, no data qualification was required based on method blank data.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded trichloroethene (0.21 ug/l) and acetone (1.1 ug/l) detections. The associated trichloroethene detections were within acceptance criteria and no data qualification was required. The associated acetone data for samples 080311-01,02,03 and 080311-04,05,06 should be qualified as nondetect (10U) based on the (acetone) trip blank detection.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualifications noted.

Endsley, Erin A - DNR

From:	Ahrens, Chuck [cahrens@craworld.com]
Sent:	Tuesday, January 10, 2012 11:18 AM
То:	Endsley, Erin A - DNR; Bianchin.Sheri
Cc:	Project Email Hold
Subject:	Quarterly Report EW-1 Wausau Water Supply NPL Site ~COR-003978-10~
Follow Up Flag:	Follow up
Flag Status:	Red
Attachments:	003978BIAN-015-011012.pdf

Ms. Bianchin and Ms. Endsley,

The Fourth Quarter 2011 Monitoring Report for the extraction and treatment of groundwater at EW-1, Wausau Water Supply NPL Site, is attached. This report is being provided in electronic format. If you prefer a hard copy, please let me know.

Please contact me if you have any questions. Thank you, Chuck

Charles Ahrens, P.G. Conestoga-Rovers & Associates (CRA) 1801 Old Highway 8 NW, Suite 114 St Paul, MN 55112

Direct: 651.639.0439 ext. 310 Main: 651.639.0913 Fax: 651.639.0923 Email: <u>cahrens@craworld.com</u> <u>www.craworld.com</u> Perform every task the safe way, the right way, every time!

CRA is an Equal Opportunity Employment Employer

This communication and any accompanying document(s) are confidential and are intended for the sole use of the addressee. If you are not the intended recipient, please notify me at the telephone number shown above or by return e-mail and delete this e-mail and any copies. You are advised that any disclosure, copying, distribution, or the taking of any action in reliance upon the communication without consent is strictly prohibited. Thank you.



CONESTOGA-ROVERS & ASSOCIATES

January 10, 2012

Ms. Sheri Bianchin UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 77 West Jackson Chicago, Illinois 60604

Dear Ms. Bianchin and Ms. Endsley:

Re: Fourth Quarter 2011 Report EW1 Treatment and Discharge Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this report of the extraction, treatment, and discharge of groundwater from Extraction Well No. 1 (EW-1) at RBC Manufacturing Inc. (formerly Marathon Electric) on the Wausau Water Supply NPL Site. Groundwater is pumped from EW-1 and treated by flowing over riprap on the bank of the Wisconsin River before it flows into the river. This report covers the fourth quarter of 2011.

Fourth quarter 2011 samples were collected on December 20, 2011, from the spigot at the well head (influent) and from the end of the spillway (effluent). The samples were shipped by overnight courier to TestAmerica Laboratories in North Canton, Ohio, for site-specific volatile organic compound (VOC) analyses by EPA Method 8260B. Sampling and analysis were completed in accordance with the Groundwater Monitoring Plan.

Copies of the laboratory report and data validation memo are provided in Attachments A and B, respectively. The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification. A summary of the detected VOC concentrations is reported below.

Analyte		Influent	Effluent	Discharge Limit
trichloroethene	-	7.3 μg/l	3.3 µg/1	41,000

As shown, only trichloroethene was detected and concentrations were well below the surface water discharge limits. EW-1 has operated continuously since April 28, 2011, and the pumping rate remained consistent through the fourth quarter. The average pumping rate for the fourth quarter was 555 gpm.



1801 Old Highway 8 Northwest, Suite 114, Minnesota 55112Telephone: 651-639-0913Facsimile: 651-639-0923www.CRAworld.com

Reference No. 003978-10

VIA EMAIL ONLY (PDF)

Ms. Erin Endsley WISCONSIN DEPARTMENT OF NATURAL RESOURCES DNR Service Center 1701 N. 4th Street Superior, Wisconsin 54880



January 11, 2012

Reference No. 003978-10

a

-2-

Approximately 75,000,000 gallons of water were treated by EW1 during the fourth quarter. Table 1 summarizes the EW-1 pumping volumes and average pumping rates over the fourth quarter of 2011.

Please call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Alm

Charles Ahrens

CA/sb/15 Encl.

cc: Lee Bergmann, Regal Beloit Dave Erickson, City of Wausau

TABLE 1

EXTRACTION WELL EW-1 PUMPING RATES FOURTH QUARTER 2011 WAUSAU WATER SUPPLY NPL SITE WAUSAU, WISCONSIN

Elapsed Time			Total Flow	Average Flow
Date	(minutes)	Meter Reading	(gallons)	Rate (gpm)
09/30/11		484,873,000		
10/10/11	14,355	492,783,000	7,910,000	551
11/15/11	51,712	522,705,000	29,922,000	5 79
12/20/11	50,318	550,353,000	27,648,000	549
01/06/12	24,705	563,211,000	12,858,000	520
4th Qtr Totals	141,090		78,338,000	555

Notes:

EW-1 operated continuously through the fourth quarter of 2011.

ATTACHMENT A

LABORATORY REPORT

003978BIAN15-ATTP

....



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc. TestAmerica North Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-7139-1 Client Project/Site: 3978, Wausau

For:

Conestoga-Rovers & Associates, Inc. 1801 Old Highway 8 NW Suite 114 St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson

Envie DHeckler

Authorized for release by: 12/30/2011 10:43:13 AM

Denise Heckler Project Manager II denise.heckler@testamericainc.com

LINKS Review your project results through TOTOLACCESS Have a Question? Ask-The Expert Visit us at: Www.testamericainc.com

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

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

5

会議

Ì

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	5
Sample Summary	6
Detection Summary	7
Client Sample Results	8
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	13
	14
Certification Summary	15
Chain of Custody	16
Receipt Checklists	19

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau 4

3

5

Qualifiers GC/MS VOA Qualifier Qualifier Description U Indicates the analyte was analyzed for but not detected. J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

TestAmerica Job ID: 240-7139-1

Job ID: 240-7139-1

Laboratory: TestAmerica North Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 3978, Wausau

Report Number: 240-7139-1

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

TestAmerica 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 application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 12/21/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.1 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples 122011-01 (240-7139-1), 122011-02 (240-7139-2) and TRIP BLANK (240-7139-3) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 12/29/2011.

No difficulties were encountered during the VOCs analyses.

All quality control parameters were within the acceptance limits.

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau .

4...

£

Method 8260B	Method Description Volatile Organic Compounds (GC/MS)	Protocol SW846	Laboratory TAL NC
		J¥¥040	- IAL NG
Protocol Refe SW846 = "	ences: Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986	And Its Updates.	t de la companya de l
Laboratory Be	forences		4 1 - 5
TAL NC =	TestAmerica North Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396		····· ······ ·
			•
			,
			•
			•
	•		
			- £ -
	· ·		1
	· · · ·		in an
•	· ·		
	•		
	· · ·		•.
		•	
			· . · .

Sample Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

TestAmerica Job ID: 240-7139-1

.

4

£Ê

Lab Samala ID	Client Sample ID	Matrix	Collected	Received	
Lab Sample ID	122011 01 Influent	Water	12/20/11 09:16	12/21/11 11:10	1.
240-7139-1	122011-01 Initiation	Water	12/20/11 09:11	12/21/11 11:10	
240-7139-2	122011-02 Efficienc	Water	12/20/11 00:00	12/21/11 11:10	
240-7139-3	TRIP BLANK	Waler			Ð
					6
•					9 20 - 20

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

TestAmerica Job ID: 240-7139-1

4

Client Sample ID: 122011-01					l	Lab Sample ID: 240-7139-			
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	7.3		1.0	0.17	ug/L	1	-	8260B	Ţotal/NA
Client Sample ID: 122011-02						•	Lat	o Sample	ID: 240-7139-2
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Туре
Trichloroethene	3.3	<u>. </u>	1.0	0.17	ug/L	1	-	8260B	Total/NA
Client Sample ID: TRIP BLANK					 	l	Lal	o Sample	ID: 240-7139-3
Analytė	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.7	J	10	1.1	ug/L	1	_	8260B	Total/NA

Client Sample Results

TestAmerica Job ID: 240-7139-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

Client Sample ID: 122011-01 Date Collected: 12/20/11 09:16 Date Received: 12/21/11 11:10	Influent		Lab Sample ID: 240-7139-1 Matrix: Water
		·	· · · · · · · · · · · · · · · · · · ·

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			12/29/11 04:47	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			12/29/11 04:47	• 1
Acetone	10	U	10	1.1	ug/L			12/29/11 04:47	1
Benzene	1.0	U	1.0	0.13	ug/L			12/29/11 04:47	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			12/29/11 04:47	1
Chloroform	1.0	U	1.0	0.1 6	ug/L			12/29/11 04:47	1
cis-1.2-Dichloroethene	1.0	U	1.0	. 0.17	ug/L			12/29/11 04:47	1
Ethvibenzene	1.0	U	1.0	0.17	ug/L			12/29/11 04:47	1
Aethylene Chloride	1.0	U	1.0	0.33	ug/L			12/29/11 04:47	1
etrachloroethene	1.0	U	1.0	0.29	ug/L			12/29/11 04:47	1
Toluene	1.0	U	1.0	0.13	ug/L			12/29/11 04:47	1
Frichloroethene	7.3		1.0	0.17	ug/L			12/29/11 04:47	1
/invl chloride	1.0	U	1.0	0.22	ug/L			12/29/11 04:47	1
Kylenes, Total	1.0	U	1.0	0.28	ug/L			12/29/11 04:47	. 1
Surmaste	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1.2-Dichlomethane-d4 (Surr)	102		63 - 129					12/29/11 04:47	1
, 2 Слановостало и (Ссл.) 4-Вотоfluombenzene (Surr)	83		66 - 117					12/29/11 04:47	1
Toluene-d8 (Surr)	88		74 - 115					12/29/11 04:47	1
Diberrofuormethane (Surr)	100		75 - 121		••••			12/29/11 04:47	1

Client Sample Results

TestAmerica Job ID: 240-7139-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

Lab Sample ID: 240-7139-2

12/29/11 05:10

12/29/11 05:10

Client Sample ID: 122011-02 Date Collected: 12/20/11 09:11 Date Received: 12/21/11 11:10

Toluene-d8 (Surr)

Dibromofluoromethane (Surr)

Effluent

Matrix: Water

5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			12/29/11 05:10	1
1,1-Dichloroethene	1.0	U,	1.0	0.19	ug/L			12/29/11 05:10	1
Acetone	10	U	10	1.1	ug/L	•		12/29/11 05:10	1
Benzene	1.0	Ü	1.0	0.13	ug/L	• •	• • • •	12/29/11 05:10	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			12/29/11 05:10	1
Chloroform	1.0	U	1.0	0.16	ug/L			12/29/11 05:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			12/29/11 05:10	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			12/29/11 05:10	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			12/29/11 05:10	-1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			12/29/11 05:10	1
Toluene	1.0	U	1.0	0.13	ug/L			12/29/11 05:10	1
Trichloroethene	. 3.3		1.0	0.17	ug/L			12/29/11 05:10	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			12/29/11 05:10	1
Xylenes, Total	1.0	U	1.0	0.28	ug/L			12/29/11 05:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 129			-		12/29/11 05:10	1
4-Bromofluorobenzene (Surr)	. 77		66 - 117					12/29/11 05:10	1

74 - 115

75 - 121

84

TestAmerica Job ID: 240-7139-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

Client Sample ID: TRIP BLANK

Date Collected: 12/20/11 00:00 Date Received: 12/21/11 11:10

Lab Sample ID: 240-7139-3 Matrix: Water

5

8

입황

.

Analysis	Result	Qualifier	RL	MDL	Unit		D	Prepared	Analyzed	Dil Fac
Analyte			1.0	0.27	ug/L				12/29/11 05:32	1
	10	u -	1.0	0.19	ug/L				12/29/11 05:32	1
1,1-Dichloroethene	27		. 10	1.1	ug/L				12/29/11 05:32	1
Acetone			1.0	0.13	ug/L	••••	· · · •		12/29/11 05:32	1
Benzene	1.0	11	10	0.13	ua/L				12/29/11 05:32	1
Carbon tetrachloride	1.0		1.0	0.16	ua/L				12/29/11 05:32	1
Chloroform	1.0		1.0	0.17	uo/l				12/29/11 05:32	1
cis-1,2-Dichloroethene	1.0	0	1.0	0.17	ug/L				12/29/11 05:32	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L				12/29/11 05:32	1
Methylene Chloride	1.0	U	1.0	0.33	ug/c				12/29/11 05:32	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L				12/20/11 05:02	. 1
Toluene	1.0	U	1.0	0.13	ug/L				12/29/11 05:52	4
Trichloroethene	1.0	U	1.0	0.17	ug/L				12/29/11 05:32	
Vinvl chloride	1.0	U	1.0	0.22	ug/L				12/29/11 05:32	1
Xylenes, Total	1.0	U	. 1.0	0.28	ug/L				12/29/11 05:32	1
Summerto	%Recoverv	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Surroyale	99		63 - 129						12/29/11 05:32	1
	. 79)	66 - 117						12/29/11 05:32	1
	, s		74 . 115						12/29/11 05:32 .	1
Toluene-d8 (Surr)	100	, 	75 - 121				• •		12/29/11 05:32	1

TestAmerica Job ID: 240-7139-1

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

Matrix: Water				•		Ргер Тур	e: Total/NA
Γ				Percent Su	rrogate Recove	ery (Acceptance Limits)	
		12DCE	BFB	TOL	DBFM		
Lab Sample ID	Client Sample ID	(63-129)	(66-117)	(74-115)	(75-121)	· ·	
240-7139-1	122011-01	102	83	88	. 100		
240-7139-2	122011-02	100	77	84	96		
240-7139-3	TRIP BLANK	99	79	85	100		•
LCS 240-28440/4	Lab Control Sample	95	99	91	96		
MB 240-28440/5	Method Blank	101	85	89	100		· .
Surrogate Legend							

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

4

4

6

ī,

٢



Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

6

6

Ê

10

的

13

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

Lab Sample ID: MB 240-28440/5 Matrix: Water			· ·	-			Client S	ample ID: Metho Prep Type: T	d Blank otal/NA
Analysis Batch: 28440									
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			12/28/11 22:24	1
1,1-Dichloroethene	1.0	U '	1.0	0.19	ug/L			12/28/11 22:24	1
Acetone	10	U	10	1.1	ug/L			12/28/11 22:24	1
Benzene	1.0	U	1.0	0.13	ug/L			12/28/11 22:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			12/28/11 22:24	1
Chloroform	1.0	U	<u>.</u> 1.0	· 0.16	ug/L			12/28/11 22:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			12/28/11 22:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			12/28/11 22:24	ⁱ 1
Methylene Chloride	· 1.0	U	1.0	0.33	ug/L			12/28/11 22:24	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			12/28/11 22:24	1
Toluene	1.0	U	1.0	0.13	ug/L			12/28/11 22:24	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			12/28/11 22:24	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			12/28/11 22:24	1
Xylenes, Total	1.0	U	1.0	0.28	ug/L			12/28/11 22:24	1
	МВ	мв							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129			-		12/28/11 22:24	1
4-Bromofiuorobenzene (Surr)	85		66 - 117					12/28/11 22:24	1
Toluene-d8 (Surr)	89		74 - 115					12/28/11 22:24	1
Dibromofluoromethane (Surr)	100		75 - 121					12/28/11 22:24	1

Lab Sample ID: LCS 240-28440/4 Matrix: Water

Analysis Batch: 28440

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1,2-Trichloroethane	10.0	8.83		ug/L		88	80 - 112	
1,1-Dichloroethene	10.0	9.87		ug/L		99	78 - 131	
Acetone	20.0	18.5		ug/L		93	43 _ 136	
Benzene *	, 10.0	9.60		ug/L		96	83 - 112	
Carbon tetrachloride	10.0	9.67		ug/L		97	66 - 128	
Chloroform	10.0	10.2		ug/L		102	79 ₋ 117	
cis-1,2-Dichloroethene	10.0	9.51	·	ug/L		95	80 - 113	
Ethylbenzene	10.0	9.66		ug/L		97	83 - 112	
m-Xylene & p-Xylene	20.0	19.4		ug/L		97	83 - 113	
Methylene Chloride	10.0	9.23		ug/L		92	66 - 131	
o-Xylene	10.0	9.75		ug/L	v	98	83 - 113	
Tetrachloroethene	10.0	9.38		ug/L		94	79 - 114	
Toluene	10.0	9.05	• • •	ug/L		91	84 - 111	•• • •••
Trichloroethene	10.0	9.46		ug/L	•	95	76 ₋ 117	
Vinyl chloride	10.0	7.21		ug/L		72	53 ₋ 127	

	LCS	LCS				•	•	
Surrogate	. %Recovery	Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					
4-Bromofluorobenzene (Surr)	99		66 - 117					
Toluene-d8 (Surr)	91		74 - 115				· .	. · ·
Dibromofluoromethane (Surr)			75 - 121	• • • • • • • • • • • • •	• • •			

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau TestAmerica Job ID: 240-7139-1

3

3

Ċ

11

Ð.

GC/MS VOA

Analysis Batch: 2844	0				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-7139-1	122011-01	Total/NA	Water	8260B	
240-7139-2	122011-02	Total/NA	Water	8260B	
240-7139-3	TRIP BLANK	Total/NA	Water	8260B	
LCS 240-28440/4	Lab Control Sample	Total/NA	Water	. 8260B	• •
MB 240-28440/5	Method Blank	Total/NA	Water	8260B	
hum					

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau TestAmerica Job ID: 240-7139-1

Client Samp	le ID: 12201	1-01					Lab Sample	D: 240-7139-1
Date Collected	l: 12/20/11 09: [,]	16					•	Matrix: Water
Date Received	: 12/21/11 11:1	10						
	Batch	Batch		Dilution	Batch	Prepared		·
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	28440	12/29/11 04:47	LW	TAL NC
Client Samp	le ID: 12201	1-02					Lab Sample	ID: 240-7139-2
Date Collected	1: 12/20/11 09: [.]	11						Matrix: Water
Date Received	: 12/21/11 11:1	10						
ſ .	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	28440	12/29/11 05:10	LW	TAL NC
Client Samp	le ID: TRIP	BLANK			·		Lab Sample	iD: 240-7139-3
Date Collected	I: 12/20/11 00:0	. 00						Matrix: Water
Date Received	: 12/21/11 11:1	10						*.

Date Received:	12/21/11 11:1	0								<u>(</u>)
	Batch	Batch		Dilution	Batch	Prepared			1	
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab		ÚŸ
Total/NA	Analysis	8260B		1	28440	12/29/11 05:32	LW	TAL NC	940 7	

Laboratory References:

TAL NC = TestAmerica North Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

ST 14

TestAmerica North Canton 12/30/2011

Certification Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 3978, Wausau

TestAmerica Job ID: 240-7139-1

1

4

6

 $(\mathfrak{S}) \to \mathfrak{S}$

13

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica North Canton	ACLASS	DoD ELAP		ADE-1437
TestAmerica North Canton	California	NELAC	9	01144CA
TestAmerica North Canton	Connecticut	State Program	1	PH-0590
TestAmerica North Canton	Florida	NELAC	4	E87225
TestAmerica North Canton	Georgia	Georgia EPD	4	N/A
TestAmerica North Canton	Illinois	NELAC	5	200004
TestAmerica North Canton	Kansas	NELAC	7	E-10336
TestAmerica North Canton	Kentucky	State Program	4.	58
TestAmerica North Canton	Minnesota	NELAC	5	039-999-348
TestAmerica North Canton	Nevada	State Program	9	OH-000482008A
TestAmerica North Canton	New Jersey	NELAC	2	OH001
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	Ohio	OVAP	5	CL0024
TestAmerica North Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica North Canton	USDA	USDA		P330-11-00328
TestAmerica North Canton	Virginia	NELAC Secondary AB	З .	460175
TestAmerica North Canton	West Virginia	West Virginia DEP	3	. 210
TestAmerica North Canton	Wisconsin	State Program	5 [.]	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Test.	America Lab Regi Ti	oratory location: ilatory program:			<u>Jo</u> bw	- <u>+</u> +->. C	ר (חוו ⊏	<u> </u>	$\frac{n+1}{2}$		RA .			Other .				<u> </u>			THE LE		IENTAL TES
Client Contact Company Name:	Client Proje	ct Manager:					Site Co	ontact:							Lab Co	atact:					1e	COC No:	
BBC Manufacturing Corp.	Lee	. Bergi		300	١			\leq	<u> A11</u>	ne_	-		•		T-1 1							035	<u>361</u>
100E. Rindolph St	Telephone:	675 81	ou	1		:	1 etept	ione:							1 etepni	nae: .						of	COCs
City/State/Zip:	Email:	<u> </u>		<u>'</u>		211.4			inia Te		nd Ti	me							•			en lab ure only	
Worson, WI 59401	lee.	Dergmo	ŝ	(er	Ľ	OLDE	2101	ATIC	i Comi	105 anys					r	<u>r</u> -r	A	nalyse	; ┬──┬			Wate all and the second	
15 675 8104	: .] 3 \	veeks		報告が						ŀ			Lab pickup	
Project Name: EW-1 4th D. Sacolina	Method of S	ihipment/Carrier:].] 2,	væks		1200		³							Lab sampling	
Project Number:	Shipping/T	racking No:								יו ב 2 מ	veek lays		1000	2 P	N							Job/SDG No.	
)			685	02840.0	17203	an si si s	Joseph A	-		<u>] 16</u>	lay		्स् इन्द्र	Die (1	+			ł					
run .	4	·	879	M Contraction	atorix	<u> 1</u> 846.2	1. S.	<u>-</u>	ntalaers	& Pres	irvativ		42(4) 2 2	d Sam) Ö								<u> Neeros</u>
S	: : Samala D	Samala Time	-	queous ediment	olid	ither:	12504	EONI	ē	HOH /	Hoge I	Inpres Other:		Comp	A.						·	Sample Spe Special In	struction
	32.00	9:154	Ť	2		<u> </u>	-	-	-		~			<u>, </u>		++	<u> </u>	-	+ +				
122011-01	102					· .			_				[+	-				·	
122011-01 XInfluent	+	9:16A	_	1	\perp				~		\perp		!	P G	~								
122011-01		9:16 4		-					-				,	1 G	r					-			
122011-024		9:10A		-				-	-				- 1	NG	-								
122011-02 (EFFluent	1	9'11A	Τ	-	1				-					NG	~								
122011-02	F	9:11A	Τ	-					-				-	٧G	v								
Tria blank		•	Τ																				
			1		\uparrow	1						1		1.	1.				1.				
			+	┼┼	+		╂──			+	·	+	-	+			-+-						<u> </u>
· · · · · · · · · · · · · · · · · · ·	- <u> </u>		╞		+		-			_	_		.	<u> </u>									
B		·																					
Non-Hazard Commission Si	in frritant	Poison	B		U	nknown			Return t	o Client	may		Dispo	sal By L	ab	Arc	hive Fo	r			_ Months		
Special Instructions/QC Requirements & Comments:																							
								•					1	1									
Lee Bergman	Company:	n_{onuf}	םצ	Date/T	ime:	0.11	h	0'00	NAM	Receive	day:	1	Π	N.	0		С	ompany:	1	41		Date/Time:	
Relinquished by:	Company:			Date/T	ïme:		: •			Receive	d dy:		6-6			- .	c	ompany:				Date/Time:	
Relinquished by:	Company:	· · · ·		Date/T	ime:					Receive	d in L	abora	tory by	:			c	ompany:	:			Date/Time:	
													-					-					

	r Receipt Form/Narrative	Lot Number:	
North Canton Facil	ity		<u> </u>
Client K L1C	Project	By	ance
Cooler Received on	·////// Opened on		Signature)
FEELEX-UPS DHL FA	S Stetson Client Drop Off TestAmerica (Courier Other	• · · · · · · · · · · · · · · · · · · ·
TestAmerica Cooler #	Multiple Coolers Esam Bo	Client Cooler Other	
1. Were custody seals of	on the outside of the cooler(s)? Hesp No	Intact? 400 No	NA
If YES, Quantity	Quantity Unsalvagea		
Were custody seals of	on the outside of cooler(s) signed and dated	? Ces No	NĄ
Were custody seals of	on the bottle(s)?	Yes -∉NO	
If YES, are there any			n an an tha an a' a'
2. Shippers' packing slip		CLES NO Relinguished by elient?	No.
3. Did custody papers a	accompany the sample(s) (des no		stes no
4. Were the custody pa	d Bubble Wran Foam None Off	her Bad	
5. Packing material use	u. Bubble Wrap Poant None Ou	f form for multiple coolers/tem	ne
	Other		ha
	Blue Ice Dry Ice Water No	1 0	
7 Did all hottles arrive i	n good condition (Unbroken)?	Xee No	
8 Could all hottle labels	be reconciled with the COC?	Yees No	
9. Were sample(s) at th	e correct pH upon receipt?	Yes No a	NA
10 Were correct bottle(s) used for the test(s) indicated?	No	
11. Were air bubbles >6	mm in any VOA vials?	Yes No	NA
12. Sufficient quantity rec	eived to perform indicated analyses?	efet No	
Concerning			
14. CHAIN OF CUSTOD	λαγγοριατικά τη παραγοριατική τη από τη από τη από τη		· · · · · · · · · · · · · · · · · · ·
The following discrepance	ies occurred:		
15. SAMPLE CONDITIO	<u>N</u>		
15. SAMPLE CONDITIO Sample(s)	N were received	after the recommended holdin	g time had expired
15. SAMPLE CONDITIO Sample(s) Sample(s)	W were received	after the recommended holdin were received in	g time had expirer a broken containe
15. SAMPLE CONDITIC Sample(s) Sample(s) Sample(s)	DN were received were received	after the recommended holdin were received in eived with bubble >6 mm in dia	g time had expired a broken containe imeter. (Notify PM
15. SAMPLE CONDITIO Sample(s) Sample(s) 16. SAMPLE PRESERV	N were received were received were received	after the recommended holdin were received in eived with bubble >6 mm in dia	g time had expired a broken containe imeter. (Notify PM
15. SAMPLE CONDITIO Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s)	W were received were received were received	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved	g time had expired a broken contained ameter. (Notify PM in Sample
15. SAMPLE CONDITIO Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom	W were received were received were received AT/ON mended pH level(s): Nitric Acid Lot# 110410-	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911	g time had expired a broken contained imeter. (Notify PM in Sample -H ₂ SO ₄ ; Sodium ## 100108
15. SAMPLE CONDITIO Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Loi# 121809 -Ne (CHaCOO)aZN/AleOH	N were received were received	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo 2	g time had expired a broken containe imeter. (Notify PM in Sample -H ₂ SO ₄ ; Sodium t# 100108-
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Lot# 121809 -Ne (CH ₃ COO) ₂ ZN/NaOH. Wha	N were received were received wer	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ?	g time had expired a broken containe imeter. (Notify PM in Sample -H ₂ SO4; Sodium t# 100108-
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Loi# 121809 -Ne (CH ₃ COO) ₂ ZN/NaOH. Wha <u>Client ID</u>	Were received Were received We	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ?	g time had expired a broken containe imeter. (Notify PM in Sample -H ₂ SO4; Sodium t# 100108- ate Initials
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Loi# 121809 -Ne (CH ₃ COO) ₂ ZN/NaOH. Wha Client ID	W were received were received wer	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ? D	g time had expired a broken containe ameter. (Notify PM in Sample -H₂SO₄; Sodium t# 100108- ate Initials
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Loi# 121809 -Ne (CH_3COO)_2ZN/NaOH. What Client ID	W were received were received	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ?	g time had expired a broken containe ameter. (Notify PM in Sample -H₂SO₄; Sodium t# 100108- ate Initials
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Lot# 121809 -Ne (CH ₃ COO) ₂ ZN/NaOH. Wha <u>Client ID</u>	W Were received Were received Wer	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ?	g time had expired a broken containe imeter. (Notify PN in Sample -H ₂ SO ₄ ; Sodium t# 100108- ate Initials
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Loi# 121809 -Ma (CH_3COO)_2ZN/NaOH. What Client ID	DN were received Were received were received Were received were received Were received were received Mended pH level(s): Nitric Acid Lot# 110410- aOH; Hydrochloric Acid Lot# 041911-HCl; Sodiu at time was preservative added to sample(s) pH	after the recommended holdin were received in ever with bubble >6 mm in dia were further preserved HNO3; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ?	g time had expired a broken containe imeter. (Notify PM in Sample -H ₂ SO ₄ ; Sodium t# 100108- ate Initials
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Lot# 121809 -Na (CH ₃ COO) ₂ ZN/NaOH. What Client ID	N were received were received wer	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ? D	g time had expired a broken containe imeter. (Notify PIV in Sample -H ₂ SO4; Sodium t# 100108- ate Initials
15. SAMPLE CONDITIC Sample(s) Sample(s) 16. SAMPLE PRESERV Sample(s) Receiving to meet recom Hydroxide Loi# 121809 -Ne (CH ₃ COO) ₂ ZN/NaOH. Wha <u>Client ID</u>	W were received were received wer	after the recommended holdin were received in eived with bubble >6 mm in dia were further preserved HNOs; Sulfuric Acid Lot# 041911 m Hydroxide and Zinc Acetate Lo ?	g time had expired a broken containe imeter. (Notify PM in Sample -H ₂ SO4; Sodium t# 100108- ate Initials

· · ·

SOP: NC-SC-0005, Sample Receiving N:\QAQC\NARRATIVE\TestAmerica\Cooler Receipt TestAmerica\COOLER_TestAmerica_Rev 81_110911 djl.doc

Page 17 of 19

· . .

. · •]

14

Image: Section of the section of th	Coler# Temp. *C Method Coolant	Client ID	<u>На</u>	Date	Initial
Image: Sector of the sector	image: construction of the second			· · · · · · · · · · · · · · · · · · ·	
Image: Contract of the second seco	Cooler # Temp. °C Method Coolant Cooler # Temp. °C Method Coolant				
Image: Solution of the second seco	Image: Second diagonal				
	Cooler # Temp. °C Method Cooler # Coolant				
Image: Sector of the sector					
Image: Solution of the second seco	Image: Societ # Temp. °C Method Image: Societ # Image: Societ #				
Image: Sector of the sector	image: control image: control image: control image: control				
Image: Sector of the sector	Sooler # Temp. °C Method Coolant Sooler # Temp. °C Method Coolant				
Image: Sector of the sector	Image: Second diagonal di diagonal di diagonal di diagonal diagonal diagonal diagonal di				
■	Coler # Temp. °C Method Coolant				
Image: Second	Cooler # Temp. °C Method Coolant		•	ļ	-
Image: Sector of the sector	Cooler # Temp. °C Method Coolant			·	
Image: Second	Cooler # Temp. °C Method Coolant	•		· ·	
Image: Second	Cooler # Temp. °C Method Coolant Cooler # Coolant Coolant		• .		ļ
Noler #	Cooler # Temp. °C Method Coolant Cooler # Temp. °C Method Coolant		·		
	Sooler # Temp. °C Method Coolant Sooler # Temp. °C Method Coolant		•		· ·
Image: Second	Cooler # Temp. °C Method Coolant				
	Cooler # Temp. °C Method Coolant				
Noler # Method Coolan	Cooler # Temp. °C Method Coolant Cooler # Temp. °C Method Coolant Cooler # Coolant Coolant Coolant Coolant Coolant Coolant Coolant Coolant Coolant Coolant Coolant C		· · · · · · · · · · · · · · · · · · ·	·	
Method Coolan poler # Temp. °C Method Coolan	Cooler # Temp. °C Method Coolant Cooler #		······································		
Method Coolan Doler # Temp. °C Method	Cooler # Temp. °C Method Coolant				
Noler # Temp. °C Method Coolan	Cooler # Temp. °C Method Coolant			•	
Doler # Temp. °C Method Coolan	Cooler # Temp. °C Method Coolam				· ·
					0
		<u>Cooler #</u>	iemp. °C	Method	Coolant
		· · · · · · · · · · · · · · · · · · ·	······		
				•	
	ncies Cont'd				
	ncies Cont'd	·			
	ncies Cont'd		· · · · · · · · · · · · · · · · · · ·		
	ncies Cont'd	·	· · · · · · · · · · · · · · · · · · ·		····
	ncies Cont'd				
	ncies Copt'd		· · · · · · · · · · · · · · · · · · ·		
cies Cont'd		nancies Cont'd:	······································		
cies Cont'd		nancies Cont'd:			· · ·
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· ·· • •.	
	· · · · · · · · · · · · · · · · · · ·			· · · · · · ·	· ·
					
			·	·····	
		and the second			
					······

Ĩ

14

SOP: NC-SC-0005, Sample Receiving N:\QAQCW**AB2GE**V**FB**erfm**t**9ca\Coolar Receipt TestAmerica\GOOLER_TestAmerica_Rev 81_1101Q18662011
Client: Conestoga-Rovers & Associates, Inc.

Job Number: 240-7139-1

5

(j)e

13

13

List Source: TestAmerica North Canton

Login Number: 7139 List Number: 1

Creator: Sutek, Nick

Question	Answer	Comment			 	
Radioactivity either was not measured or, if measured, is at or below background	. N/A					
The cooler's custody seal, if present, is intact.	True			•		
The cooler or samples do not appear to have been compromised or tampered with.	True					
Samples were received on ice.	True					
Cooler Temperature is acceptable.	True		-			
Cooler Temperature is recorded.	True	1.1				
COC is present.	True			,		
COC is filled out in ink and legible.	True					
COC is filled out with all pertinent information.	True		•			
Is the Field Sampler's name present on COC?	True					
There are no discrepancies between the sample IDs on the containers and the COC.	True					
Samples are received within Holding Time.	True					
Sample containers have legible labels.	True					
Containers are not broken or leaking.	True				•	
Sample collection date/times are provided.	True					`.
Appropriate sample containers are used.	True				,	
Sample bottles are completely filled.	True					
Sample Preservation Verified.	True			•		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True					
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True					
Multiphasic samples are not present.	True					
Samples do not require splitting or compositing.	True		·			
Residual Chlorine Checked.	N/A					

ATTACHMENT B

DATA VALIDATION MEMO



1801 Old Highway 8 NW, Suite #114 St. Paul, Minnesota 55112 Telephone: (651) 639-0913 Fax: (651) 639-0923 www.CRAworld.com

MEMORANDUM

To:	Chuck Ahrens, CRA	Ref. No.:	003978-10
FROM:	Grant Anderson/sb/14	DATE:	January 5, 2012
CC:	Analytical Data File		
RE:	Data Quality Assessment December 20, 2011 Sampling Event Wausau Superfund Site - Wausau, Wisconsin		

The following details a data quality assessment for water samples collected December 20, 2011, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as 122011-01 (Influent) and 122011-02 (Effluent) were analyzed for Site list volatile organic compounds (VOCs)¹. The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP)².

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses. On the basis of the sample collection date on the chain-of-custody form and analysis dates on the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria, indicating that individual sample performance was adequate.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank sample was reported to

ISO 9001

¹ VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

² Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

be free from detectable concentrations of target analytes, indicating that laboratory contamination was unlikely.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank yielded a detection of acetone (2.7 ug/l). However, the associated samples were reported to be free from detectable concentrations of acetone; therefore, no qualification of data was necessary based on trip blank contamination.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.