# **Richard, Philip E - DNR**

From: Sent: To: Cc: Subject: Attachments: Ree, Timothy <tree@craworld.com> Wednesday, April 22, 2015 8:45 AM Richard, Philip E - DNR; Robinson, John H - DNR Frehner, Ron; Sandberg, Brian; Storlie, Pete Penta Wood - WPDES Compliance Sampling 4/6/2015 and 4/16/2015 ~COR-086165~ Lab Report-240-49061-1-086165-01-09-2015-04-21.pdf; Lab Report-240-49237-1-086165-01-07-2015-04-21.pdf; Lab Report-240-49466-1-086165-01-07-2015-04-21.pdf

Rec 4/22/15 Puton Boliets 5/6(15

Importance:

High

# Phil/John,

Please find attached copies of the laboratory reports for the WPDES compliance sampling conducted at the Penta Wood site on 4/6/2015 and 4/16/2015. PCP was detected at a concentration of 0.094 ug/L (estimated) on 4/6/2015, which meets the permit limit of 0.1 ug/L. PCP was detected at a concentration of 0.12 ug/L on 4/16/2015, which exceeds the permit limit of 0.1 ug/L. This represents the first sample collected that exceeds the permit limit since implementing the modified pumping strategy on 2/13/2015. However, this result does not represent a noncompliance of the substantive WPDES permit requirements since additional weekly effluent sampling is required to determine the monthly average. Based on the two effluent samples collected in April, the average effluent PCP concentration is 0.107 ug/L. All other parameters met the permit criteria.

Effluent PCP concentrations have been slightly increasing for the past month, but this is the first sample that exceeded the criteria. It has been about 3 months since a carbon change-out was completed and the system was restarted on 1/19/2015.

After the pumping modification, PCP was detected in the influent samples at 480 ug/L in February and 390 ug/L in March. PCP was detected at a significantly increased concentration of 1,500 ug/L in the influent sample on 4/6/2015. CRA believes that we are now extracting emulsified LNAPL from at least one of the extraction wells and that is the reason the effluent exceeded the permit limit.

PCP was detected at 0.016 ug/L (estimated) in the sample collected between the carbon units on 4/10/2015.

CRA recommends that additional samples for PCP be collected of total influent, individual influent at the five active extraction wells, effluent, and between the carbon units to further evaluate whether an adjustment of the current pumping strategy can be made to reduce the influent concentrations and thereby improve treatment to meet the permit limits and still maintain hydraulic capture of the plume area. The analyses would be expedited in an attempt to make a pumping adjustment and collect a subsequent effluent sample before the end of the month. If results are favorable, the monthly average would meet the effluent permit limit.

As we have done in the past, the costs for these additional analyses would be billed under the contract unit prices for expedited PCP analysis. CRA estimates that the additional costs for this sampling and shipping would be less than \$1,500.

If you agree with this recommendation, please update Kathy Bartilson (WDNR) and Linda Martin (USEPA) and request their approval. We are prepared to collect these samples as soon as we receive approval.

Should you have questions, please do not hesitate to contact me.

Regards,

# Tim Ree Conestoga-Rovers & Associates (CRA) 1801 Old Highway 8 NW, Suite 114 St Paul, MN 55112

Phone: 651.639.0913 Direct: 651.639-0439 (ext. 338) Cell: 651.592.7697 Fax: 651.639.0923 Email: tree@CRAworld.com www.CRAworld.com Think before you print P Perform every task the safe way, the right way, every time!

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# **ANALYTICAL REPORT**

# TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-49061-1 Client Project/Site: 86165-01-01, Penta Wood

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Conestoga-Rovers & Associates, Inc. 1801 Old Highway 8 NW Suite 114 St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson

Jenuse DHeckler

Authorized for release by: 4/21/2015 1:54:15 PM

Denise Heckler, Project Manager II (330)966-9477 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.

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

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Qualifiers

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G	C	/N	IS	V	0	A

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
GC/MS Sen	ni VOA
Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
GC Semi V	AC
Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
Х	Surrogate is outside control limits
Metals	
Qualifier	Qualifier Description
В	Compound was found in the blank and sample.
J ′	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
General Ch	emistry
Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

#### Glossary

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

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## Job ID: 240-49061-1

#### Laboratory: TestAmerica Canton

Narrative

### CASE NARRATIVE

#### Client: Conestoga-Rovers & Associates, Inc.

# Project: 86165-01-01, Penta Wood

### Report Number: 240-49061-1

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

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

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

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

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 04/08/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

#### VOLATILE ORGANIC COMPOUNDS (GCMS)

Sample W-150406-PS-QE (240-49061-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/10/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP).

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

#### SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Sample W-150406-PS-QE (240-49061-1) was analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270C. The samples were prepared and analyzed on 04/09/2015.

Surrogates are added during the extraction process prior to dilution. When the sample is diluted, surrogate recoveries are diluted out and no corrective action is required.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP).

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## Job ID: 240-49061-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

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

#### WISCONSIN DRO

Sample W-150406-PS-QE (240-49061-1) was analyzed for Wisconsin DRO in accordance with Wisconsin DNR Modified DRO. The samples were prepared on 04/09/2015 and analyzed on 04/10/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP).

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

#### CHLORINATED HERBICIDES

Samples W-150406-PS-QE (240-49061-1) and W-150406-PS-MI (240-49061-2) were analyzed for chlorinated herbicides in accordance with EPA SW-846 Method 8151A. The samples were prepared on 04/11/2015 and analyzed on 04/13/2015 and 04/14/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

Sample W-150406-PS-MI (240-49061-2)[4000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 138236.

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

#### TOTAL RECOVERABLE METALS (ICPMS)

Sample W-150406-PS-QE (240-49061-1) was analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 04/09/2015 and analyzed on 04/13/2015.

Arsenic was detected in method blank MB 240-175729/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

#### ANIONS

Sample W-150406-PS-QE (240-49061-1) was analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/13/2015.

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

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Method	Method Description	Protocol	Laboratory
3260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
3270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
3151A	Herbicides (GC)	SW846	TAL PIT
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CAN
3290	Dioxins/Furans, HRGC/HRMS (8290)	SW846	TAL KNX
6020	Metals (ICP/MS)	SW846	TAL CAN
800.0	Anions, Ion Chromatography	MCAWW	TAL CAN

#### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

#### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396 TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000 TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Sample Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

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Lab Sample ID	Client Sample ID	Matrix	Collected Received
240-49061-1	W-150406-PS-QE	Water	04/06/15 14:15 04/08/15 09:20
240-49061-2	W-150406-PS-MI	Water	04/06/15 14:30 04/08/15 09:20

TestAmerica Job ID: 240-49061-1

Lab Sample ID: 240-49061-1

<b>Client Sample ID</b>	: W-150	406-P	S-QE
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Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	DI	Method	Prep Type
Pentachlorophenol	0.094	J	0.097	0.015	ug/L	4	- 8	8151A	Total/NA
Arsenic	0.72	JB	5.0	0.18	ug/L	1	(	6020	Total
									Recoverable
Manganese	500		5.0	1.1	ug/L	1	(	6020	Total
									Recoverable
Zinc	12	J	20	7.3	ug/L	1	6	6020	Total
									Recoverable
Chloride	15		1.0	0.41	mg/L	1	:	300.0	Total/NA
lient Sample ID: W-1504	406-PS-MI					la	hS	Sample IF	: 240-49061

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	1500		95	15	ug/L	4000	_	8151A	Total/NA

This Detection Summary does not include radiochemical test results.

Iron

Zinc

Manganese

TestAmerica Job ID: 240-49061-1

#### Lab Sample ID: 240-49061-1 Client Sample ID: W-150406-PS-QE Date Collected: 04/06/15 14:15 Matrix: Water Date Received: 04/08/15 09:20 Method: 8260B - Volatile Organic Compounds (GC/MS) Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Benzene 0.50 U 0.50 0.35 ug/L 04/10/15 17:00 1 04/10/15 17:00 Ethylbenzene 1.0 U 1.0 0.25 ug/L 1 04/10/15 17:00 Toluene 1.0 U 1.0 0.23 ug/L 1 Xylenes, Total 2.0 U 2.0 0.52 ug/L 04/10/15 17:00 1 Prepared Dil Fac Surrogate %Recovery Qualifier Limits Analyzed 1,2-Dichloroethane-d4 (Surr) 99 63 - 129 04/10/15 17:00 04/10/15 17:00 4-Bromofluorobenzene (Surr) 97 66 - 120 1 Toluene-d8 (Surr) 96 74 - 120 04/10/15 17:00 1 97 04/10/15 17:00 Dibromofluoromethane (Surr) 75-121 1 Method: 8270C - Semivolatile Organic Compounds (GC/MS) Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed **Dil Fac** Naphthalene 0.19 U 0.19 0.060 ug/L 04/09/15 05:52 04/09/15 15:34 1 Phenol 0.95 1 0.95 0.57 ug/L 04/09/15 05:52 04/09/15 15:34 1 Qualifier Surrogate %Recovery Limits Prepared Analyzed Dil Fac 2-Fluorobiphenyl (Surr) 84 29 - 11004/09/15 05:52 04/09/15 15:34 04/09/15 05:52 04/09/15 15:34 2-Fluorophenol (Surr) 44 15 - 1101 2,4,6-Tribromophenol (Surr) 91 21 - 128 04/09/15 05:52 04/09/15 15:34 1 04/09/15 05:52 04/09/15 15:34 Nitrobenzene-d5 (Surr) 80 31 - 110 1 Phenol-d5 (Surr) 26 10-110 04/09/15 05:52 04/09/15 15:34 1 04/09/15 05:52 04/09/15 15:34 Terphenyl-d14 (Surr) 79 31 - 115 1 Method: 8151A - Herbicides (GC) Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Pentachlorophenol 0.094 J 0.097 0.015 ug/L 04/11/15 14:00 04/13/15 14:18 4 %Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 79 04/11/15 14:00 04/13/15 14:18 2,4-Dichlorophenylacetic acid 32 - 140 4 Method: WI-DRO - Wisconsin - Diesel Range Organics (GC) Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac WI Diesel Range Organics (C10-C28) 0.10 U 0.10 0.082 mg/L 04/09/15 05:42 04/10/15 19:19 1 Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) Result Qualifier ML EDL TEQ Unit Analyzed Dil Fac Analyte TEF D Prepared ND 9.5 1.5 pg/L 04/13/15 11:00 04/15/15 23:38 2,3,7,8-TCDD 1 1 (EPA 1989) 0.00 Total TEQ Internal Standard %Recovery Qualifier Limits Prepared Analyzed Dil Fac 04/13/15 11:00 04/15/15 23:38 13C-2,3,7,8-TCDD 86 40 - 135 1 Method: 6020 - Metals (ICP/MS) - Total Recoverable Analyzed Dil Fac Analyte **Result Qualifier** RL MDL Unit D Prepared 5.0 04/09/15 09:16 04/13/15 14:23 Arsenic 0.72 JB 0.18 ug/L 04/09/15 09:16 2.0 U 2.0 04/13/15 14:23 Copper 0.75 ug/L 1

**TestAmerica** Canton

04/13/15 14:23

04/13/15 14:23

04/13/15 14:23

04/09/15 09:16

04/09/15 09.16

04/09/15 09:16

100

5.0

20

16 ug/L

1.1 ug/L

7.3 ug/L

100 U

500

12 J

1

# **Client Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood TestAmerica Job ID: 240-49061-1

Client Sample ID: W-150406-PS-QE							Lab San	nple ID: 240-4	9061-1
Date Collected: 04/06/15 14:15			Matri	k: Water					
Date Received: 04/08/15 09:20									
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		1.0	0.41	mg/L			04/13/15 21:02	1

# **Client Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

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TestAmerica Job ID: 240-49061-1

Client Sample ID: W-150406-PS	lient Sample ID: W-150406-PS-MI								
Date Collected: 04/06/15 14:30			Matrix	k: Water					
Date Received: 04/08/15 09:20						- har - and - and			
Method: 8151A - Herbicides (GC) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	1500		95	15	ug/L		04/11/15 14:00	04/14/15 11:00	4000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	0	XD	32 - 140				04/11/15 14:00	04/14/15 11:00	4000

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

M	a	tri	x:	W	ate	r

Pren	Type:	Total	I/NΔ
Flep	Type.	TOLA	

				Percent Su	rogate Recove	ery (Acceptance Limits)	
		12DCE	BFB	TOL	DBFM		
Lab Sample ID	Client Sample ID	(63-129)	(66-120)	(74-120)	(75-121)		
240-49061-1	W-150406-PS-QE	99	97	96	97		
LCS 240-175903/4	Lab Control Sample	98	100	97	96		
MB 240-175903/6	Method Blank	99	93	93	96		
Surrogate Legend							
12DCE = 1,2-Dichloro	ethane-d4 (Surr)						
BFB = 4-Bromofluorob	enzene (Surr)						
TOL = Toluene-d8 (Su	ırr)						

DBFM = Dibromofluoromethane (Surr)

# Method: 8270C - Semivolatile Organic Compounds (GC/MS)

atrix: Water								Prep Type: Total/N
				Percent Sur	rrogate Reco	very (Accept	ance Limits)	
		FBP	2FP	TBP	NBZ	PHL	TPH	
Lab Sample ID	Client Sample ID	(29-110)	(15-110)	(21-128)	(31-110)	(10-110)	(31-115)	
240-49061-1	W-150406-PS-QE	84	44	91	80	26	79	
_CS 240-175675/10-A	Lab Control Sample	79	63	91	99	49	80	
MB 240-175675/9-A	Method Blank	79	62	87	73	50	81	
Surrogate Legend								
FBP = 2-Fluorobiphenyl								
2FP = 2-Fluorophenol (S	Surr)							
TBP = 2,4,6-Tribromoph	enol (Surr)							
NBZ = Nitrobenzene-d5	(Surr)							
PHL = Phenol-d5 (Surr)								
TPH = Terphenyl-d14 (S	Surr)							

# Method: 8151A - Herbicides (GC)

# Matrix: Water

				Percent Surrogate Recovery (Acceptance Limits)
		DCPA1	DCPA2	
Lab Sample ID	Client Sample ID	(32-140)	(32-140)	
240-49061-1	W-150406-PS-QE	79	63	interesting and a second
240-49061-2	W-150406-PS-MI	0 X D	0 X D	
LCS 180-138236/2-A	Lab Control Sample	82	71	
LCSD 180-138236/3-A	Lab Control Sample Dup	66	59	
MB 180-138236/1-A	Method Blank	62	50	

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Prep Type: Total/NA

TestAmerica Job ID: 240-49061-1

# Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

# Matrix: Water

1

1

Prep Type: Total

1

1

1

1

1

			Percent Internal Standar	d Recovery (Ac	ceptance Li	nits)	
		TCDD					
Lab Sample ID	Client Sample ID	(40-135)					
240-49061-1	W-150406-PS-QE	86					
H5D130000018B	Method Blank	80					
H5D130000018C	Lab Control Sample	83					

TCDD = 13C-2,3,7,8-TCDD

,

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

Lab Sample ID: MB 240-175903/6							Client Sa	ample ID: Metho	d Blank
Matrix: Water								Prep Type: T	otal/NA
Analysis Batch: 175903									
	MB	МВ							
Analyte R	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	0.50	0.35	ug/L			04/10/15 10:12	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			04/10/15 10:12	1
Toluene	1.0	U	1.0	0.23	ug/L			04/10/15 10:12	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			04/10/15 10:12	1
	МВ	МВ							
Surrogate %Reco	overy	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129					04/10/15 10:12	1
4-Bromofluorobenzene (Surr)	93		66 - 120					04/10/15 10:12	1
Toluene-d8 (Surr)	93		74 - 120					04/10/15 10:12	1
Dibromofluoromethane (Surr)	96		75 - 121					04/10/15 10:12	1

## Lab Sample ID: LCS 240-175903/4 Matrix: Water Analysis Batch: 175903

		Spike	LCS	LCS				%Rec.	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene		10.0	9.65		ug/L		97	80 - 120	
Ethylbenzene		10.0	9.59		ug/L		96	80 - 120	
Toluene		10.0	9.44		ug/L		94	80 - 120	
Xylenes, Total		20.0	19.4		ug/L		97	80 - 120	
m-Xylene & p-Xylene		10.0	9.58		ug/L		96	80 - 120	
o-Xylene		10.0	9.80		ug/L		98	80 - 120	
	LCS LCS								
Surrogate	%Recovery Qualif	ier Limits							

76Recovery	Quanner	Linnis
98		63 - 129
100		66 - 120
97		74 - 120
96		75 - 121
	98 100 97	100 97

# Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-175675/9-A Matrix: Water Analysis Batch: 175697	мв	МВ					Client Sa	mple ID: Metho Prep Type: T Prep Batch:	otal/NA
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.20	U	0.20	0.063	ug/L		04/09/15 05:52	04/09/15 08:53	1
Phenol	1.0	U	1.0	0.60	ug/L		04/09/15 05:52	04/09/15 08:53	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	79		29 - 110				04/09/15 05:52	04/09/15 08:53	1
2-Fluorophenol (Surr)	62		15 - 110				04/09/15 05:52	04/09/15 08:53	1
2,4,6-Tribromophenol (Surr)	87		21 - 128				04/09/15 05:52	04/09/15 08:53	1
Nitrobenzene-d5 (Surr)	73		31 - 110				04/09/15 05:52	04/09/15 08:53	1
Phenol-d5 (Surr)	50		10 - 110				04/09/15 05:52	04/09/15 08:53	1
Terphenyl-d14 (Surr)	81		31 - 115				04/09/15 05:52	04/09/15 08:53	1

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# Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-1 Matrix: Water	10010/10-4						Olicin	Campie	Prep Ty	ntrol Sample /pe: Total/NA
Analysis Batch: 175697			Spike	LCS	LCS				Prep E %Rec.	atch: 17567
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Naphthalene			20.0	15.0		ug/L		75	52 - 120	
Phenol			20.0	10.1		ug/L		51	16 - 120	
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
2-Fluorobiphenyl (Surr)	79		29 - 110							
2-Fluorophenol (Surr)	63		15_110							
2,4,6-Tribromophenol (Surr)	91		21 - 128							
Nitrobenzene-d5 (Surr)	99		31 - 110							
Phenol-d5 (Surr)	49		10 - 110							
Terphenyl-d14 (Surr)	80		31 - 115							

# Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 180-138236/1- Matrix: Water	A										Client Sa	ample ID: M Prep Typ		
Analysis Batch: 138323												Prep Ba		
Allalysis Batch. 130323		мв	мв									гтер Ба	itten. i	30230
Analyte			Qualifier	RL		MDL	Unit		D	Р	repared	Analyzed	1	Dil Fac
Pentachlorophenol			U	0.10	-	0.016				_	1/15 14:00	04/13/15 13		4
		МВ	МВ											
Surrogate			Qualifier	Limits						P	repared	Analyzed	1	Dil Fac
2,4-Dichlorophenylacetic acid		62	quanner	32 - 140	-						1/15 14:00	04/13/15 13		4
 Lab Sample ID: LCS 180-138236/2									0	liont	Sampla	ID: Lab Con	trols	amplo
Matrix: Water									U	nem	Sample	Prep Typ		
Analysis Batch: 138323												Prep Ba		
Analysis Batch. 130323				Spike	LCS	LCS						%Rec.		30230
Analyte				Added	Result			Unit		D	%Rec	Limits		
Pentachlorophenol				2.50	2.60			ug/L			104	40 - 140		
	LCS	LCS												
Surrogate	%Recovery	Quali	fier	Limits										
2,4-Dichlorophenylacetic acid	82			32 - 140										
Lab Sample ID: LCSD 180-138236	/3-A							С	lient	Sam	ple ID: L	ab Control	Sampl	e Dup
Matrix: Water												Prep Typ	-	-
Analysis Batch: 138323												Prep Ba		
				Spike	LCSD	LCS	D					%Rec.		RPD
Analyte				Added	Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limit
Pentachlorophenol				2.50	2.26			ug/L			90	40 - 140	14	30
	LCSD	LCSD												
Surrogate	%Recovery	Quali	fier	Limits										
2,4-Dichlorophenylacetic acid	66			32 - 140										

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# Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 240-175	673/2-A									Client Sa	ample ID: Me		
Matrix: Water											Ргер Тур		
Analysis Batch: 175998											Prep Bat	tch: 1	7567
			MB						100.00				
Analyte			Qualifier	RL		MDL Unit		D		repared	Analyzed		Dil Fa
WI Diesel Range Organics (C10-C2	8)	0.10	U	0.10		0.080 mg/			04/09	9/15 05:42	04/10/15 18:2	25	
Lab Sample ID: LCS 240-17	5673/3-A							С	lient	Sample	ID: Lab Cont	rol S	ample
Matrix: Water									lione	oumpro	Prep Typ		123
Analysis Batch: 175998											Prep Bat		
a analysis a second sec				Spike	LCS	LCS					%Rec.		
Analyte				Added	Result	Qualifier	Unit		D	%Rec	Limits		
WI Diesel Range Organics (C10-C28)	~			0.500	0.515		mg/L			103	75 - 115		
Lab Sample ID: LCSD 240-1	75673/4-A						С	lient	Sam	ple ID: L	ab Control S	ampl	e Du
Matrix: Water											Ргер Тур	e: To	tal/N
Analysis Batch: 175998											Prep Bat	ch: 1	7567
				Spike	LCSD	LCSD					%Rec.		RP
Analyte				Added	Result	Qualifier	Unit		D	%Rec	Limits	RPD	Lim
WI Diesel Range Organics				0.500	0.440		mg/L			88	75 - 115	16	2
c10-C28)	and the second	RGC/H	RMS (82	290)		<b>6</b>				Client S:	ample ID: Me	thod	Blan
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water	and the second	RGC/H	RMS (82	290)							ample ID: Me Prep	Туре	Tota
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water	018B	RGC/H	RMS (82	290)								Туре	Tota
(C10-C28) Iethod: 8290 - Dioxins/I Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018	018В мв мв				TEE	TEO	Unit				Prep Prep Batch:	Туре	Tota 018_I
(C10-C28) Iethod: 8290 - Dioxins/I Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte	018B MB MB Result Qualit		ML	EDL	TEF	TEQ	Unit	D	Pr	epared	Prep Prep Batch: Analyzed	Type: 5103	Tota 018_  Dil Fa
(C10-C28) Iethod: 8290 - Dioxins/I Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD	018В мв мв				TEF 1		Unit pg/L	D	Pr		Prep Prep Batch:	Type: 5103	Tota 018_ Dil Fa
(C10-C28) lethod: 8290 - Dioxins/I Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD	018B MB MB Result Qualit		ML	EDL		TEQ 0.00		D	Pr	epared	Prep Prep Batch: Analyzed	Type: 5103	Tota 018_ Dil Fa
(C10-C28) lethod: 8290 - Dioxins/I Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD	018B MB MB Result Qualit		<b>ML</b> 10	EDL				D	Pr	epared	Prep Prep Batch: Analyzed	Type: 5103	Tota 018_  Dil Fa
(C10-C28) lethod: 8290 - Dioxins/I Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ	018B MB MB Result Qualit	ier	ML 10 <i>MB</i>	EDL				D	Pr 04/13	epared	Prep Prep Batch: Analyzed	Type: 5103	Dil Fa
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard	018B MB MB Result Qualit	ier MB	ML 10 MB Qualifier	EDL 1.5				D	Pr 04/13 Pr	<b>epared</b> 3/15 11:00	Prep Batch: Analyzed 04/15/15 13:1	<b>5103</b>	Dil Fa
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD	018B MB MB Result Qualit ND %	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 Limits					Pr 04/13 Pr 04/13	epared 3/15 11:00 epared 3/15 11:00	Prep Batch: Analyzed 04/15/15 13:1 Analyzed 04/15/15 13:1	Type: 5103	Tota 018_ Dil Fa
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000	018B MB MB Result Qualit ND %	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 Limits					Pr 04/13 Pr 04/13	epared 3/15 11:00 epared 3/15 11:00	Prep Batch: Analyzed 04/15/15 13:1 Analyzed 04/15/15 13:1 ID: Lab Cont	Type: 5103 18	Tota 018_ Dil Fa Dil Fa
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000 Matrix: Water	018B MB MB Result Qualit ND %	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 Limits					Pr 04/13 Pr 04/13	epared 3/15 11:00 epared 3/15 11:00 Sample	Prep Batch: Analyzed 04/15/15 13: Analyzed 04/15/15 13: ID: Lab Cont Prep	Type: 5103 18 18 78 79 79	Tota 018_ Dil Fa <i>Dil Fa</i> ampl
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000 Matrix: Water	018B MB MB Result Qualit ND %	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 Limits	1				Pr 04/13 Pr 04/13	epared 3/15 11:00 epared 3/15 11:00 Sample	Prep Batch: Analyzed 04/15/15 13:1 Analyzed 04/15/15 13:1 ID: Lab Cont	Type: 5103 18 18 78 79 79	Tota 018_ Dil Fa <i>Dil Fa</i> ampl
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000 Matrix: Water Analysis Batch: 5103018	018B MB MB Result Qualit ND %	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 Limits 40 - 135	LCS	0.00			Pr 04/13 Pr 04/13	epared 3/15 11:00 epared 3/15 11:00 Sample	Prep Batch: Analyzed 04/15/15 13: Analyzed 04/15/15 13: ID: Lab Cont Prep Prep Batch:	Type: 5103 18 18 78 79 79	Dil Fa
(C10-C28) lethod: 8290 - Dioxins// Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000 Matrix: Water Analysis Batch: 5103018 Analyte	018B MB MB Result Qualit ND %	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 <i>Limits</i> 40 - 135 Spike	LCS	0.00 LCS	pg/L		Pr 04/13 Pr 04/13 lient	epared 3/15 11:00 epared 3/15 11:00 Sample	Prep Batch: Analyzed 04/15/15 13:1 Analyzed 04/15/15 13:1 ID: Lab Cont Prep Batch: %Rec.	Type: 5103 18 18 78 79 79	Tota 018_ Dil Fa <i>Dil Fa</i> ampl
(C10-C28) lethod: 8290 - Dioxins/l Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD	018B MB MB Result Qualit ND %/	ier MB Recovery 80	ML 10 MB Qualifier	EDL 1.5 <i>Limits</i> 40 - 135 Spike Added	1 LCS Result	0.00 LCS	pg/L Unit		Pr 04/13 Pr 04/13 lient	epared 8/15 11:00 epared 8/15 11:00 Sample %Rec	Prep Batch: Analyzed 04/15/15 13:1 Analyzed 04/15/15 13:1 ID: Lab Cont Prep Batch: %Rec. Limits	Type: 5103 18 18 78 79 79	Tota 018_I Dil Fa Dil Fa ample
(C10-C28) lethod: 8290 - Dioxins// Lab Sample ID: H5D130000 Matrix: Water Analysis Batch: 5103018 Analyte 2,3,7,8-TCDD Total TEQ Internal Standard 13C-2,3,7,8-TCDD Lab Sample ID: H5D1300000 Matrix: Water Analysis Batch: 5103018 Analyte	018B MB MB Result Qualit ND %/	ier MB Recovery	ML 10 MB Qualifier	EDL 1.5 <i>Limits</i> 40 - 135 Spike Added	1 LCS Result	0.00 LCS	pg/L Unit		Pr 04/13 Pr 04/13 lient	epared 8/15 11:00 epared 8/15 11:00 Sample %Rec	Prep Batch: Analyzed 04/15/15 13:1 Analyzed 04/15/15 13:1 ID: Lab Cont Prep Batch: %Rec. Limits	Type: 5103 18 18 78 79 79	Tota 018_F Dil Fac Dil Fac ample Tota

#### .... ... 6020 Motole (ICD/MC)

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Chloride

Lab Sample ID: MB 240-175729/1-A	N										Client Sa	ample ID: Meth	od Blank
Matrix: Water											Prep 1	Type: Total Rec	overable
Analysis Batch: 176309												Prep Batch	n: 175729
Analyte		MB Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fa
Arsenic	0.183			5.0			ug/L				9/15 09:16	04/13/15 13:16	
Copper	2.0			2.0			ug/L				9/15 09:16	04/13/15 13:16	
Iron	100			100			ug/L				9/15 09:16	04/13/15 13:16	
Manganese	5.0			5.0		1.1					9/15 09:16	04/13/15 13:16	ł
Zinc	20			20			ug/L				9/15 09:16	04/13/15 13:16	-
	20	0		20		7.5	ug/L			04/0	5/15 05.10	04/10/10 10.10	
Lab Sample ID: LCS 240-175729/2-	A								С	lient	Sample	ID: Lab Contro	I Sample
Matrix: Water												Type: Total Rec	
Analysis Batch: 176309											(A. 1998)	Prep Batch	
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Arsenic		the second second	1000		1020			ug/L			102	80 - 120	
Copper			1000		1100			ug/L			110	80 - 120	
Iron			10000		10500			ug/L			105	80 - 120	
Manganese			1000		1040			ug/L			104	80 - 120	
					1.000						110	00 100	
	hromatogra	aphy	1000		1120			ug/L			112	80 - 120	
Zinc Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water	hromatogra	aphy	1000		1120		-	ug/L				ample ID: Meth	
Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water	hromatogra	aphy	1000	-	1120			ug/L	-				
Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water	hromatogra		1000	-	1120			ug/L				ample ID: Meth	
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255	МВ	МВ	1000	RL	1120	MDL	Unit	ug/L	D		Client Sa	ample ID: Meth Prep Type:	Total/NA
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte	MB Result	MB Qualifier	1000	<b>RL</b> 1.0	1120	<b>MDL</b> 0.41		ug/L	D			ample ID: Meth	Total/NA Dil Fac
Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3	МВ	MB Qualifier			1120		Unit mg/L	ug/L	D		Client Sa	ample ID: Meth Prep Type: Analyzed	Total/NA Dil Fac
Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte	MB Result	MB Qualifier	1000		1120			ug/L		P	Client Sa repared	ample ID: Meth Prep Type: Analyzed	Total/NA Dil Fac
Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride	MB Result	MB Qualifier			1120			ug/L		P	Client Sa repared	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12	Dil Fa
Method: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water	MB Result	MB Qualifier						ug/L		P	Client Sa repared	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12 ID: Lab Contro	Dil Fac
Nethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4	MB Result	MB Qualifier	1000					ug/L		P	Client Sa repared	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12 ID: Lab Contro	Dil Fac
Iethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water	MB Result	MB Qualifier				0.41	mg/L	Unit		P	Client Sa repared	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12 ID: Lab Contro Prep Type:	Dil Fac
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water Analysis Batch: 176255 Analyte	MB Result	MB Qualifier	Spike		LCS	0.41	mg/L			Pi	Client Sa repared Sample	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12 ID: Lab Contro Prep Type: %Rec.	Dil Fac
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water Analysis Batch: 176255 Analyte Chloride	MB Result	MB Qualifier	Spike Added		LCS Result	0.41	mg/L	Unit		Pilient	Client Sarepared Sample	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12 ID: Lab Contro Prep Type: %Rec. Limits 90 - 110	Dil Fa
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: 240-49061-1 MS	MB Result	MB Qualifier	Spike Added		LCS Result	0.41	mg/L	Unit		Pilient	Client Sarepared Sample	ample ID: Meth Prep Type: 04/13/15 17:12 ID: Lab Contro Prep Type: %Rec. Limits 90 - 110 ple ID: W-15040	Dil Fac Dil Fac I Sample Total/NA
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: 240-49061-1 MS Matrix: Water	MB Result	MB Qualifier	Spike Added		LCS Result	0.41	mg/L	Unit		Pilient	Client Sarepared Sample	ample ID: Meth Prep Type: Analyzed 04/13/15 17:12 ID: Lab Contro Prep Type: %Rec. Limits 90 - 110	Dil Fac Dil Fac I Sample Total/NA
lethod: 300.0 - Anions, Ion Cl Lab Sample ID: MB 240-176255/3 Matrix: Water Analysis Batch: 176255 Analyte Chloride Lab Sample ID: LCS 240-176255/4 Matrix: Water Analysis Batch: 176255 Analyte	MB Result	MB Qualifier U	Spike Added		LCS Result 53.0	0.41	mg/L	Unit		Pilient	Client Sarepared Sample	ample ID: Meth Prep Type: 04/13/15 17:12 ID: Lab Contro Prep Type: %Rec. Limits 90 - 110 ple ID: W-15040	Dil Fac Dil Fac I Sample Total/NA

Lab Sample ID: 240-49061-1 MSD Matrix: Water Analysis Batch: 176255							Cli	ent Sam	ple ID: W-1 Prep T	150406-F ype: Tot	
Analysis Datsin 110200	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	15		50.0	73.0		mg/L		116	80 - 120	6	20

68.7

mg/L

107

80 - 120

50.0

# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood ,

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# GC/MS VOA

### Analysis Batch: 175903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	8260B	
LCS 240-175903/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-175903/6	Method Blank	Total/NA	Water	8260B	

# GC/MS Semi VOA

#### Prep Batch: 175675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	3510C	
LCS 240-175675/10-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-175675/9-A	Method Blank	Total/NA	Water	3510C	
nalysis Batch: 17569				00100	
nalysis Batch: 17569 Lab Sample ID		Ргер Туре	Matrix	Method	Prep Batch
	7	Prep Type Total/NA			Prep Batch 175675
Lab Sample ID	7 Client Sample ID		Matrix	Method	

# GC Semi VOA

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	8151A	
240-49061-2	W-150406-PS-MI	Total/NA	Water	8151A	
LCS 180-138236/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 180-138236/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	
MB 180-138236/1-A	Method Blank	Total/NA	Water	8151A	
nalysis Batch: 138323	}				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	8151A	138236
LCS 180-138236/2-A	Lab Control Sample	Total/NA	Water	8151A	138236
LCSD 180-138236/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	138236
MB 180-138236/1-A	Method Blank	Total/NA	Water	8151A	138236
nalysis Batch: 138420	)				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-2	W-150406-PS-MI	Total/NA	Water	8151A	138236
rep Batch: 175673					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	3520C	
LCS 240-175673/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 240-175673/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 240-175673/2-A	Method Blank	Total/NA	Water	3520C	

#### Analysis Batch: 175998

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	WI-DRO	175673
LCS 240-175673/3-A	Lab Control Sample	Total/NA	Water	WI-DRO	175673

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# GC Semi VOA (Continued)

# Analysis Batch: 175998 (Continued)

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
LCSD 240-175673/4-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	175673
MB 240-175673/2-A	Method Blank	Total/NA	Water	WI-DRO	175673

# **Specialty Organics**

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## Analysis Batch: 5103018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total	Water	8290	
H5D130000018B	Method Blank	Total	Water	8290	
H5D130000018C	Lab Control Sample	Total	Water	8290	
Prep Batch: 5103018_	P				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total	Water	8290	
H5D130000018B	Method Blank	Total	Water	8290	
H5D130000018C	Lab Control Sample	Total	Water	8290	

# Metals

### Prep Batch: 175729

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total Recoverable	Water	3005A	
LCS 240-175729/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-175729/1-A	Method Blank	Total Recoverable	Water	3005A	
Analysis Batch: 176309					

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total Recoverable	Water	6020	175729
LCS 240-175729/2-A	Lab Control Sample	Total Recoverable	Water	6020	175729
MB 240-175729/1-A	Method Blank	Total Recoverable	Water	6020	175729

# **General Chemistry**

### Analysis Batch: 176255

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-49061-1	W-150406-PS-QE	Total/NA	Water	300.0	
240-49061-1 MS	W-150406-PS-QE	Total/NA	Water	300.0	
240-49061-1 MSD	W-150406-PS-QE	Total/NA	Water	300.0	
LCS 240-176255/4	Lab Control Sample	Total/NA	Water	300.0	
MB 240-176255/3	Method Blank	Total/NA	Water	300.0	

# Client Sample ID: W-150406-PS-QE

Date Collected: 04/06/15 14:15 Date Received: 04/08/15 09:20

	Batch	Batch		Dilution	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	175903	04/10/15 17:00	RJQ	TAL CAN
Total/NA	Prep	3510C			175675	04/09/15 05:52	CSC	TAL CAN
Total/NA	Analysis	8270C		1	175697	04/09/15 15:34	MRU	TAL CAN
Total/NA	Prep	8151A			138236	04/11/15 14:00	CBY	TAL PIT
Total/NA	Analysis	8151A		4	138323	04/13/15 14:18	JMO	TAL PIT
Total/NA	Prep	3520C	× .		175673	04/09/15 05:42	CSC	TAL CAN
Total/NA	Analysis	WI-DRO		1	175998	04/10/15 19:19	DEB	TAL CAN
Total	Prep	8290			5103018_P	04/13/15 11:00		TAL KNX
Total	Analysis	8290		1	5103018	04/15/15 23:38	PMP	TAL KNX
Total Recoverable	Prep	3005A			175729	04/09/15 09:16	WAL	TAL CAN
Total Recoverable	Analysis	6020		1	176309	04/13/15 14:23	AS1	TAL CAN
Total/NA	Analysis	300.0		1	176255	04/13/15 21:02	JMB	TAL CAN

# Client Sample ID: W-150406-PS-MI Date Collected: 04/06/15 14:30 Date Received: 04/08/15 09:20

Γ	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			138236	04/11/15 14:00	CBY	TAL PIT
Total/NA	Analysis	8151A		4000	138420	04/14/15 11:00	JMO	TAL PIT

#### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Sample ID: 240-49061-1 Matrix: Water

Lab Sample ID: 240-49061-2

1

Matrix: Water

# Laboratory: TestAmerica Canton

The certifications listed below are applicable to this report.

Authority	Program		Certification ID	Expiration Date
Wisconsin	State Program	5	999518190	08-31-15

### Laboratory: TestAmerica Knoxville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0688	06-17-15
California	State Program	9	2423	06-30-16
Colorado	State Program	8	N/A	02-28-16
Connecticut	State Program	1	PH-0223	09-30-15
Florida	NELAP	4	E87177	06-30-15
Georgia	State Program	4	906	04-13-17
Hawaii	State Program	9	N/A	04-13-16
Kansas	NELAP	7	E-10349	04-30-15
Kentucky (DW)	State Program	4	90101	12-31-15
L-A-B	DoD ELAP		L2311	02-13-16
Louisiana	NELAP	6	83979	06-30-15
Louisiana	NELAP	6	LA110001	12-31-15
Maryland	State Program	3	277	03-31-16
Michigan	State Program	5	9933	04-13-17
Nevada	State Program	9	TN00009	07-31-15
New Jersey	NELAP	2	TN001	06-30-15
New York	NELAP	2	10781	03-31-16
North Carolina (DW)	State Program	4	21705	07-31-15
North Carolina (WW/SW)	State Program	4	64	12-31-15
Ohio VAP	State Program	5	CL0059	01-16-17
Oklahoma	State Program	6	9415	08-31-15
Pennsylvania	NELAP	3	68-00576	12-31-15
South Carolina	State Program	4	.84001	06-30-15
Tennessee	State Program	4	2014	04-13-17
Texas	NELAP	6	T104704380-TX	08-31-15
USDA	Federal		P330-13-00260	08-29-16
Utah	NELAP	8	QUAN3	07-31-15
Virginia	NELAP	3	460176	09-14-15
/irginia	State Program	3	165	06-30-15
Washington	State Program	10	C593	01-19-16
West Virginia (DW)	State Program	3	9955C	12-31-15
West Virginia DEP	State Program	3	345	04-30-15
Wisconsin	State Program	5	998044300	08-31-15

# Laboratory: TestAmerica Pittsburgh

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998027800	08-31-15



TestAmerica Laboratories, Inc.

# CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



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CONESTOGA & ASSOCIATES	6		e T			ld Hi ıl, Mi																	e_of_
$\smile$				ione:	(651	) 639	0-091	13		Fa	x: (6	51) 6	39-0	923	~						(	See Reverse Side	for Instructions
Project No/ Phase/Task Code: 08/a1/65-01-	n i		Labo	oratoi	ry Na	me:	1	ēs.	+	A	no	'na	a	Lal	D Locat		1.1	n	sto	3		SSOW ID:	
Project Name: Penta Woo	4		Lab	Cont	act:		_/_(	1	cki	1p	/			Lal	o Quote	No:					<i></i>	Cooler No:	
	L		SAM			С	ONT	AINE	RQ	UAN	ΤΙΤΥ	&	-		AN	ALYS	s R	EQUE	ESTI	ED		Carrier:	118
Chemistry Contact:			TY				<u> </u>	RES	ERV	ΑΤΙΟ	N		e		(See B	ack of	coc	for D	Defin	itions	<u>, .</u>	Airbill No:	der
Grant Anderson	7		c)	10 (C)		d (HCI		SO4)	e	(Soil	x25-g		Sampl	-	5	1200			S	23	In		
ampler(s): Peter Str/ie			ode k.of.COC)	or Con	ved	oric Aci	ONH) b	Acid (H <sub>2</sub> S	łydroxid	Water	3x5-g, 1x25-g		Itainers/	8151	Diaxi	SR	de		halen	AN I	Request	Date Shipped. 4-7	
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE	TIME	Matrix C (see bac	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCI)	Nitric Acid (HNO <sub>3</sub> )	Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	Sodium Hydroxide (NaOH)	Methanol/Water ( VOC)	EnCores	Other:	Total Containers/Sample	PCP-	DRU		Chlorid	BIEY	Hidrah	spatal		Соми	MENTS/
W-150406-PS-QF			W	G	8	4	1	-					13	X	XX		X	X	X	X		Elf/vent	1
W-150406-PS-MI	4.6.15		W	G	2	-(-							2	X									(combined)
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					$\square$					_/						4							
/							_			/	_								_			<u> </u>	
	-/			$\vdash$											-		_				1		
			1	1					$\vdash$		-				$\square$		-		-	1	4		
/			$\bigvee$			14		1						/						<b>1</b>			
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AT Required in business days (use separat	e COCs for different	APET.		5			otal	Num	ber o	f Cor	ntain	ore.	15	No	tes/ Sp			Forme					
] 1 Day 2 Days 3 Days 1 Week			arl	>	All	Sam							12		les/ Sp	eciai r	equi	reme	-1115.	•			
REDNQUISHED BY	COMPANY		DATE	• •		TIME				14 2	, F	RECEI	VED E	BY _				. (	Сом	PANY		DATE	Тіме
NSD J-	CRA	4.7	15		10	600	?	1.	•	1	A	>	-	× .	_		***	T-A				4-8-15	920
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ת Distribution: WHITE – Fully Executed Co	THE CHAIN OPPY (CRA) YEL	<i>OF Cust</i> LOW — R						-ALL		DS M PINK				TED	Accura GOLDI		)-s	ampl	ing (	Crew		CRA Form: CC	DC-10A (20110804)

	ple Receipt Form/Narrative		in#: <u>-49001</u>
Client CRA	Site Name	1223 1 10 10 10 10 10 10 10 10 10 10 10 10 1	Cooler unpacked by:
	V(5 Opened on 4	.8.15	the
	PS FAS Stetson Client Drop Off		Other
Receipt After-hours: Drop-		Storage Location	
TestAmerica Cooler #	Foam Box Qlient Cool		
Packing material used:	Bubble Wrap Foam Plastic E	Bag None Other	
COOLANT: W	et Ico Blue Ice Dry Ice W	ater None	
1. Cooler temperature upor			
$\frac{\text{IR GUN} \# A}{\text{IR GUN} \# 4}  \text{(CF +4)}$	0.°C) Observed Cooler Temp. .5 °C) Observed Cooler Temp.	C Corrected Cooler T	Cemp℃
	.4 °C) Observed Cooler Temp		
	2 °C) Observed Cooler Temp		
2. Were custody seals on th	ne outside of the cooler(s)? If Ye	C Collected Cooler 1	
	the outside of the cooler(s) signed &		25 No NA
-Were custody seals on			es Da
3. Shippers' packing slip at			s No
4. Did custody papers acco		<u> </u>	s No
	relinquished & signed in the appropr		
	clearly identified on the COC?		es (149
	good condition (Unbroken)?		s No
8. Could all bottle labels be	reconciled with the COC?		s No
9. Were correct bottle(s) us	ed for the test(s) indicated?	te	s No
	ived to perform indicated analyses?	. C	is No
11. Were sample(s) at the co		Č	& No NA pH Strip Lot# <u>HC425511</u>
12. Were VOAs on the COC			s No
13. Were air bubbles >6 mm	-		S CNO NA
14. Was a trip blank present	in the cooler(s)? Trip Blank Lot #	Ye	s (No
Contacted PM Concerning	Dateby	via Verbal V	Voice Mail Other
·····			Samples processed by:
14. CHAIN OF CUSIODY	& SAMPLE DISCREPANCIES		
•			· · · · ·
	· · · · · · · · · · · · · · · · · · ·		
15. SAMPLE CONDITION			
	were received a		
			d in a broken container.
Sample(s)	were rec	eived with bubble >6 mm	in diameter. (Notify PM)
16. SAMPLE PRESERVA	ΓΙΟΝ		
Sample(s)		were fi	urther preserved in the laboratory.
Time preserved:	Preservative(s) added/Lot number	(s):	

Ref: SOP NC-SC-0005, Sample Receiving X:\Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099P-020915 Cooler Receipt Form.doc djl 

# Login Container Summary Report

240-49061

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# Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

# Login Number: 49061 List Number: 2

Creator: Kovitch, Christina M

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

Job Number: 240-49061-1

List Source: TestAmerica Pittsburgh

List Creation: 04/09/15 11:22 AM

Client: Conestoga-Rovers & Associates, Inc.

## Login Number: 49061 List Number: 3 Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburg	h
List Creation: 04/09/15 11:24 A	М

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

Job Number: 240-49061-1

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**TestAmerica** 

# THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

# TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-49237-1 Client Project/Site: 86165-01-01, Penta Wood

1

# For:

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: 4/21/2015 1:13:11 PM

Denise Heckler, Project Manager II (330)966-9477 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.

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

# **Table of Contents**

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# **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood TestAmerica Job ID: 240-49237-1

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# Qualifiers

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# GC Semi VOA

Qualifier Qualifier Description						
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.					
р	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.					
U	Indicates the analyte was analyzed for but not detected.					

# Glossary

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

# Job ID: 240-49237-1

#### Laboratory: TestAmerica Canton

#### Narrative

#### CASE NARRATIVE

### Client: Conestoga-Rovers & Associates, Inc.

# Project: 86165-01-01, Penta Wood

### Report Number: 240-49237-1

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

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

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

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

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 04/11/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.1 C.

#### CHLORINATED HERBICIDES

Sample W-150410-PS-BETWEEN GACS (240-49237-1) was analyzed for chlorinated herbicides in accordance with EPA SW-846 Method 8151A. The samples were prepared on 04/15/2015 and analyzed on 04/21/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

The surrogate for the method blank is suspected as double spiked.

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

# **Method Summary**

# Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

Method	Method Description	Protocol	Laboratory	
8151A	Herbicides (GC)	SW846	TAL PIT	

#### Protocol References:

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

#### Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Sample Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood .

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
240-49237-1	W-150410-PS-BETWEEN GACS	Water	04/10/15 10:00	04/11/15 10:00	

TestAmerica Canton

TestAmerica Job ID: 240-49237-1

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Client Sample ID: W-150410-PS-BETWEEN GACS							La	ab	Sample II	D: 240-49237-1
	Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
	Pentachlorophenol	0.016	Jp	0.095	0.015	ug/L	4	-	8151A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Job ID: 240-49237-1

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#### Client Sample ID: W-150410-PS-BETWEEN GACS Lab Sample ID: 240-49237-1 Date Collected: 04/10/15 10:00 Matrix: Water Date Received: 04/11/15 10:00 Method: 8151A - Herbicides (GC) Analyte Result Qualifier RL MDL Unit D Dil Fac Prepared Analyzed 0.095 0.015 ug/L 04/15/15 08:10 04/21/15 08:17 Pentachlorophenol 0.016 Jp 4 Surrogate %Recovery Qualifier Limits Dil Fac Prepared Analyzed 2,4-Dichlorophenylacetic acid 32 - 140 60 04/15/15 08:10 04/21/15 08:17 4

TestAmerica Canton

## Method: 8151A - Herbicides (GC)

Matrix:	Water
---------	-------

Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		DCPA1	DCPA2	N
Lab Sample ID	Client Sample ID	(32-140)	(32-140)	
240-49237-1	W-150410-PS-BETWEEN GACS	60	52	
LCS 180-138525/2-A	Lab Control Sample	86	88	
MB 180-138525/1-A	Method Blank	131	113	

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

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## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 180-138525/1- Matrix: Water Analysis Batch: 139103	A										Client Sa	mple ID: Metho Prep Type: Prep Batch	Total/NA
		MB	MB										
Analyte	Re	sult	Qualifier	RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Pentachlorophenol		0.10	U	0.10	(	0.016	ug/L	1		04/1	5/15 08:10	04/21/15 07:57	4
		ΜВ	МВ										
Surrogate	%Reco	very	Qualifier	Limits						Ρ	repared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid		131		32 - 140						04/1	5/15 08:10	04/21/15 07:57	4
- Lab Sample ID: LCS 180-138525/2	-A								C	lient	Sample	D: Lab Control	Sample
Matrix: Water												Prep Type:	100
Analysis Batch: 139022	, ×											Prep Batch	: 138525
				Spike	LCS	LCS						%Rec.	
Analyte				Added	Result	Qua	ifier	Unit		D	%Rec	Limits	
Pentachlorophenol				2.50	2.54			ug/L		-	102	40 - 140	
	LCS	LCS											
Surrogate	6Recovery	Qual	ifier	Limits									
2,4-Dichlorophenylacetic acid	88			32 - 140									

## **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

Method Blank

138525

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## GC Semi VOA

MB 180-138525/1-A

#### Prep Batch: 138525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49237-1	W-150410-PS-BETWEEN GACS	Total/NA	Water	8151A	
LCS 180-138525/2-A	Lab Control Sample	Total/NA	Water	8151A	
MB 180-138525/1-A	Method Blank	Total/NA	Water	8151A	
Analysis Batch: 13902 -	2				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-138525/2-A	Lab Control Sample	Total/NA	Water	8151A	138525
nalysis Batch: 13910	3				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch

Total/NA

Water

8151A

#### Client Sample ID: W-150410-PS-BETWEEN GACS Date Collected: 04/10/15 10:00 Date Received: 04/11/15 10:00

## Lab Sample ID: 240-49237-1

Matrix: Water

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_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			138525	04/15/15 08:10	JPM	TAL PIT
Total/NA	Analysis	8151A		4	139103	04/21/15 08:17	JMO	TAL PIT

#### Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

## **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood TestAmerica Job ID: 240-49237-1

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#### Laboratory: TestAmerica Canton

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date	
Wisconsin	State Program	5	999518190	08-31-15	
aboratory: TestA	merica Pittsburgh				
And the second of the second sec	are applicable to this report.				

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998027800	08-31-15



TestAmerica Laboratories, Inc.

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# CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



4101 Shuffel Street, N.W. North Canton, OH 44720 P + 930499.9396 fax 330.497.0772 www.testamericainc.com 4/21/2015

CONESTOGA-ROVERS & ASSOCIATES	Phor	ne: (6	Paul, N 551) 63	39-09		5511			State 1) 639	9-09							(Se	ee Reverse Side fo	OF
roject No/Phase/Task Code: 086165-01-01	Labora	tory		1	Tes	+ ,	Am	enie	(e2		Lab Loca	tion:	V.	Ca	nto	2		SSOW ID:	
Penta Wood	Lab Co	ntac	$t: \mathcal{D}$	4	eck	le	~				Lab Quo	te No:		<u>.</u>			1	Cooler No:	
Diject Name: <u>PENTA</u> Word Diject Location: <u>Sirein</u> WI remistry Contact: Discussion of the second seco	SAMPLI	Ξ		CONT	TAINE	RQU	JANTI					NALYS Back of						Carrier:	
emistry contact: G. Anderson (ganderson@craverld.com		2	HCI)		_		=		elan	mple	(See					ns)		Airbill No:	
mpler(s): P. Storlu	Matrix Code (see back of COC) Grab (G) or Comp (C)		Unpreserved Hydrochloric Acid (HCI)	d (HNO <sub>3</sub> )	Sulfuric Acid (H <sub>2</sub> SO₄)	łydroxide	/Water (Soil	3x5-g, 1x25-g	tainare/Co	l otal Containers/Sample	815					+	Request	Date Shipped:	
SAMPLE IDENTIFICATION         DATE         TIME           (Containers for each sample may be combined on one line)         (mn/dd//yy)         (hh:mm)	Matrix C (see bac Grab (G)		Unpreserved Hydrochloric	Nitric Acid (HNO <sub>3</sub> )	Sulfuric A	Sodium Hydroxide . (NaOH)	Methanol VOC)	Sa	Other:	Total Con	Pul-					L COMPANY	MS/MSD F	Comme Special Inst	
W-150410-PS-Between GAES 04/10/15/000	WC	3 3	2						2	2	X								
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		-								+			+				+		
T Required in business days (use separate COCs for different TATS):		+		T-4-1						$\downarrow$									
1 Day 2 Days 3 Days 1 Week 2 Week 0 Other: STA	NDARD		All San	-			F Cont		1-		Notes/ S	pecial F	Requi	ireme	ents:				
RELINQUISHED BY COMPANY	DATE	1	TIM						CEIVED		(			(	COMPAN	١Y		DATE	Тіме
Tet 7: CRA 4	10.1	5	14	to	1.		D	Si	l	P	Son	31	1	A.	car	ITOY	Π	4/11/15	10:0(
· · · · · · · · · · · · · · · · · · ·				• • •	2.	V						N	_						

TestAmerica Canton Sample Receipt Form/Narrative Canton Facility	Login'# : <u>440,231</u>
Client CRA Site Name PENTA M	OUA Cooler unpacked by:
Cooler Received on 4/11/15 Opened on 4/11/15	CLOSSE BONDI
FedEx: 1 <sup>st</sup> Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica	Courier Other
Receipt After-hours: Drop-off Date/Time Storage L	
TestAmerica Cooler # NO # Foam Box Client Cooler Box C	Other
Packing material used: Bubble Wrap Foam Plastic Bag None (	Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None	
1. Cooler temperature upon receipt	
IR GUN# A (CF +4.0 °C) Observed Cooler Temp °C Corrected (	
IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. <u>↓. ↓</u> °C Corrected	
IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp°C Corrected	
IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected 6 2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 2	
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity	
-Were custody seals on the bottle(s)?	Yei No NA Yeis No
<ol> <li>Shippers' packing slip attached to the cooler(s)?</li> </ol>	(Yes) No
<ol> <li>Did custody papers accompany the sample(s)?</li> </ol>	Yes No
<ol> <li>Were the custody papers relinquished &amp; signed in the appropriate place?</li> </ol>	(Yes No
6. Was/were the sampler(s) clearly identified on the COC?	Xes (No)
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 correct bottle(s) used for the test(s) indicated?	No No
10. Sufficient quantity received to perform indicated analyses?	(Yes) No
11. Were sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC425511
12. Were VOAs on the COC?	Yes No
13. Were air bubbles >6 mm in any VOA vials?	Yes No NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot #	Yes (No)
Contracted DM Data has not	Madal Main Mail Other
Contacted PM Date by via T	Verbai Voice Mail Other
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by:
	2
·	-
15. SAMPLE CONDITION	······
Sample(s) were received after the recommen	ided holding time had expired
	e received in a broken container.
	e >6 mm in diameter. (Notify PM)
16. SAMPLE PRESERVATION	
Sample(s)	were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):	
	· · · · · · · · · · · · · · · · · · ·

Ref: SOP NC-SC-0005, Sample Receiving X:\Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099P-020915 Cooler Receipt Form.doc djl 

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

#### Login Number: 49237 List Number: 2 Creator: Watson, Debbie

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

Job Number: 240-49237-1

List Source: TestAmerica Pittsburgh

List Creation: 04/14/15 04:21 PM

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## THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

## TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-49466-1 Client Project/Site: 86165-01-01, Penta Wood

1

## For:

Conestoga-Rovers & Associates, Inc. 1801 Old Highway 8 NW Suite 114 St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson

Jenuse DHeckler

Authorized for release by: 4/21/2015 9:50:27 AM

Denise Heckler, Project Manager II (330)966-9477 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.

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

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# **Table of Contents**

Cover Page	1
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Case Narrative	4
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Sample Summary	6
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QC Sample Results	10
QC Association Summary	11
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Chain of Custody	14
Receipt Checklists	17

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

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#### Qualifiers

#### GC Semi VOA

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

## Glossary

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

#### Job ID: 240-49466-1

#### Laboratory: TestAmerica Canton

Narrative

#### **CASE NARRATIVE**

#### Client: Conestoga-Rovers & Associates, Inc.

#### Project: 86165-01-01, Penta Wood

#### Report Number: 240-49466-1

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

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

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

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

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 04/17/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.7 C.

#### CHLORINATED HERBICIDES

Sample W-150416-PS-WE (240-49466-1) was analyzed for chlorinated herbicides in accordance with EPA SW-846 Method 8151A. The samples were prepared on 04/18/2015 and analyzed on 04/21/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

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

#### Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

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Method	Method Description		Protocol	Laboratory
8151A	Herbicides (GC)	*	SW846	TAL PIT

#### Protocol References:

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

#### Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

## Sample Summary

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood ab 🦉

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-49466-1	W-150416-PS-WE	Water	04/16/15 09:30	04/17/15 10:00

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

41 .

Client Sample ID: W-150	416-PS-WE					La	ab	Sample II	D: 240-49466-1
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	0.12		0.095	0.015	ug/L	4	_	8151A	Total/NA

This Detection Summary does not include radiochemical test results.

## **Client Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood TestAmerica Job ID: 240-49466-1

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#### Lab Sample ID: 240-49466-1 Client Sample ID: W-150416-PS-WE Date Collected: 04/16/15 09:30 Matrix: Water Date Received: 04/17/15 10:00 Method: 8151A - Herbicides (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac 0.095 0.015 ug/L 04/18/15 10:26 04/21/15 02:05 Pentachlorophenol 0.12 4 Surrogate %Recovery Qualifier Limits Dil Fac Prepared Analyzed 2,4-Dichlorophenylacetic acid 70 32 - 140 04/18/15 10:26 04/21/15 02:05 4

#### Method: 8151A - Herbicides (GC)

Matrix: Water

Prep Type: Total/NA

1

				Percent Surrogate Recovery (Acceptance Limits)
		DCPA1	DCPA2	
Lab Sample ID	Client Sample ID	(32-140)	(32-140)	
240-49466-1	W-150416-PS-WE	70	59	
LCS 180-138930/2-A	Lab Control Sample	84	77	
MB 180-138930/1-A	Method Blank	55	46	

### Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

10 9

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## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 180-138930/1- Matrix: Water Analysis Batch: 139022										Client Sa	ample ID: Met Prep Type Prep Bato	
Analyte		IB MB ult Qualifier	RL		MDL	Unit		D	P	repared	Analyzed	Dil Fac
Pentachlorophenol			0.10		.016			_		8/15 09:15	04/21/15 01:44	
	N	IB MB										
Surrogate		ry Qualifier	Limits						P	repared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid		55	32 - 140						04/1	8/15 09:15	04/21/15 01:4	4 4
 Lab Sample ID: LCS 180-138930/2	2-A							С	lient	Sample	ID: Lab Contr	ol Sample
Matrix: Water											Ргер Туре	
Analysis Batch: 139022												h: 138930
			Spike	LCS	LCS						%Rec.	
Analyte			Added	Result	Qual	ifier	Unit		D	%Rec	Limits	
Pentachlorophenol			2.50	2.90			ug/L			116	40 - 140	
	LCS L	cs										
Surrogate	%Recovery Q	ualifier	Limits									
2,4-Dichlorophenylacetic acid	84		32 - 140									

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood

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## GC Semi VOA

#### Prep Batch: 138930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49466-1	W-150416-PS-WE	Total/NA	Water	8151A	
LCS 180-138930/2-A	Lab Control Sample	Total/NA	Water	8151A	
MB 180-138930/1-A	Method Blank	Total/NA	Water	8151A	
Analysis Batch: 13902	2				
Lab Comula ID	Client Comple ID	Dren Tune	Matrix	Mathad	Dren Detah

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-49466-1	W-150416-PS-WE	Total/NA	Water	8151A	138930
LCS 180-138930/2-A	Lab Control Sample	Total/NA	Water	8151A	138930
MB 180-138930/1-A	Method Blank	Total/NA	Water	8151A	138930

**TestAmerica** Canton

Lab Sample ID: 240-49466-1

Matrix: Water

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## Client Sample ID: W-150416-PS-WE

#### Date Collected: 04/16/15 09:30 Date Received: 04/17/15 10:00

Γ	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Prep	8151A			138930	04/18/15 10:26	CBY	TAL PIT	
Total/NA	Analysis	8151A		4	139022	04/21/15 02:05	JMO	TAL PIT	

#### Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

## **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 86165-01-01, Penta Wood TestAmerica Job ID: 240-49466-1

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#### Laboratory: TestAmerica Canton

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999518190	08-31-15

#### Laboratory: TestAmerica Pittsburgh

The certifications listed below are applicable to this report.

_					
Authority		Program	EPA Region	Certification ID	Expiration Date
Wisconsin	£	State Program	5	998027800	08-31-15



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

# CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



240-49466 Chain of Custody

& ASSOCIATES		PH	18 St. none:	01 ( . Pai	Old H ul, M 1) 63	lighv linne 9-09	vay 8 esota 13	8 Nor 551	thwe 12 U Fa	est, Si Inited x: (65	uite 1. d Stat 51) 63	14 es 9-09			_,					ee Reverse Side fo	1_OF_1_
iject No/ Phase/Task Code: 186165-01-01		Labo	oratoi	ry Na	ame:	7	Test	+ A	Im	2nic	êr		Lab Locatio	on: 1	1. 0	Na.	nte			SSOW ID:	
ject Name: Penta Wood	1	Lab	Conta	act:		D	?	He	ek	la	· .		Lab Quote	No:						Cooler No:	
ject Location:		SAM TY			C		PRES				&		ANA See.Ba	ALYSIS						Carrier: Fed	6×
emistry Contact: ganderson@crawork.Con		()	p (C)		Acid (HCI)				_	p		ample								Airbill No: 8541070	13889
emistry Contact: ganderson@crawork.Cov npler(s): P.Storlie		Natrix Code (see back of COC)	Grab (G) or Comp (C)	irved	Ioric Acid	Nitric Acid (HNO <sub>3</sub> )	Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	Hydroxid	Water (	3x5-g; 1x25-g		Total Containers/Sample	0-815						Request	Date Shipped:	-15
SAMPLE IDENTIFICATION DATE (mm/dd//yy) (hh:m	E		Grab (G	Unpreserved	Hydrochloric	Nitric Ac	Sulfuric	Sodium Hydroxide (NaOH)	Methano VOC)	EnCores	Other:	Total Co	PcP-						MS/MSD	Comme Special Inst	
W-150416-PS-WE 4-16-15 093		W	G	X								2	X							Weekly	
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	4						1				_/	4				X		_	_		
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T Required in business days (use separate COCs for different TATS) 1 Day □ 2 Days □ 3 Days □ 1 Week □ 2 Week □ Other: <		i		)						ntaine		-	Notes/ Spe	cial Re	quirei	men	ts:				
RELINQUISHED BY COMPANY	tim	ATE	<u>N</u>		Sam		in Co	ooler	mus		ECEIVE										
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				· · ·		•	3.		·												

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	mple Receipt Form/Narrative	Login# <u>,:</u>		
Client CRA	Site Name	Cooler unpacked by:		
Cooler Received on 4-17.	IS Opened on 4.17-15			
	JPS FAS Stetson Client Drop Off TestA			
Receipt After-hours: Drop-off Date/TimeStorage Location				
TestAmerica Cooler #				
Packing material used		one Other		
COOLANT: N		one		
IR GUN# 4 (CF + IR GUN# 5 (CF + IR GUN# 8 (CF - 2. Were custody seals on -Were custody seals on -Were custody seals on -Were custody seals on -Were custody seals on 3. Shippers' packing slip a 4. Did custody papers acc 5. Were the custody paper 6. Was/were the sampler( 7. Did all bottles arrive in 8. Could all bottle labels b 9. Were correct bottle(s) u 10. Sufficient quantity rec 11. Were sample(s) at the c 12. Were VOAs on the CO 13. Were air bubbles >6 mm	4.0 °C) Observed Cooler Temp. <u>4.7</u> °C Co 0.5 °C) Observed Cooler Temp. <u>4.7</u> °C C 0.4 °C) Observed Cooler Temp. <u>6</u> °C C 1.2 °C) Observed Cooler Temp. <u>°C C</u> 1.2 °C) Observed Cooler (s)? If Yes Quantite in the outside of the cooler(s)? If Yes Quantite in the outside of the cooler(s) signed & dated? in the bottle(s)? attached to the cooler(s)? ompany the sample(s)? rs relinquished & signed in the appropriate place (s) clearly identified on the COC? good condition (Unbroken)? be reconciled with the COC? used for the test(s) indicated? revived to perform indicated analyses? correct pH upon receipt? C?	Corrected Cooler Temp. <u>4</u> -7 °C ☐ See Multipl Corrected Cooler Temp. <u>°</u> C Cooler Form orrected Cooler Temp. <u>°</u> C ty <u>1</u> (2.5) No Xes No Xes No Xes No Xes No Yes No Xes No Xes No Yes No		
Contacted PM Concerning	Date by	via Verbal Voice Mail Other		
14. CHAIN OF CUSTOD	Y & SAMPLE DISCREPANCIES	Samples processed by:		
		·		
15. SAMPLE CONDITIO         Sample(s)         Sample(s)         Sample(s)         16. SAMPLE PRESERVA	were received after the rewere received after the rewere received wit	ecommended holding time had expired. were received in a broken container. th bubble >6 mm in diameter. (Notify PM)		
Sample(s)				

Ref: SOP NC-SC-0005, Sample Receiving X:\Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099P-020915 Cooler Receipt Form.doc djl 

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

## Login Number: 49466 List Number: 2

. ....

Creator: Lonzo, Michael A

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

Job Number: 240-49466-1

1

List Source: TestAmerica Pittsburgh

List Creation: 04/18/15 10:21 AM