## ATTACHMENT A

#### **MDEQ Procedure for Mercury and Trace Metals Sample Collection**

## WATER CHEMISTRY MONITORING PROJECT SAMPLE COLLECTION AND HANDLING PROCEDURES FOR SELECTED PARAMETERS REVISED January 2008

Proposed modifications to sampling equipment or procedures must receive prior approval from the appropriate laboratory and the MDEQ Project Manager.

#### PART I. MERCURY AND TRACE METALS

Modified clean techniques will be employed for collection of all metals samples using either the grab method or the peristaltic pump collection method, as outlined below. See the "Water Chemistry Monitoring Project Equipment and Supplies Checklist" for a list of materials needed:

#### A. Sample Collection Via Grab Method

- 1. Designate clean hands/dirty hands for collection procedure;
- 2. Suit up in Tyvek low particle coveralls and waders;
- 3. Clean hands wears shoulder-length polyethylene gloves and wrist-length latex gloves;
- 4. Dirty hands:
  - a. wears wrist-length latex gloves;
  - b. removes double-bagged sample bottle from storage tub:
  - c. records STORET#, sampling location and date on outer bag of sample bottle using permanent
  - d. opens outer bag;
- 5. Clean hands:
  - a. reaches into outer bag, removes inner bag, opens it, removes sample bottle, and replaces inner bag;
  - b. removes bottle seal, empties HCl into waste acid container, and reseals bottle;
  - c. wades into stream and while facing upstream: submerges sealed bottle approximately 2-3 feet below surface, removes seal, partially fills and seals bottle, brings bottle to surface, shakes bottle, removes seal and empties bottle to rinse, seals bottle, submerges sealed bottle approximately 2-3 feet below surface, removes seal, fills bottle completely leaving no air space, and reseals bottle by hand very tightly before bringing to surface;
  - d. wipes bottle off w/ low particle Kim wipes;
  - e. removes inner bag from outer bag, places bottle inside inner bag, seals bag leaving no trapped air, and replaces within outer bag;
- 6. Dirty hands seals outer bag leaving no trapped air, and stores in ice-filled cooler. Repeat as needed. End clean hands/dirty hands roles.
- 7. Fill out analysis request form(s) and/or chain-of-custody.
- 8. Ship samples to analytical laboratory via overnight courier on wet ice.

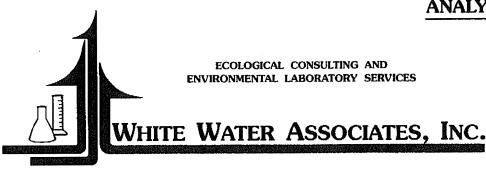
## **ATTACHMENT B**



## WHITE WATER ASSOCIATES, INC.

## **Cover Page**

Client: Great Lal	ces Environmental Center		WWA Job #: 27342
Project: Date Received:	Monitoring 7/23/2008	Sample Matrix: Date Reported:	Water 9/10/2008
Sample Number	Client Sample ID	Date Sampled	
27342-001	381	07/22/08	
27342-002	393	07/22/08	
27342-003	391	07/22/08	
27342-004	384	07/22/08	
27342-005	SC	07/22/08	
27342-006	LE I	07/22/08	
27342-007	LE 2	07/22/08	
27342-008	IP	07/22/08	
27342-009	QU	07/22/08	
27342-010	LA	07/22/08	
27342-011	Blank	07/22/08	



#### Cover Page..continued

Client: Great Lakes Environmental Center

**WWA Job #: 27342** 

#### Comments (if any):

#### **Key to Laboratory Flags:**

B: The analyte was found in the associated blank as well as in the sample.

J+: The quantitation is an estimated value because the result exceeds the calibration range

J-: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.

M+: A matrix effect was present with a high bias

M-: A matrix effect was present with a low bias

Q: Batch QC data associated with the analysis does not meet the stated objectives

H: Indicates analytical holding time exceedance.

U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By:

WI DNR Lab Certification Number: 999971280 LA NELAP Certification Number: 04101

MI DEQ Certification Number: 9306

IL EPA NELAC Certification Number: 200049



## VHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

Date Received:

7/23/2008

Date Reported:

9/10/2008

• .							
Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL
27342-001 / 381							
Antimony (t)	0.002	J-	mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)	0.001	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)	ND		m mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)	0.0001	<b>J</b> -	mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)	162		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)	0.0020	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)	0.0119		mg/L	8/25/2008	6010B	0.0004	0.0020
Iron (t)	0.04		mg/L	7/30/2008	6010B	0.04	0.20
Lead (t)	ND	M-	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)	52.6		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)	0.006	J-	mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)	2.85		${ m mg/L}$	8/21/2008	6010B	0.03	0.10
Selenium (t)	ND		mg/L	8/5/2008	7740	0.001	0.004
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)	38.6		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)	0.031		mg/L	8/25/2008	6010B	0.003	0.010



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

Date Received: 7/23/2008 **Date Reported:** 

9/10/2008

			7			
Result	Flags	Units	Date	Method	MDL	MQL
ND		mg/L	8/26/2008	7041	0.001	0.004
0.002	J-	mg/L	8/6/2008	7060A	0.001	0.004
0.0001	J-	mg/L	8/6/2008	6010B	0.0001	0.0004
ND		mg/L	8/11/2008	7131A	0.0001	0.0004
587	M-	mg/L	8/21/2008	6010B	0.1	0.3
0.0061		mg/L	8/25/2008	6010B	0.0004	0.0020
0.0032	M+	mg/L	8/25/2008	6010B	0.0004	0.0020
0.04		mg/L	7/30/2008	6010B	0.04	0.20
ND	M-	mg/L	8/7/2008	7421	0.0006	0.0020
353	M-	mg/L	8/21/2008	6010B	0.1	0.3
0.007		mg/L	8/25/2008	6010B	0.002	0.006
9.02		mg/L	8/21/2008	6010B	0.2	0.5
0.004	<b>J</b> -	mg/L	8/5/2008	7740	0.001	0.004
ND		mg/L	8/6/2008	6010B	0.0004	0.0020
96.4		mg/L	8/21/2008	6010B	0.2	1
ND		mg/L	9/8/2008	7841	0.001	0.004
0.031		mg/L	8/25/2008	6010B	0.003	0.010
	ND 0.002 0.0001 ND 587 0.0061 0.0032 0.04 ND 353 0.007 9.02 0.004 ND 96.4 ND	ND 0.002 J- 0.0001 J- ND 587 M- 0.0061 0.0032 M+ 0.04 ND M- 353 M- 0.007 9.02 0.004 J- ND 96.4 ND	ND mg/L 0.002 J- mg/L 0.0001 J- mg/L ND mg/L 587 M- mg/L 0.0061 mg/L 0.0032 M+ mg/L 0.04 mg/L ND M- mg/L 353 M- mg/L 0.007 mg/L 9.02 mg/L 0.004 J- mg/L ND mg/L ND mg/L ND mg/L ND mg/L	ND mg/L 8/26/2008 0.002 J- mg/L 8/6/2008 0.0001 J- mg/L 8/6/2008 ND mg/L 8/11/2008 587 M- mg/L 8/21/2008 0.0061 mg/L 8/25/2008 0.0032 M+ mg/L 8/25/2008 0.004 mg/L 7/30/2008 ND M- mg/L 8/7/2008 353 M- mg/L 8/21/2008 0.007 mg/L 8/25/2008 9.02 mg/L 8/25/2008 9.02 mg/L 8/21/2008 ND mg/L 8/21/2008 0.004 J- mg/L 8/5/2008 ND mg/L 8/6/2008 ND mg/L 8/6/2008 ND mg/L 8/6/2008 96.4 mg/L 8/21/2008	ND mg/L 8/26/2008 7041 0.002 J- mg/L 8/6/2008 7060A 0.0001 J- mg/L 8/6/2008 6010B ND mg/L 8/11/2008 7131A 587 M- mg/L 8/21/2008 6010B 0.0061 mg/L 8/25/2008 6010B 0.0032 M+ mg/L 8/25/2008 6010B 0.04 mg/L 7/30/2008 6010B ND M- mg/L 8/7/2008 7421 353 M- mg/L 8/21/2008 6010B 0.007 mg/L 8/25/2008 6010B 0.004 J- mg/L 8/21/2008 6010B 0.004 J- mg/L 8/5/2008 7740 ND mg/L 8/6/2008 6010B 0.004 M- mg/L 8/6/2008 6010B 0.004 M- mg/L 8/6/2008 6010B 0.004 M- mg/L 8/5/2008 7740 ND mg/L 8/6/2008 6010B 0.004 M- mg/L 8/6/2008 6010B	ND mg/L 8/26/2008 7041 0.001 0.002 J- mg/L 8/6/2008 7060A 0.001 0.0001 J- mg/L 8/6/2008 6010B 0.0001 ND mg/L 8/11/2008 7131A 0.0001 587 M- mg/L 8/21/2008 6010B 0.1 0.0061 mg/L 8/25/2008 6010B 0.0004 0.0032 M+ mg/L 8/25/2008 6010B 0.0004 0.04 mg/L 7/30/2008 6010B 0.04 ND M- mg/L 8/7/2008 7421 0.0006 353 M- mg/L 8/21/2008 6010B 0.1 0.007 mg/L 8/21/2008 6010B 0.1 0.007 mg/L 8/21/2008 6010B 0.1 0.007 mg/L 8/21/2008 6010B 0.2 0.004 J- mg/L 8/21/2008 6010B 0.2 0.004 J- mg/L 8/6/2008 6010B 0.2 0.004 MD M- mg/L 8/6/2008 6010B 0.20 0.004 MD M- mg/L 8/6/2008 6010B 0.0001



## VHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

Date Received: 7/23/2008 Date Reported:

9/10/2008

		oc mota	10 - 100	••			
Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL
27342-003 / 391							
Antimony (t)	ND		mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)	0.001	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)	0.0001	J-	mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)	89.9		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)	0.0015	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)	0.0010	J_	mg/L	8/25/2008	6010B	0.0004	0.0020
Iron (t)	0.04		mg/L	7/30/2008	6010B	0.04	0.20
Lead (t)	ND	M-	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)	27.3		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)	ND		mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)	3.47		mg/L	8/21/2008	6010B	0.03	0.10
Selenium (t)	ND		mg/L	8/5/2008	7740	0.001	0.004
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)	23.6		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)	0.008	J-	mg/L	8/25/2008	6010B	0.003	0.010
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## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

Date Received: 7/23/2008 **Date Reported:** 

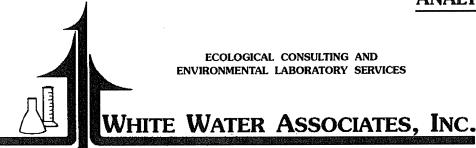
9/10/2008

#### **Trace Metals - Total**

Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL				
27342-004 / 384							·				
Antimony (t)	ND		mg/L	8/26/2008	7041	0.001	0.004				
Arsenic (t)	0.002	<b>J</b> -	mg/L	8/6/2008	7060A	0.001	0.004				
Beryllium (t)	0.0002	J-	mg/L	8/6/2008	6010B	0.0001	0.0004				
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004				
Calcium (t)	572		mg/L	8/21/2008	6010B	0.1	0.3				
Chromium (t)	0.0059		mg/L	8/25/2008	6010B	0.0004	0.0020				
Copper (t)	ND		mg/L	8/25/2008	6010B	0.0004	0.0020				
Iron (t)	3,4		mg/L	7/30/2008	6010B	0.1	4				
Lead (t)	ND	M-	mg/L	8/7/2008	7421	0.0006	0.0020				
Magnesium (t)	162		mg/L	8/21/2008	6010B	0.1	0.3				
Nickel (t)	ND		mg/L	8/25/2008	6010B	0.002	0.006				
Potassium (t)	4.52		mg/L	8/21/2008	6010B	0.2	0.5				
Selenium (t)	0.005		mg/L	8/5/2008	7740	0.001	0.004				
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020				
Sodium (t)	38.8		mg/L	8/21/2008	6010B	0.2	1				
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004				
Zinc (t)	0.029		mg/L	8/25/2008	6010B	0.003	0.010				

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 4 of 10



WWA Job #: 27342

Project:

Date Received:

Monitoring

7/23/2008

Sample Matrix:

Water

Date Reported:

9/10/2008

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Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL
27342-005 / SC / SUA SC-	W						
Antimony (t)	ND		mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)	0.002	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)	0.0001	J-	mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)	45.6		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)	0.0028		mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)	0.0034		mg/L	8/25/2008	6010B	0.0004	0.0020
Lead (t)	ND	M-	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)	11.8		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)	0.002	J_	mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)	3.38		mg/L	8/21/2008	6010B	0.03	0.10
Selenium (t)	ND		mg/L	8/5/2008	7740	0.001	0.004
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)	17.3		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)	0.013		mg/L	8/25/2008	6010B	0.003	0.010



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

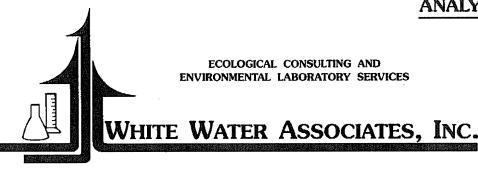
Water

Date Received: 7/23/2008

Date Reported:

9/10/2008

Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL
27342-006/LE1	1-W						
Antimony (t)	0.001	J-	mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)	0.001	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)	ND		mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)	33.9		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)	0.0016	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)	0.0023		mg/L	8/25/2008	6010B	0.0004	0.0020
Lead (t)	ND	<b>M</b> -	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)	10.1		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)	ND		mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)	2.34		mg/L	8/21/2008	6010B	0.03	0.10
Selenium (t)	ND		mg/L	8/5/2008	7740	0.001	0.004
Silver (t)	0.0005	<b>J</b> -	mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)	11.4		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)	0.005	J-	mg/L	8/25/2008	6010B	0.003	0.010



WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

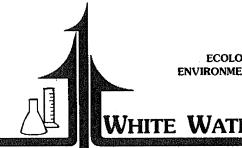
Water

7/23/2008 Date Received:

**Date Reported:** 

9/10/2008

Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL
27342-007/LE 2	LE2-W						
Antimony (t)	ND		mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)	0.002	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)	ND		mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)	35.0		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)	0.0012	<b>J</b> -	mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)	0.0019	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Lead (t)	0.0006	M-	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)	10.0		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)	ND		mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)	2.19		mg/L	8/21/2008	6010B	0.03	0.10
Selenium (t)	0.001	J_	mg/L	8/5/2008	7740	0.001	0.004
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)	11.0		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)	0.006	J-	mg/L	8/25/2008	6010B	0.003	0.010



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 7/23/2008

Date Reported:

9/10/2008

Sample / Client Sample II	D	Result	Flags	Units	Date	Method	MDL	MQL
27342-008/IP <b>IPIN</b>	IP-W							
Antimony (t)		ND		mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)		0.003	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)		ND		mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)		ND		mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)		39.6		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)		0.0019	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)		0.0008	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Lead (t)		ND	M-	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)		9.66		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)		ND		mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)		1.04		mg/L	8/21/2008	6010B	0.03	0.10
Selenium (t)		ND		mg/L	8/5/2008	7740	0.001	0.004
Silver (t)		ND		mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)		24.2		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)		ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)		0.004	J_	mg/L	8/25/2008	6010B	0.003	0.010



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Date Received:

Monitoring

7/23/2008

Sample Matrix:

Water

Date Reported:

9/10/2008

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	Trace Wetals - Total										
Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL				
27342-009/QU /QV-W											
Antimony (t)	ND		mg/L	8/26/2008	7041	0.001	0.004				
Arsenic (t)	0.001	J-	mg/L	8/6/2008	7060A	0.001	0.004				
Beryllium (t)	0.0002	J-	mg/L	8/6/2008	6010B	0.0001	0.0004				
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004				
Calcium (t)	124		mg/L	8/21/2008	6010B	0.02	0.06				
Chromium (t)	0.0020		mg/L	8/25/2008	6010B	0.0004	0.0020				
Copper (t)	0.0009	J-	mg/L	8/25/2008	6010B	0.0004	0.0020				
Lead (t)	ND	M-	mg/L	8/7/2008	7421	0.0009	0.0020				
Magnesium (t)	42.5		mg/L	8/21/2008	6010B	0.02	0.06				
Nickel (t)	ND		mg/L	8/25/2008	6010B	0.002	0.006				
Potassium (t)	3.10		mg/L	8/21/2008	6010B	0.03	0.10				
Selenium (t)	0.001	J-	mg/L	8/5/2008	7740	0.001	0.004				
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020				
Sodium (t)	98.7		mg/L	8/21/2008	6010B	0.05	0.20				
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004				
Zinc (t)	0.009	J-	mg/L	8/25/2008	6010B	0.003	0.010				



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 7/23/2008

Date Reported:

9/10/2008

	Ira	ce Meta	15 - 1012	4 B			
Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL
27342-010/LA / LA-W							
Antimony (t)	0.001	J-	mg/L	8/26/2008	7041	0.001	0.004
Arsenic (t)	0.003	J-	mg/L	8/6/2008	7060A	0.001	0.004
Beryllium (t)	0.0001	J-	mg/L	8/6/2008	6010B	0.0001	0.0004
Cadmium (t)	ND		mg/L	8/11/2008	7131A	0.0001	0.0004
Calcium (t)	70.7		mg/L	8/21/2008	6010B	0.02	0.06
Chromium (t)	0.0028		mg/L	8/25/2008	6010B	0.0004	0.0020
Copper (t)	0.0020	J-	mg/L	8/25/2008	6010B	0.0004	0.0020
Lead (t)	0.0009	M-	mg/L	8/7/2008	7421	0.0006	0.0020
Magnesium (t)	21.4		mg/L	8/21/2008	6010B	0.02	0.06
Nickel (t)	0.003	J-	mg/L	8/25/2008	6010B	0.002	0.006
Potassium (t)	3.05		mg/L	8/21/2008	6010B	0.03	0.10
Selenium (t)	0.001	J-	mg/L	8/5/2008	7740	0.001	0.004
Silver (t)	ND		mg/L	8/6/2008	6010B	0.0004	0.0020
Sodium (t)	59.5		mg/L	8/21/2008	6010B	0.05	0.20
Thallium (t)	ND		mg/L	9/8/2008	7841	0.001	0.004
Zinc (t)	0.012		mg/L	8/25/2008	6010B	0.003	0.010



## HITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

Date Received:

7/23/2008

Date Reported: 9/10/2008

General Chemistry, Demands & Physical Data										
Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL			
27342-001 / 381										
Chemical Oxygen Demand	11	J-	mg/L	8/1/2008	410.4	4	20			
Silica	2.7	M+	mg/L	7/24/2008	7000	0.08	0.68			
Sulfate	369		mg/L	8/20/2008	6010B	0.30	1.5			
Turbidity	0.143		NTU's	8/28/2008	180.1	0.4	1			
27342-002 / 393										
Chemical Oxygen Demand	13	<b>J</b> -	mg/L	8/1/2008	410.4	4	20			
Silica	11	M+	mg/L	7/24/2008	7000	0.32	2.7			
Sulfate	2570		mg/L	8/20/2008	6010B	3.0	15			
Turbidity	0.099		NTU's	8/28/2008	180.1	0.4	1			
27342-003 / 391										
Chemical Oxygen Demand	ND		mg/L	8/1/2008	410.4	4	20			
Silica	2.8	M+	mg/L	7/24/2008	7000	0.08	0.68			
Sulfate	206		mg/L	8/20/2008	6010B	0.12	0.6			
Turbidity	0.256		NTU's	8/28/2008	180.1	0.4	1			
27342-004 / 384										
Chemical Oxygen Demand	6	<b>J</b> -	mg/L	8/1/2008	410.4	4	20			
Silica	6.3	<b>M</b> +	mg/L	7/24/2008	7000	0.16	1.4			
Sulfate	1840		mg/L	8/20/2008	6010B	1.5	7.5			
Turbidity	0.571		NTU's	8/28/2008	180.1	0.4	1			

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 3



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27342

Project: Date Received: Monitoring 7/23/2008

Sample Matrix:

Water

**Date Reported:** 

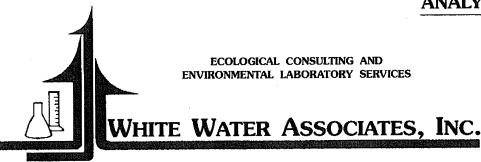
9/10/2008

General	Chemistry,	<b>Demands</b>	&	Physical Data
---------	------------	----------------	---	---------------

Result	Flags	Units	Date	Method	MDL	MQL
21		mg/L	8/1/2008	410.4	4	20
31.7		mg/L	8/12/2008	6010B	0.06	0.24
0.908		NTU's	8/28/2008	180.1	0.4	1
22		mg/L	8/1/2008	410.4	4	20
30.3		mg/L	8/12/2008	6010B	0.06	0.24
0.781		NTU's	8/28/2008	180.1	0.4	1
15	<b>J</b> -	mg/L	8/1/2008	410.4	4	20
28.3		mg/L	8/12/2008	6010B	0.06	0.24
0.210		NTU's	8/28/2008	180.1	0.4	1
37		mg/L	8/1/2008	410.4	4	20
		-	8/12/2008	6010B	0.06	0.24
0.279		NTU's	8/28/2008	180.1	0.4	1
191	J-	mg/L	8/1/2008	410.4	4	20
424		mg/L	8/20/2008	6010B	0.30	1.5
	21 31.7 0.908 22 30.3 0.781 15 28.3 0.210 37 12.4 0.279	21 31.7 0.908  22 30.3 0.781  15 28.3 0.210  37 12.4 0.279	21 mg/L 31.7 mg/L 0.908 NTU's  22 mg/L 30.3 mg/L 0.781 NTU's  15 J- mg/L 28.3 mg/L 0.210 NTU's  37 mg/L 12.4 mg/L 0.279 NTU's	21 mg/L 8/1/2008 31.7 mg/L 8/12/2008 0.908 NTU's 8/28/2008  22 mg/L 8/1/2008 30.3 mg/L 8/12/2008 0.781 NTU's 8/28/2008  15 J- mg/L 8/1/2008 28.3 mg/L 8/12/2008 0.210 NTU's 8/28/2008  37 mg/L 8/12/2008 0.210 NTU's 8/28/2008  37 mg/L 8/12/2008 NTU's 8/28/2008	21 mg/L 8/1/2008 410.4 31.7 mg/L 8/12/2008 6010B 0.908 NTU's 8/28/2008 180.1  22 mg/L 8/1/2008 410.4 30.3 mg/L 8/12/2008 6010B 0.781 NTU's 8/28/2008 180.1  15 J- mg/L 8/1/2008 410.4 28.3 mg/L 8/12/2008 6010B 0.210 NTU's 8/28/2008 180.1  37 mg/L 8/12/2008 6010B 0.210 NTU's 8/28/2008 180.1  37 mg/L 8/12/2008 6010B 0.210 NTU's 8/28/2008 180.1	21 mg/L 8/1/2008 410.4 4 31.7 mg/L 8/12/2008 6010B 0.06 0.908 NTU's 8/28/2008 180.1 0.4  22 mg/L 8/1/2008 410.4 4 30.3 mg/L 8/12/2008 6010B 0.06 0.781 NTU's 8/28/2008 180.1 0.4  15 J- mg/L 8/1/2008 410.4 4 28.3 mg/L 8/12/2008 6010B 0.06 0.210 NTU's 8/28/2008 180.1 0.4  37 mg/L 8/12/2008 6010B 0.06 0.210 NTU's 8/28/2008 180.1 0.4  37 mg/L 8/12/2008 6010B 0.06 0.210 NTU's 8/28/2008 180.1 0.4

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 2 of 3



WWA Job #: 27342

Project:

Monitoring

Sample Matrix:

Water

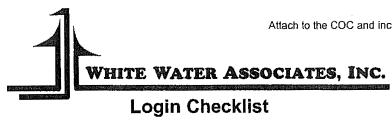
Date Received: 7/23/2008

Date Reported:

9/10/2008

**General Chemistry, Demands & Physical Data** 

General Chemistry, Demands & Physical Data										
Sample / Client Sample ID	Result	Flags	Units	Date	Method	MDL	MQL			
27342-010/LA /LA-W										
Chemical Oxygen Demand	38		mg/L	8/1/2008	410.4	4	20			
Sulfate	152		mg/L	8/20/2008	6010B	0.12	0.6			
Turbidity	0.258		NTU's	8/28/2008	180.1	0.4	1			



Proje	ect Number: 27342 Date Logged in: 1/23/08 Login Person Initia		
# of	Coolers: Courier: Fed	EX	
Clier	nt: GIEC Project Name:	**************************************	
lf no	to any, notify the project manager and project manager documents client response bel	ow.	
		<u>YES</u>	<u>NO_</u>
1.	Were custody seals/original packing tape intact?		
2.	Are the samples in good condition, i.e. not broken or leaking?		
3.	Are samples within holding times?		
4.	Were the samples received on ice (ice in direct contact with the samples)?		
5.	Is the temperature of the samples between 2-6°C? Temp. 6 C NOTE: Samples not between 2-6°C that are received at the laboratory on the day of sample collections do not require client notification.		<u> </u>
6.	Do the samples match the COC?		
7.	Were the proper containers used?		
8.	Were the samples collected in White Water lab containers?		
9.	Is there adequate sample volume for requested analyses and QC?		
10.	Do water VOC samples contain headspace less than the size of a pea?		
11.	Are samples preserved to the proper pH? If no, identify sample bottle and preservative, adjust to the proper pH, and note below.	1	
12.	Is the chain of custody signed?	. 🔟	
13.	Is sub-sampling required? (Note bottles created and preserved below.)		1
14.	For Dissolved Analysis, were samples filtered in the lab?		
15.	Were encores received? (VOC analysis)	•	~
16.	Were soil VOCs preserved with methanol in the lab?		4
17.	Is client contact necessary? Provide documentation below	•	
co	MMENTS/CORRECTIVE ACTION		
	WINDLE TO TO THE ACTION		
CL	IENT RESPONSE (Provide date/time of contact, client response and project manager in	nitials)	
			turned to state to 1984.

## CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

J.O.#	CLIENT N	NAME TOW	10 Care		65					-	Α	NALYSI	S TYPE	REQUE	STED		
27342 SAMPLER'S SIGNATURE	ADDRESS	739 H Travel 231-4	nie Saxe astings se City, 141-229	St. MI BO	446	.8C	NO. OF CON- TAIN-		2/	A KAN		7	7				*
SAMPLE LOCATION	SAMPLE I.D.#	TIME	DATE	GRAB SW	PLE TY 3USO4MOO	MATRIX	ERS	_	9/3	No. of the second	2/1		or yet	$\angle$	REMA	RKS:	429 Riv 429 Riv Amasa, Phone (
381 393 391 384 SC LE1 LE2 IP QU LA Blank	(	1P:35	7/20/08	Χ			5	X	X	X					metals	·`	
393	2	15:00	7/22/08	X			5	X	X	メ	X				Na,K,	Ca, Ma	water A er Lane, P Michigan (906) 822-7
391	3	16:29	7/22/08	X			5	X	ャ	X	X				Sb, As	Be, Ca	950Clate: .O. Box 27 49903 7373, Fax -
384	J	17:25	7/23/08	×			5	X	X	X	X				ajanj	76,49	ASSOCIATES, III P.O. Box 27 In 49903 2-7373, Fax -7977
SC	5	9:15	7/22/08	X			4	X	X	X		₹1			Nise	Ag TI	77
LE1	6	10:20	7/22/08	X			4	X	X	X					Zn,	, <u>G</u> .	
LEQ	7	9:45	7/20/08	X			4	X	X	X					,		
IP	8	13:00	7/22/08	X			4	X	X	X							
QV	9	12:10	7/22/08	X			4	X	X	メ							
LA	10	14:00	7/22/08	X			4	X	X	X							<b>1</b>
Blank	11		7/22/08				l					X					
								A	B	C	D	E					
PRELINQUISHED BY	DATE 7/2		130 pm	ECEIVI	ED BY			R	ELINQUI	SHED B	Y		DATE		TIME	RECEIVED BY	
RELINQUISHED BY	DATE	TIŅ	1E F	J.	ED BY	LABO	RATORY	ŀ	ATE 7-23	3-8	TIME		REMA	ARKS:			



MDH Lab # 027-137-389 WDNR Lab # 399017190 4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone: (218) 729-4658

Fax: (218) 729-4659

## Analytical Report

Client:

White Water Associates, Inc. Attn: Dr. Bette Premo

429 River Lane PO Box 27

Amasa, MI 49903

Phone: (906) 822-7373 Fax: (906) 822-7977 Sample Information:

Chain of Custody: 9717 Sampled By:

Date Reported: 7/31/2008

Method: EPA 1631

	Laboratory	Мегсигу			MDL
Sample ID	ID#	(ng/L)	Sample Date	Analysis Date	(ng/L)
_1					
27342-1E - 381	33890	< 0.5	7/22/2008	7/31/2008	0.1
27342-2E <b>- 393</b>	33891	< 0.5	7/22/2008	7/31/2008	0.1
27342-3E - 391	33892	< 0.5	7/22/2008	7/31/2008	0.1
27342-4E <b>384</b>	33893	< 0.5	7/22/2008	7/31/2008	0.1
27342-5E SL-W	33894	2.4	7/22/2008	7/31/2008	0.1
27342-6E LEI-W	33895	1.0	7/22/2008	7/31/2008	0.1
27342-7E LE 2-₩	33896	0.8	7/22/2008	7/31/2008	0.1
27342-8E IP-W	33897	0.9	7/22/2008	7/31/2008	0.1
27342-9E QV-W	33898	< 0.5	7/22/2008	7/31/2008	0.1
27342-10E LA-W	33899	1.0	7/22/2008	7/31/2008	0.1
27342-11E	33900	< 0.5	7/22/2008	7/31/2008	0.1

Low-level mercury results are reagent blank corrected.

Reviewed By:

If you have any questions regarding this report, please call (218) 729-4658.

Sincerely,

Linda Christensen

Chemical Engineer
The results provided above pertain only to the samples indicated. All results provided by NSA should be considered in their entirety, and are strictly for the use of its Customers. NSA is in no way responsible for subsequent use of said results, including, but not limited to, separation, detachment, reproduction, or any other use of any portion thereof, by Customers or third parties.

North Shore Analytical, Inc.

Record #:

STF-COC-001
Revision Number: 5
Revision Date: 05/01/06

4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone (218) 729-4658 Fax (218) 729-4659

Chain of Custody

(218) 729-						Report to:0	D a.	S	ampled by:	
nt Name	NWF	·				Dhane: a	Frem	0 S	roject:	
				-			6 822	7884		
· · ·		iver Lane	State	<sup>Zip</sup> 4990	7	Fax:				
A	ma	<i>70</i> .	M/ Date	Time	32)		е Туре	Container/	Analy	sis Requested
	Dottle #	Client Sample Identification	Collected	Collected	Matrix		Composite	Preservation	LL H	
A L80 #	226.54	27342-18	7-22-08		WW	X		101		
2001	570-51	12,			- F.	-				
	215.54	3		<b> </b>		+				
	573.51	4		<del> </del>						
3894	134.51	5	+							
3995	135.51	9	-							
	133.51	8								
	13051	9	•		3		<del> </del>	-		
000	131.51	10				+		+		
	520.51	11		-	200	<del></del>	<b>-</b>			
				_						
		<u> </u>	_					75.4	Time	Condition
		Relinquished By	Date	Time		Accepted	Ву	7/28/02		OK
Transfer #	100	2/197	2-24-6	8 15:00	<b>LYDA</b>	stin G	0022	11202(12		
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DDITION	VAL COMM	ENTS:				, ,				
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ow-level	mercury bo	ttles supplied by North Shore	Analytical?		Contain	ers:		Preservation		
KEY:	Matrix:		round Water		P = Plasti	T = Teflon/F	luoropolymer	NA = None Ad H = Hydrochlo		
	SW = Surfa WW = Was	Ce Marci	rinking Water		G = Glass B = Plast			B = Bromine N	Aonochloride	
6.0	5427969				= F1831	C Dak				

#### Cover Page..continued

Client: Great Lakes Environmental Center

WWA Job #: 27959

Comments (if any):

#### Key to Laboratory Flags:

13: The analyte was found in the associated blank as well as in the sample.

J+: The quantitation is an estimated value because the result exceeds the calibration range

J: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.

√M+: A matrix effect was present with a high bias

M-: A matrix effect was present with a low bias

Q: Batch QC data associated with the analysis does not meet the stated objectives

H: Indicates analytical holding time exceedance.

U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By:

WLDNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

IL EPA NELAC Certification Number: 200049



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27959

Project:

Monitoring

Sample Matrix:

Water

Date Received:

Date Reported: 10/23/2008

12/19/2008

## **Trace Metals - Dissolved**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-001 / MW-381						
Antimony (d)	ND	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (d)	0.001 M+	mg/L	11/3/2008	7060A	0.001	0.004
Beryllium (d)	ND	mg/L	10/29/2008	6010B	0.0001	0.0004
Cadmium (d)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (d)	170 M+	mg/L	11/4/2008	6010B	0.02	0.06
Chromium (d)	0.0509	mg/L	10/29/2008	6010B	0.0004	0.0020
Copper (d)	ND	mg/L	10/29/2008	6010B	0.0006	0.0020
Iron (d)	0.244	mg/L	11/4/2008	6010B	0.02	0.06
Lead (d)	0.0011 M-	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (d)	58.2 M+	mg/L	11/4/2008	6010B	0.03	0.10
Mercury (d)	ND	ng/L	11/4/2008	1631	0.1	0.5
Nickel (d)	0.023	mg/L	10/29/2008	6010B	0.003	0.010
Potassium (d)	2.63	mg/L	11/4/2008	6010B	0.05	0.15
Selenium (d)	0.002 M-	mg/L	11/4/2008	7740	0.001	0.004
Silver (d)	ND	mg/L	10/29/2008	6010B	0.0004	0.0020
Sodium (d)	41.8	mg/L	11/4/2008	6010B	0.05	0.20
Thallium (d)	ND M-	mg/L	11/17/2008	7841	0.001	0.004
Zinc (d)	ND	mg/L	10/29/2008	6010B	0.003	0.010
• •						



WWA Job #: 27959

Project:

Monitoring

Sample Matrix:

Water

Date Received:

10/23/2008

Date Reported:

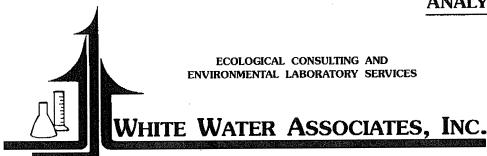
12/19/2008

## **Trace Metals - Dissolved**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-002 / MW-393						•
Antimony (d)	0.001 J-	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (d)	0.002 J-	mg/L	11/3/2008	7060A	0.001	0.004
Beryllium (d)	ND M+	mg/L	10/29/2008	6010B	0.0001	0.0004
Cadmium (d)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (d)	84.2	mg/L	11/4/2008	6010B	0.02	0.06
Chromium (d)	0.0182	mg/L	10/29/2008	6010B	0.0004	0.0020
Copper (d)	ND	mg/L	10/29/2008	6010B	0.0006	0.0020
Iron (d)	0.422	mg/L	11/4/2008	6010B	0.02	0.06
Lead (d)	ND	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (d)	27.6	mg/L	11/4/2008	6010B	0.03	0.10
Mercury (d)	ND	ng/L	11/4/2008	1631	0.1	0.5
Nickel (d)	0.009 J-	mg/L	10/29/2008	6010B	0.003	0.010
Potassium (d)	3.35	mg/L	11/4/2008	6010B	0.05	0.15
Selenium (d)	0.001 J-	mg/L	11/4/2008	7740	0.001	0.004
Silver (d)	ND	mg/L	10/29/2008	6010B	0.0004	0.0020
Sodium (d)	22.4	mg/L	11/4/2008	6010B	0.05	0.20
Thallium (d)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (d)	ND	mg/L	10/29/2008	6010B	0.003	0.010

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 2 of 4



WWA Job #: 27959

Project:

Date Received:

Monitoring

Sample Matrix: 10/23/2008

Date Reported:

Water

12/19/2008

# **Trace Metals - Dissolved**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-003 / MW-391						
Antimony (d)	ND	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (d)	0.001 J-	mg/L	11/3/2008	7060A	0.001	0.004
Beryllium (d)	ND	mg/L	10/29/2008	6010B	0.0001	0.0004
Cadmium (d)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (d)	290	mg/L	11/14/2008	6010B	0.2	1.0
Chromium (d)	0.0146	mg/L	10/29/2008	6010B	0.0004	0.0020
Copper (d)	ND	mg/L	10/29/2008	6010B	0.0006	0.0020
Iron (d)	1.40	mg/L	11/4/2008	6010B	0.02	0.06
Lead (d)	0.0020	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (d)	117	mg/L	11/4/2008	6010B	0.03	0.10
Mercury (d)	ND	ng/L	11/4/2008	1631	0.1	0.5
Nickel (d)	0.006 J-	mg/L	10/29/2008	6010B	0.003	0.010
Potassium (d)	15.8	mg/L	11/4/2008	6010B	0.05	0.15
Selenium (d)	0.004	mg/L	11/4/2008	7740	0.001	0.004
Silver (d)	ND	mg/L	10/29/2008	6010B	0.0004	0.0020
Sodium (d)	31.3	mg/L	11/4/2008	6010B	0.05	0.20
Thallium (d)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (d)	ND	mg/L	10/29/2008	6010B	0.003	0.010



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

**WWA Job #: 27959** 

Project:

Date Received:

Monitoring

10/23/2008

Sample Matrix:

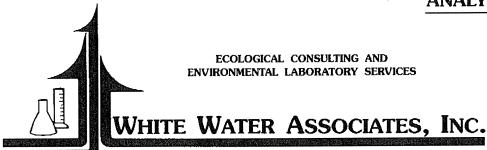
Water

Date Reported:

12/19/2008

## **Trace Metals - Dissolved**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-004 / MW-384						
Antimony (d)	ND	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (d)	0.008	mg/L	11/3/2008	7060A	0.001	0.004
Beryllium (d)	ND	mg/L	10/29/2008	6010B	0.0001	0.0004
Cadmium (d)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (d)	551	mg/L	11/11/2008	6010B	0.1	0.3
Chromium (d)	0.0050	mg/L	10/29/2008	6010B	0.0004	0.0020
Copper (d)	ND	mg/L	10/29/2008	6010B	0.0006	0.0020
Iron (d)	11.8	mg/L	11/4/2008	6010B	0.02	0.06
Lead (d)	0.0027	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (d)	18512.4	mg/L	11/4/2008	6010 <b>B</b>	0.03	0.10
Mercury (d)	ND	ng/L	11/4/2008	1631	0.1	0.5
Nickel (d)	0.005 J-	mg/L	10/29/2008	6010B	0.003	0.010
Potassium (d)	4.84	mg/L	11/4/2008	6010B	0.05	0.15
Selenium (d)	0.005	mg/L	11/4/2008	7740	0.001	0.004
Silver (d)	ND	${\sf mg/L}$	10/29/2008	6010B	0.0004	0.0020
Sodium (d)	29.9	mg/L	11/4/2008	6010B	0.05	0.20
Thallium (d)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (d)	ND	mg/L	10/29/2008	6010B	0.003	0.010



WWA Job #: 27959

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 10/23/2008

Date Reported:

12/19/2008

#### **Trace Metals - Total**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-005 / IUP-W						
Antimony (t)	ND	mg/L	11/18/2008	6010B	0.001	0.004
Arsenic (t)	0.003 J-	mg/L	11/9/2008	6010B	0.001	0.004
Beryllium (t)	ND	mg/L	10/29/2008	6010B	0.0002	0.0006
Cadmium (t)	ND	mg/L	11/5/2008	7131A	0.0002	0.0006
Calcium (t)	45.5	mg/L	11/4/2008	6010B	0.02	0.06
Chromium (t)	0.002 J-	mg/L	11/4/2008	6010B	0.001	0.003
Copper (t)	0.0021	mg/L	10/29/2008	6010B	0.0004	0.0020
Iron (t)	1.02	mg/L	11/4/2008	6010B	0.02	0.06
Lead (t)	0.0019 J-	mg/L	11/8/2008	6010B	0.0006	0.0020
Magnesium (t)	12.4	mg/L	11/4/2008	6010B	0.03	0.10
Mercury (t)	ND	ng/L	11/4/2008	1631	0.1	0.5
Nickel (t)	ND	mg/L	11/4/2008	6010B	0.003	0.010
Potassium (t)	5.5	mg/L	11/14/2008	6010B	0.6	3.0
Selenium (t)	ND	mg/L	11/4/2008	6010B	0.001	0.004
Silver (t)	ND	mg/L	10/29/2008	6010B	0.0004	0.0020
Sodium (t)	13.3	mg/L	11/14/2008	6010B	0.5	2.0
Thallium (t)	ND M-	mg/L	11/7/2008	6010B	0.001	0.004
Zinc (t)	0.015	mg/L	10/29/2008	6010B	0.003	0.010

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 1



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27959

Project:

Monitoring

Sample Matrix:

Water

Date Received: 10/23/2008

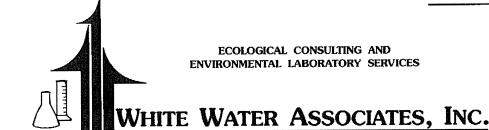
12/19/2008 Date Reported:

General	Chemistry,	Demands	Őι	Physical Data	

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-001 / MW-381						
2/939-001 / WIW-381						
Chemical Oxygen Demand	25	mg/L	10/31/2008	410.4	4	20
SiO2	6.2	mg/L	11/17/2008	7000	0.02	0.21
Sulfate	366	mg/L	11/18/2008	6010B	0.3	1.0
Turbidity	0.2	NTU's	11/26/2008	180.1	0.4	1.0
27959-002 / MW-393						
Chemical Oxygen Demand	11 J-	mg/L	10/31/2008	410.4	4	20
SiO2	5.8	mg/L	11/17/2008	7000	0.02	0.21
Sulfate	183	mg/L	12/4/2008	6010B	0.12	0.48
Turbidity	0.1	NTU's	11/26/2008	180.1	0.4	1.0
27959-003 / MW-391						
Chemical Oxygen Demand	24	mg/L	10/31/2008	410.4	4	20
SiO2	14.5	mg/L	11/17/2008	7000	0.02	0.21
Sulfate	938	mg/L	12/4/2008	6010B	0.6	2.4
Turbidity	0.2	NTU's	11/26/2008	180.1	0.4	1.0
27959-004 / MW-384						
Chemical Oxygen Demand	6 Ј-	mg/L	10/31/2008	410.4	4	20
SiO2	22.5	mg/L	11/17/2008	7000	0.02	0.21
Sulfate	1760	mg/L	12/4/2008	6010B	1.2	4.8
Turbidity	0.2	NTU's	11/26/2008	180.1	0.4	1.0

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



WWA Job #: 27959

Project:

Monitoring

Sample Matrix:

Water

Date Received:

10/23/2008

Date Reported:

12/19/2008

## **General Chemistry, Demands & Physical Data**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27959-005 / IUP-W						
Chemical Oxygen Demand	40	mg/L	10/31/2008	410.4	4	20
SiO2	3.8	mg/L	11/17/2008	7000	0.02	0.21
Sulfate	31.6	mg/L	11/18/2008	6010B	0.06	0.21
Turbidity	1.0	NTU's	11/26/2008	180.1	0.4	1.0

FAX (906) 822-7977

## CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

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## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27960

Project: Date Received: Monitoring

10/23/2008

Sample Matrix:

Water

Date Reported:

12/19/2008

## **General Chemistry, Demands & Physical Data**

	•		-			
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27960-001 / SC-W						
Chemical Oxygen Demand	26	mg/L	10/31/2008	410.4	4	20
SiO2	2.4	mg/L	11/17/2008	6010	0.02	0.21
Sulfate	52.5 M-	mg/L	12/18/2008	6010B	0.06	0.3
Turbidity	2.9	NTU's	11/26/2008	180.1	0.4	1.0
27960-002 / LA-W						
Chemical Oxygen Demand	18 J-	mg/L	11/16/2008	410.4	4	20
SiO2	4.5	mg/L	11/17/2008	6010	0.02	0.21
Sulfate	198	mg/L	12/18/2008	6010B	0.06	0.30
Turbidity	0.7	NTU's	11/26/2008	180.1	0.4	1.0
27960-003 / LE1-W						
Chemical Oxygen Demand	ND	mg/L	11/16/2008	410.4	4	20
SiO2	1.8	mg/L	11/17/2008	6010	0.02	0.21
Sulfate	28.3	mg/L	12/18/2008	6010B	3	10
Turbidity	0.5	NTU's	11/26/2008	180.1	0.4	1.0
27960-004 / LE2-W						
Chemical Oxygen Demand	ND	mg/L	11/16/2008	410.4	4	20
SiO2	1.6	mg/L	11/17/2008	6010		0.21
Sulfate	27.4	mg/L	12/18/2008	6010B	3	10
Turbidity	0.2	NTU's	11/26/2008	180.1	0.4	1.0

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27960

Project:

Monitoring

Sample Matrix:

Water

10/23/2008 Date Received:

Date Reported:

12/19/2008

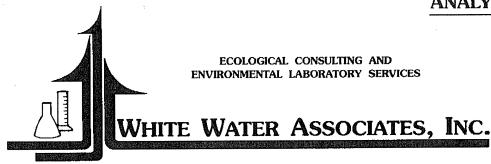
## General Chemistry, Demands & Physical Data

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27960-005 / QU-W						
Chemical Oxygen Demand	ND	mg/L	11/16/2008	410.4	4	20
SiO2	1.6	mg/L	11/17/2008	6010	0.02	0.21
Sulfate	432	mg/L	12/18/2008	6010B	3	10
Turbidity	0.2	NTU's	11/26/2008	180.1	0.4	1.0



## **Cover Page**

Client: Great Lak	ces Environmental Center	•	WWA Job #: 27960
Project: Date Received:	Monitoring 10/23/2008	Sample Matrix: Date Reported:	Water 12/19/2008
Sample Number	Client Sample ID	Date Sampled	
27960-001	SC-W	10/21/08	
27960-002	LA-W	10/21/08	
27960-003	LE1-W	10/21/08	
27960-004	LE2-W	10/21/08	
27960-005	QU-W	10/21/08	



#### Cover Page..continued

Client: Great Lakes Environmental Center

WWA Job #: 27960

#### Comments (if any):

#### Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J+: The quantitation is an estimated value because the result exceeds the calibration range

J-: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.

M+: A matrix effect was present with a high bias

M-: A matrix effect was present with a low bias

Q: Batch QC data associated with the analysis does not meet the stated objectives

H: Indicates analytical holding time exceedance.

U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By:

W DNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

remo

IL EPA NELAC Certification Number: 200049



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27960

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 10/23/2008

Date Reported:

12/19/2008

#### **Trace Metals - Total**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27960-001 / SC-W						
Antimony (t)	0.001 J-	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (t)	0.002 M+	mg/L	11/9/2008	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	11/6/2008	6010B	0.0002	0.0006
Cadmium (t)	0.0012	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (t)	51.2	mg/L	11/11/2008	6010B	0.02	0.06
Chromium (t)	0.002 J-	mg/L	11/4/2008	6010B	0.001	0.003
Copper (t)	0.0019 J-	mg/L	11/4/2008	6010B	0.0004	0.0020
Iron (t)	0.48	mg/L	11/11/2008	6010B	0.02	0.06
Lead (t)	0.0011 J-	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (t)	12.3	mg/L	11/11/2008	6010B	0.03	0.10
Mercury (t)	3.2	ng/L	11/4/2008	1631	0.1	0.5
Nickel (t)	ND	mg/L	11/4/2008	6010B	0.003	0.010
Potassium (t)	8.38	mg/L	11/14/2008	6010B	0.05	0.15
Selenium (t)	0.002 M-	mg/L	11/4/2008	7740	0.001	0.004
Silver (t)	ND	mg/L	11/4/2008	6010B	0.0004	0.0020
Sodium (t)	37.6	mg/L	11/14/2008	6010B	0.05	0.20
Thallium (t)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (t)	0.016	mg/L	11/3/2008	6010B	0.003	0.010
* *		-				

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 5



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27960

Project:

Monitoring

Sample Matrix:

Water

Date Received:

10/23/2008

**Date Reported:** 

12/19/2008

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27960-002 / LA-W						
Antimony (t)	0.001 J-	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	11/9/2008	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	11/6/2008	6010B	0.0002	0.0006
Cadmium (t)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (t)	97.2	mg/L	11/11/2008	6010B	0.02	0.06
Chromium (t)	0.002 J-	mg/L	11/4/2008	6010B	0.001	0.003
Copper (t)	0.0011 J-	mg/L	11/4/2008	6010B	0.0004	0.0020
Iron (t)	0.27	mg/L	11/11/2008	6010B	0.02	0.06
Lead (t)	ND	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (t)	26.5	mg/L	11/11/2008	6010B	0.02	0.10
Mercury (t)	0.8	ng/L	11/4/2008	1631	0.1	0.5
Nickel (t)	ND	mg/L	11/4/2008	6010B	0.003	0.010
Potassium (t)	3.50	mg/L	11/14/2008	6010B	0.05	0.15
Selenium (t)	0.002 J-	mg/L	11/4/2008	7740	0.001	0.004
Silver (t)	ND	mg/L	11/4/2008	6010B	0.0004	0.0020
Sodium (t)	95.0	mg/L	11/14/2008	6010B	0.05	0.20
Thallium (t)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (t)	0.014	mg/L	11/3/2008	6010B	0.003	0.010
• •						



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27960

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 10/23/2008

Date Reported:

12/19/2008

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27960-003 / LE1-W						
Antimony (t)	ND	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	11/9/2008	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	11/6/2008	6010B	0.0002	0.0006
Cadmium (t)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (t)	33.5	mg/L	11/11/2008	6010B	0.02	0.06
Chromium (t)	0.001 J-	m mg/L	11/4/2008	6010B	0.001	0.003
Copper (t)	0.0014 J-	mg/L	11/4/2008	6010B	0.0004	0.0020
Iron (t)	0.20	mg/L	11/11/2008	6010B	0.02	0.06
Lead (t)	ND	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (t)	9.09	mg/L	11/11/2008	6010B	0.02	0.10
Mercury (t)	2.6	ng/L	11/4/2008	1631	0.1	0.5
Nickel (t)	ND	mg/L	11/4/2008	6010B	0.003	0.010
Potassium (t)	1.49	mg/L	11/14/2008	6010B	0.05	0.15
Selenium (t)	ND	mg/L	11/4/2008	7740	0.001	0.004
Silver (t)	ND	mg/L	11/4/2008	6010B	0.0004	0.0020
Sodium (t)	9.75	mg/L	11/14/2008	6010B	0.05	0.20
Thallium (t)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (t)	0.009 J-	mg/L	11/3/2008	6010B	0.003	0.010



### WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

**WWA Job #: 27960** 

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 10/23/2008

Date Reported: 12

12/19/2008

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
27960-004 / LE2-W						
Antimony (t)	ND	mg/L	11/18/2008	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	11/9/2008	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	11/6/2008	6010B	0.0002	0.0006
Cadmium (t)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004
Calcium (t)	34.8	mg/L	11/11/2008	6010B	0.02	0.06
Chromium (t)	0.002 J-	mg/L	11/4/2008	6010B	0.001	0.003
Copper (t)	0.0021	mg/L	11/4/2008	6010B	0.0004	0.0020
Iron (t)	0.46	mg/L	11/11/2008	6010B	0.02	0.06
Lead (t)	ND	mg/L	11/8/2008	7421	0.0006	0.0020
Magnesium (t)	9.42	mg/L	11/11/2008	6010B	0.02	0.10
Mercury (t)	5.2	ng/L	11/4/2008	1631	0.1	0.5
Nickel (t)	ND	mg/L	11/4/2008	6010B	0.003	0.010
Potassium (t)	1.63	mg/L	11/14/2008	6010B	0.05	0.15
Selenium (t)	ND	mg/L	11/4/2008	7740	0.001	0.004
Silver (t)	ND	mg/L	11/4/2008	6010B	0.0004	0.0020
Sodium (t)	10.0	mg/L	11/14/2008	6010B	0.05	0.20
Thallium (t)	ND	mg/L	11/17/2008	7841	0.001	0.004
Zinc (t)	0.008 J-	mg/L	11/3/2008	6010B	0.003	0.010
` '		-				



# VHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 27960

Project:

Monitoring

Sample Matrix:

Water

Date Received:

10/23/2008

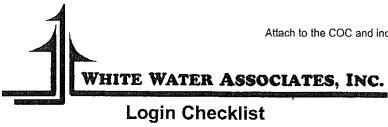
Date Reported:

12/19/2008

Trace Metals - Total							
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
27960-005 / QU-W							
Antimony (t)	ND	mg/L	11/18/2008	7041	0.001	0.004	
Arsenic (t)	0.002 J-	mg/L	11/9/2008	7060A	0.001	0.004	
Beryllium (t)	ND	mg/L	11/6/2008	6010B	0.0002	0.0006	
Cadmium (t)	ND	mg/L	11/5/2008	7131A	0.0001	0.0004	
Calcium (t)	139	mg/L	11/11/2008	6010B	0.02	0.06	
Chromium (t)	0.003 Ј-	mg/L	11/4/2008	6010B	0.001	0.003	
Copper (t)	0.0005 J-	mg/L	11/4/2008	6010B	0.0004	0.0020	
Iron (t)	0.04 J-	mg/L	11/11/2008	6010B	0.02	0.06	
Lead (t)	ND M-	mg/L	11/8/2008	7421	0.0006	0.0020	
Magnesium (t)	44.0	mg/L	11/11/2008	6010B	0.02	0.10	
Mercury (t)	ND	ng/L	11/4/2008	1631	0.1	0.5	
Nickel (t)	ND	mg/L	11/4/2008	6010B	0.003	0.010	
Potassium (t)	2.95	mg/L	11/14/2008	6010B	0.05	0.15	
Selenium (t)	0.002 J-	mg/L	11/4/2008	7740	0.001	0.004	
Silver (t)	ND	mg/L	11/4/2008	6010B	0.0004	0.0020	
Sodium (t)	104	mg/L	11/14/2008	6010B	0.05	0.20	
Thallium (t)	ND M-	mg/L	11/17/2008	7841	0.001	0.004	
Zinc (t)	0.014	mg/L	11/3/2008	6010B	0.003	0.010	

### CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

			OF-CU			ne'	CONL	<i>-</i>	YD.	MINA							$\neg$
J.O.#	CLIENT N	CDTE &	soles en	1 Cuts						<del>, ,</del>	A	NALYSI:	S TYPE	REQUE	STED /		
27940	ADDRESS	739 th	terinos	ST													
J.O.#  27900 SAMPLER'S SIGNATURE	PHONE #	HAMEGREATH CDTE E 739 HA TRUMES 31)141-20	430	ર્વેલિઇસ્ટ્રિક્	2		NO. OF CON- TAIN-	ý	/III			ζ,	/ /	/ /	/ /		
SAMPLE	SAMPLE 1.D.#	TIME	DATE	GRAB	PLE TY	MATRIX 13	ERS	/x}	**						RE	MARKS:	Amasa
SC-W  LEI-W  LEI-W  A=Turbit  B= Cod  C= Metal  See att		11:25	10  21/4	š X			4							Ų.	agreemen	wors + viale	
LA-W		16:35		þ			4	5	<b>Ø</b>						Willette	Primo	Michigan 4990 (906) 822-7373,
1E1-W		13:00		p			4									· · · · · · · · · · · · · · · · · · ·	73.
JEZ-W		13:40	)_	مر		ľ	4										3 Fax -7977
Qu-W		15:25	)	Y			4	/			à						77
							200										
A= Turbit	y, Soy	unp	rcs														
A= Turbit B= Cod	Has	oy pro	\$														man Tony at Nobel
C = Metal	5 HA	103 pre	\$	_										:			
See att	achec	1 para	mete	1.	lie												_
				T		23	/ওচ	<u> </u>									200
RELINQUISHED BY	DATE	lac	gicolpon	RECEIV	ED BY		·	RE	ELINQUI	SHED B	Y		DATE		TIME	RECEIVED	RA
RELINQUISHED BY	DATE	TIM	1E	RECEIV	ED BY	LABOR	RATORY	D/	ATE		TIME		REMAR	RKS:	<u></u> .		
				Je J	' Wi	Ho	ing	10	o-23	-08	15%	30		1.	800		



Pro	ject Number: <u>27960</u> Date Logged in: <u>10 /23 /68</u> Login Person in	itials: <u>G</u>	H
	f Coolers: 1 Courier: <u>fcd</u>		
Clie	ent: Great lakes Environmental Project Name:		
If no	o to any, notify the project manager and project manager documents client response b	elow.	
		<u>YES</u>	NO.
1.	Were custody seals/original packing tape intact?	<u>¥</u>	
2.	Are the samples in good condition, i.e. not broken or leaking?	<u>×</u>	
3.	Are samples within holding times?	<u>×</u>	
4.	Were the samples received on ice (ice in direct contact with the samples)?	_	
5.	Is the temperature of the samples between 2-6°C? Temp. 1. Poc. NOTE: Samples not between 2-6°C that are received at the laboratory on the day of sample collections do not require client notification.		
6.	Do the samples match the COC?	<u>×</u>	
7.	Were the proper containers used?	<u>X</u>	
8.	Were the samples collected in White Water lab containers?	<u>*</u>	***************************************
9.	Is there adequate sample volume for requested analyses and QC?	<u>×</u>	***************************************
10.	Do water VOC samples contain headspace less than the size of a pea?	~	<u> </u>
11.	Are samples preserved to the proper pH? If no, identify sample bottle and preservative, adjust to the proper pH, and note below.	<u>X</u>	-
12.	Is the chain of custody signed?	<u>×</u>	
13.	Is sub-sampling required? (Note bottles created and preserved below.)	<u>X</u>	·)
14.	For Dissolved Analysis, were samples filtered in the lab?		_
15.	Were encores received? (VOC analysis)		
16.	Were soil VOCs preserved with methanol in the lab?		
17.	Is client contact necessary? Provide documentation below.		
.coi	MMENTS/CORRECTIVE ACTION Hy	Manager and the second and the secon	
CLI	ENT RESPONSE (Provide date/time of contact, client response and project manager	initials)	
		——————————————————————————————————————	

- 0 125 ml plastic bottles with H2SO4 pres. for COD
- 0 250 ml plastic with no preservative for Sulfate and Turbidity
- 0 500 ml plastic with HNO3 pres. for all the metals
- 125 ml plastic with no preservative for iron and silica

rinted for Bette Premo <bette premo@white-water-associates.com>

10/23/2008

```
turbidity (10)
COD (10)
sulfate (10)
sodium (10)
potassium (10)
calcium (10)
magnesium (10)
antimony (10)
arsenic (10)
beryllium (10)
cadmium (10)
chromium (10)
copper (10)
lead (10)
mercury (Method 1631) (10)
nickel (10)
 selenium (10)
 silver (10)
 thallium (10)
 zinc (10)
 silica (4)
 iron (4)
```

Jamie Saxton Great Lakes Environmental Center 739 Hastings Street Traverse City, MI 49686 Voice: 231-941-2230 Fax: 231-941-2240

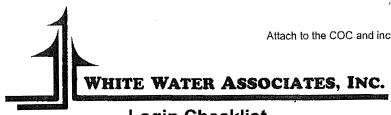


# WHITE WATER ASSOCIATES, INC.

### **Cover Page**

Client: Great Lal	kes Environmental Center	<b>WWA Job #:</b> 27959					
Project: Date Received:	Monitoring 10/23/2008	Sample Matrix: Date Reported:	Water 12/19/2008				
Sample Number	Client Sample ID	Date Sampled					
27959-001	MW-381	10/22/08					
27959-002	MW-393	10/22/08					
27959-003	MW-391	10/22/08					
27959-004	MW-384	10/22/08					
27959-005	IUP-W	10/22/08					

Attach to the COC and include with the final report.



### **Login Checklist** Date Logged in: 10123108 Login Person Initials: \_GUH Project Number: 2 Courier: fed ex # of Coolers: Client: Great Igken Environmental Project Name: If no to any, notify the project manager and project manager documents client response below. NO 1. Are the samples in good condition, i.e. not broken or leaking? ...... Y 2. 3. 4. Is the temperature of the samples between 2-6°C? Temp. $3.2^{\circ}$ 5. NOTE: Samples not between 2-6 °C that are received at the laboratory on the day of sample collections do not require client notification. Do the samples match the COC? ...... 6. 7. 8. No corrective action required. Is there adequate sample volume for requested analyses and QC? ...... 10. Do water VOC samples contain headspace less than the size of a pea? . . . . . . . . \_ \_\_\_\_ preservative adjust to the proper pH, and note below. 12. Is the chain of custody signed? ...... \( \sum\_{\text{\substack}} \) 16. Were soil VOCs preserved with methanol in the lab? .....\_ COMMENTS/CORRECTIVE ACTION CLIENT RESPONSE (Provide date/time of contact, client response and project manager initials)



# WHITE WATER ASSOCIATES, INC.

#### Cover Page

Client: Great Lak	ces Environmental Center		WWA Job #: 28607
Project: Date Received:	2/19/2009	Sample Matrix: Date Reported:	Water 4/8/2009
Sample Number	Client Sample ID	Date Sampled	
28607-001	IUP-W	02/18/09	
28607-002	LE2-W	02/18/09	

#### Comments (if any):

#### Key to Laboratory Flags:

- B: The analyte was found in the associated blank as well as in the sample.
- J+: The quantitation is an estimated value because the result exceeds the calibration range
- J-: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.
- M+: A matrix effect was present with a high bias
- M-: A matrix effect was present with a low bias
- Q: Batch QC data associated with the analysis does not meet the stated objectives
- H: Indicates analytical holding time exceedance.
- U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By:

WI DNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

IL EPA NELAC Certification Number: 200049

429 River Lane • P.O. Box 27 • Amasa, Michigan 49903 • Phone (906) 822-7373 • FAX (906) 822-7977



### HITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28607

Project:

Monitoring

Sample Matrix:

Water

Date Received:

2/19/2009

4/8/2009 Date Reported:

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28607-001 / IUP-W						
Antimony (t)	0.002 J-	mg/L	3/2/2009	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	2/27/2009	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	3/3/2009	7131A	0.00008	0.0004
Calcium (t)	87.5	mg/L	3/4/2009	6010B	0.02	0.06
Chromium (t)	0.0018 Ј-	mg/L	3/2/2009	6010B	0.0006	0.0030
Copper (t)	ND M+	mg/L	2/25/2009	7211	0.0006	0.0020
Iron (t)	1.08	mg/L	3/4/2009	6010B	0.01	0.04
Lead (t)	0.0014 J-	mg/L	3/3/2009	7041	0.0004	0.0020
Magnesium (t)	20.9	mg/L	3/4/2009	6010B	0.02	0.06
Nickel (t)	0.002 J-	mg/L	3/2/2009	6010B	0.001	0.003
Potassium (t)	4.2	mg/L	3/6/2009	6010B	0.1	0.3
Selenium (t)	0.002 M-J	mg/L	2/24/2009	7740	0.001	0.004
Silver (t)	0.0008 J-	mg/L	3/2/2009	6010B	0.0005	0.0020
Sodium (t)	60.3	mg/L	3/6/2009	6010B	0.2	8.0
Thallium (t)	ND	${\sf mg/L}$	3/4/2009	7841	0.001	0.004
Zinc (t)	ND .	mg/L	3/2/2009	6010B	0.02	0.06



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28607

Project:

Monitoring

Sample Matrix:

Water

Date Received:

2/19/2009

**Date Reported:** 

4/8/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28607-002 / LE2-W						
Antimony (t)	0.003 J-	mg/L	3/2/2009	7041	0.001	0.004
Arsenic (t)	0.001 J-	mg/L	2/27/2009	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	3/3/2009	7131A	0.00008	0.0004
Calcium (t)	35.2	mg/Ĺ	3/4/2009	6010B	0.02	0.06
Chromium (t)	0.0009 J-	mg/L	3/2/2009	6010B	0.0006	0.0030
Copper (t)	0.0024	mg/L	2/25/2009	7211	0.0006	0.0020
Iron (t)	0.68	mg/L	3/4/2009	6010B	0.01	0.04
Lead (t)	0.0011 J-	mg/L	3/3/2009	7041	0.0004	0.0020
Magnesium (t)	8.98	mg/L	3/4/2009	6010B	0.02	0.06
Nickel (t)	0.001 J-	mg/L	3/2/2009	6010B	0.001	0.003
Potassium (t)	2.3	mg/L	3/6/2009	6010B	0.1	0.3
Selenium (t)	ND	mg/L	2/24/2009	7740	0.001	0.004
Silver (t)	ND	mg/L	3/2/2009	6010B	0.0005	0.0020
Sodium (t)	23.4	mg/L	3/6/2009	6010B	0.2	0.8
Thallium (t)	ND M-	mg/L	3/4/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	3/2/2009	6010B	0.02	0.06



### WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

**WWA Job #: 28607** 

Project:

Monitoring

Sample Matrix:

Water

**Date Received:** 2/19/2009

Date Reported:

4/8/2009

#### **General Chemistry Parameters**

Ceneral Onemotry i aramotore								
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL		
28607-001 / IUP-W				•				
Chemical Oxygen Demand	15 J-	mg/L	3/4/2009	410.4	6	20		
SiO2	5.1	mg/L	4/7/2009	7000	0.4	1.7		
Sulfate	133	mg/L	3/10/2009	6010B	0.4	1.4		
Turbidity	14.7	NTU's	3/6/2009	180.1	1	1		
28607-002 / LE2-W								
Chemical Oxygen Demand	ND	mg/L	3/4/2009	410.4	6	20		
SiO2	1.7	mg/L	4/7/2009	7000	0.4	1.7		
Sulfate	32.9 M+	mg/L	3/10/2009	6010B	0.09	0.27		
Turbidity	9.80	NTU's	3/6/2009	180.1	1 .	1		



MDH Lab # 027-137-389 WDNR Lab # 399017190 4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone: (218) 729-4658

Fax: (218) 729-4659

### Analytical Report

Sample Information:

Client:

White Water Associates, Inc.

Attn: Dr. Bette Premo

429 River Lane

PO Box 27

Amasa, MI 49903

Phone: (906) 822-7889 Fax: (906) 822-7977 Chain of Custody: 10473 Sampled By:

Date Reported: 2/26/2009

Method: EPA 1631

Sample ID	Laboratory ID#	Mercury (ng/L)	Sample Date	Analysis Date	MDL (ng/L)
28607-1D IUP-W	37126	2.3	2/18/2009	2/26/2009	0.1
28607-2D LE2-W	37127	1.4	2/18/2009	2/26/2009	0.1

Low-level mercury results are reagent blank corrected.

Reviewed By:

If you have any questions regarding this report, please call (218) 729-4658.

Sincerely,

Linda Christensen Chemical Engineer

The results provided above pertain only to the samples indicated. All results provided by NSA should be considered in their entirety, and are strictly for the use of its Customers.

NSA is in no way responsible for subsequent use of said results, including, but not limited to, separation, detachment, reproduction, or any other use of any portion thereof, by

Customers or third parties.



### WHITE WATER ASSOCIATES, INC.

### **Cover Page**

Client: Great Lal	kes Environmental Center		WWA Job #: 28601
Project: Date Received:	2/18/2009	Sample Matrix: Date Reported:	Water 4/8/2009
Sample Number	Client Sample ID	Date Sampled	
28601-001	MW-381	02/17/09	
28601-002	MW-391	02/17/09	
28601-003	MW-393	02/17/09	
28601-004	MW-384	02/17/09	
28601-005	SCW	02/17/09	

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#### Cover Page..continued

Client: Great Lakes Environmental Center

WWA Job #: 28601

Comments (if any):

#### Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J+: The quantitation is an estimated value because the result exceeds the calibration range

J-: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.

M+: A matrix effect was present with a high bias

M-: A matrix effect was present with a low bias

Q: Batch QC data associated with the analysis does not meet the stated objectives

H: Indicates analytical holding time exceedance.

U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By:

WLDNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

IL EPA NELAC Certification Number: 200049

429 River Lane • P.O. Box 27 • Amasa, Michigan 49903 • Phone (906) 822-7373 • FAX (906) 822-7977

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST CLIENT NAME
CREAT HOLOS EN, CENTER (GLEC)
ADDRESS
739 HASTINGS ST, TRAVERSECHY M
PHONE #
(231)941-2230 ANALYSIS TYPE REQUESTED 28601 NO. OF CON-Kultitan No. of the last of TAIN-SAMPLE TYPE ERS y.x 2 SAMPLE SAMPLE MATRIX TIME DATE I.D.# LOCATION White Water Associates, Inc REMARKS: 41315 2/17/09 4 X x X 381 pink; send white and yellow with samples. Original (white) will be returned with report 1215 3 4 393 1055 1445 384 + × 3 SCW 1025 X C B naue HOD 03 D - nbu TIME RECEIVED BY RELINQUISHED BY DATE RECEIVED BY TIME DATE RELINQUISHED BY 2/17/2009 1630 REMARKS: RECEIVED BY LABORATORY DATE RELINQUISHED BY

Customer

-'agc	0	

Attach to the COC and include with the final report.



# WHITE WATER ASSOCIATES, INC.

### Login Checklist

Proj	ect Number: <u>286</u>	Date Logged in:	2/18/9	Login Persor	n Initials: <u> </u>	<u></u>
# of	Coolers: 2	- <u>-</u> -		Courier:	Fede	<u> </u>
Clie	nt: <u>GLE</u>	<u>C</u>	Proj	ect Name:		
If no	to any, notify the pro	ject manager and project ma	anager documents	client respons	e below.	
					<u>YES</u>	NO
1.	Were custody seals/	original packing tape intact?	,		<u>/</u>	
2.	Are the samples in g	good condition, i.e. not broke	n or leaking?			
3.	Are samples within h	nolding times?				
4.	Were the samples re	eceived on ice (ice in direct o	contact with the sa	mples)?		
5.	NOTE: Samples not	f the samples between 2-6°0 between 2-6°C that are rece e collections do not require c	eived at the labora		<u>~</u>	
6.	Do the samples mat	ch the COC?		• • • • • • • • • • • • • • • • • • • •	<u>/</u>	
7.	Were the proper cor	ntainers used?		• • • • • • • • • • • • • • • • • • • •	· <u> </u>	
8.	Were the samples c No corrective action	ollected in White Water lab or required.	containers?		<u> </u>	•
9.	Is there adequate sa	ample volume for requested a	analyses and QC?			
10.	Do water VOC samp	oles contain headspace less	than the size of a	pea?	<u>h</u> a	
11.		ved to the proper pH? If no, it to the proper pH, and note be		tle and		
12.	Is the chain of custo	dy signed?	• • • • • • • • • • • • • • • • • • • •		<u>/</u>	W
13.		uired? (Note bottles created				
14.	For Dissolved Analy	sis, were samples filtered in	the lab?		· · · · · <u> </u>	<b>Marie de la companie de la companie</b>
15.	Were encores receiv	ved? (VOC analysis)		<i>.</i>		
16.	Were soil VOCs pre	served with methanol in the	lab?		· • • • • <u></u>	
17.	Is client contact nece	essary? Provide documentat	tion below			_
COI	MMENTS/CORRECT	IVE ACTION				
				· · · · · · · · · · · · · · · · · · ·		
CLI	ENT RESPONSE (Pro	ovide date/time of contact, cl	lient response and	project mana	ger initials)	
					M	



### WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

**WWA Job #: 28601** 

Project:

Date Received:

2/18/2009

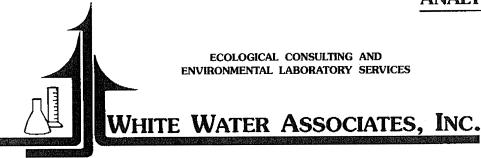
Sample Matrix:

Water

Date Reported:

4/8/2009

Mace Metals - Total						
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28601-001 / MW-381						
Antimony (t)	0.001 J-	mg/L	3/2/2009	7041	0.001	0.004
Arsenic (t)	0.003 J-	mg/L	2/27/2009	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	3/3/2009	7131A	0.00008	0.0004
Calcium (t)	150	mg/L	3/4/2009	6010B	0.02	0.06
Chromium (t)	0.0012 J-	mg/L	3/2/2009	6010B	0.0006	0.0030
Copper (t)	ND M+	mg/L	2/25/2009	7211	0.0006	0.0020
Iron (t)	0.19	mg/L	3/4/2009	6010B	0.01	0.04
Lead (t)	0.0015 J-	mg/L	3/3/2009	7421	0.0004	0.002
Magnesium (t)	48.3	mg/L	3/4/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	3/2/2009	6010B	0.001	0.003
Potassium (t)	2.0	mg/L	3/6/2009	6010B	0.1	0.3
Selenium (t)	0.003 M-J	mg/L	2/24/2009	7740	0.001	0.004
Silver (t)	0.0014 J-	mg/L	3/2/2009	6010B	0.0005	0.0020
Sodium (t)	42.2	mg/L	3/6/2009	6010B	0.2	0.8
Thallium (t)	ND M-	mg/L	3/4/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	3/2/2009	6010B	0.02	0.06



Client: Great Lakes Environmental Center

WWA Job #: 28601

Project:

....

Sample Matrix:

Water

Date Received:

2/18/2009

Date Reported: 4/8/

4/8/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
28601-002 / MW-391							
Antimony (t)	0.002 J-	mg/L	3/2/2009	7041	0.001	0.004	
Arsenic (t)	0.002 J-	mg/L	2/27/2009	7060A	0.001	0.004	
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004	
Cadmium (t)	ND	mg/L	3/3/2009	7131A	0.00008	0.0004	
Calcium (t)	75.0 M-	mg/L	3/4/2009	6010B	0.02	0.06	
Chromium (t)	ND	mg/L	3/2/2009	6010B	0.0006	0.0030	
Copper (t)	0.0011 <b>J</b> -	mg/L	2/25/2009	7211	0.0006	0.0020	
Iron (t)	0.18	mg/L	3/4/2009	6010B	0.01	0.04	
Lead (t)	0.0016 J-	mg/L	3/3/2009	7421	0.0004	0.002	
Magnesium (t)	21.3	mg/L	3/4/2009	6010B	0.02	0.06	
Nickel (t)	ND	mg/L	3/2/2009	6010B	0.001	0.003	
Potassium (t)	3.0	mg/L	3/6/2009	6010B	0.1	0.3	
Selenium (t)	ND	mg/L	2/24/2009	7740	0.001	0.004	
Silver (t)	0.0006 J-	mg/L	3/2/2009	6010B	0.0005	0.0020	
Sodium (t)	22.0	mg/L	3/6/2009	6010B	0.2	0.8	
Thallium (t)	ND	mg/L	3/4/2009	7841	0.001	0.004	
Zinc (t)	ND	mg/L	3/2/2009	6010B	0.02	0.06	



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28601

Project:

Date Received:

2/18/2009

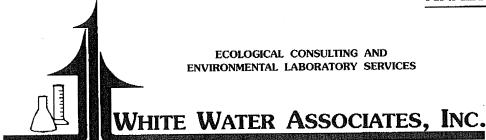
Sample Matrix:

Water

Date Reported:

4/8/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28601-003 / MW-393						
Antimony (t)	0.001 J-	mg/L	3/2/2009	7041	0.001	0.004
Arsenic (t)	0.003 J-	mg/L	2/25/2009	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	3/3/2009	7131A	800000	0.0004
Calcium (t)	299	mg/L	3/11/2009	6010B	0.1	0.3
Chromium (t)	0.0029 J-	mg/L	3/2/2009	6010B	0.0006	0.0030
Copper (t)	ND	mg/L	2/25/2009	7211	0.0006	0.0020
Iron (t)	1.45	mg/L	3/4/2009	6010B	0.01	0.04
Lead (t)	0.0013 J-	mg/L	3/3/2009	7421	0.0004	0.002
Magnesium (t)	103	mg/L	3/4/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	3/2/2009	6010B	0.001	0.003
Potassium (t)	14.9	mg/L	3/6/2009	6010B	0.1	0.3
Selenium (t)	0.007	mg/L	2/24/2009	7740	0.001	0.004
Silver (t)	0.0024	mg/L	3/2/2009	6010B	0.0005	0.0020
Sodium (t)	32.1	mg/L	3/6/2009	6010B	0.2	0.8
Thallium (t)	ND	mg/L	3/4/2009	7841	0.001	0.003
Zinc (t)	ND	mg/L	3/2/2009	6010B	0.02	0.06



Client: Great Lakes Environmental Center

WWA Job #: 28601

Project:

Date Received:

2/18/2009

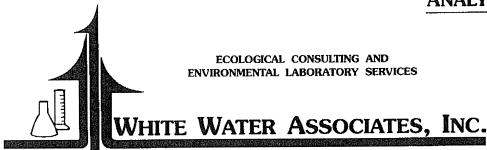
Sample Matrix:

Water

Date Reported:

4/8/2009

	I I ace IV	letais = TOLA	LI			
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28601-004 / MW-384				·		
Antimony (t)	0.001	mg/L	3/2/2009	7041	0.001	0.004
Arsenic (t)	0.004	mg/L	2/27/2009	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	3/3/2009	7131A	0.00008	0.0004
Calcium (t)	547	mg/L	3/11/2009	6010B	0.1	0.3
Chromium (t)	0.0059	mg/L	3/2/2009	6010B	0.0006	0.0030
Copper (t)	ND	mg/L	2/25/2009	7211	0.0006	0.0020
Iron (t)	5.02	mg/L	3/4/2009	6010B	0.01	0.04
Lead (t)	0.0009 J-	mg/L	3/3/2009	7421	0.0004	0.002
Magnesium (t)	166	mg/L	3/4/2009	6010B	0.02	0.06
Nickel (t)	0.002 J-	mg/L	3/2/2009	6010B	0.001	0.003
Potassium (t)	2.3	mg/L	3/6/2009	6010B	0.1	0.3
Selenium (t)	0.006	mg/L	2/24/2009	7740	0.001	0.004
Silver (t)	0.0045	mg/L	3/2/2009	6010B	0.0005	0.0020
Sodium (t)	34.0	mg/L	3/6/2009	6010B	0.2	8.0
Thallium (t)	ND	mg/L	3/4/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	3/2/2009	6010B	0.02	0.06



Client: Great Lakes Environmental Center

WWA Job #: 28601

Project:

Date Received:

2/18/2009

Sample Matrix:

Water

Date Reported:

4/8/2009

#### **Trace Metals - Total**

	I I ace IV		l!			
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28601-005 / SCW						
Antimony (t)	0.002 J-	mg/L	3/2/2009	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	2/27/2009	7060A	0.001	0.004
Beryllium (t)	ND	mg/L	3/2/2009	6010B	0.0001	0.0004
Cadmium (t)	0.00011 J-	mg/L	3/3/2009	7131A	0.00008	0.0004
Calcium (t)	41.5	mg/L	3/4/2009	6010B	0.02	0.06
Chromium (t)	0.0036	mg/L	3/2/2009	6010B	0.0006	0.0030
Copper (t)	0.0047	mg/L	2/25/2009	7211	0.0006	0.0020
Lead (t)	0.0026	mg/L	3/3/2009	7421	0.0004	0.0020
Magnesium (t)	9.81	mg/L	3/4/2009	6010B	0.02	0.06
Nickel (t)	0.003	mg/L	3/2/2009	6010B	0.001	0.003
Potassium (t)	4.4	mg/L	3/6/2009	6010B	0.1	0.3
Selenium (t)	ND	mg/L	2/24/2009	7740	0.001	0.004
Silver (t)	ND	mg/L	3/2/2009	6010B	0.0005	0.0020
Sodium (t)	23.9	mg/L	3/6/2009	6010B	0.2	0.8
Thallium (t)	ND	mg/L	3/4/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	3/2/2009	6010B	0.02	0.06

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 5 of 5



Client: Great Lakes Environmental Center

WWA Job #: 28601

Project:

Date Received: 2/18/2009 Sample Matrix:

Water

**Date Reported:** 

4/8/2009

	General Che	mistry Parameters	
Sample / Client Sample ID	Result	Units Date	
20701-001-/3433-201			

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28601-001 / MW-381						
Chemical Oxygen Demand	8 J-	mg/L	3/4/2009	410.4	6	20
SiO2	6.8	mg/L	4/7/2009	7000	0.4	1.7
Sulfate	400	mg/L	3/10/2009	6010B	0.4	1.4
Turbidity	0.798	NTU's	3/6/2009	180.1	1	1
28601-002 / MW-391						
Chemical Oxygen Demand	ND	mg/L	3/4/2009	410.4	6	20
SiO2	4.0	mg/L	4/7/2009	7000	0.4	1.7
Sulfate	156	mg/L	3/10/2009	6010B	0.4	1.4
Turbidity	0.624	NTU's	3/6/2009	180.1	1	1
28601-003 / MW-393						
Chemical Oxygen Demand	7 J-	mg/L	3/4/2009	410.4	6	20
SiO2	16.4	mg/L	4/7/2009	7000	0.8	3.4
Sulfate	930	mg/L	3/10/2009	6010B	1.8	5.4
Turbidity	13.4	NTU's	3/6/2009	180.1	1	1
28601-004 / MW-384						
Chemical Oxygen Demand	5 J-	mg/L	3/4/2009	410.4	6	20
SiO2	21.5	mg/L	4/7/2009	7000	1.6	6.8
Sulfate	1840	mg/L	3/10/2009	6010B	1.8	5.4
Turbidity	43.4	NTU's	3/6/2009	180.1	2	2

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2

2

2



ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28601

180.1

Project:

Turbidity

**Date Received:** 2/18/2009

Sample Matrix:

Water

Date Reported:

4/8/2009

General Chemistry Parameters						
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28601-005 / SCW						
Chemical Oxygen Demand	20 J-	mg/L	3/4/2009	410.4	6	20
Sulfate	41.8	mg/L	3/10/2009	6010B	0.09	0.27

NTU's

3/6/2009

60.4



MDH Lab # 027-137-389 WDNR Lab # 399017190 4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone: (218) 729-4658 Fax: (218) 729-4659

### Analytical Report

Sample Information:

White Water Associates, Inc.

Attn: Dr. Bette Premo

429 River Lane PO Box 27

Client:

Amasa, MI 49903

Phone: (906) 822-7889

Fax: (906) 822-7977

Chain of Custody: 10473 Sampled By:

Date Reported: 2/26/2009

Method: EPA 1631

Sample ID	Laboratory ID#	Mercury (ng/L)	Sample Date	Analysis Date	MDL (ng/L)
		VG/			
28601-3 MW 393	37122	< 0.5	2/17/2009	2/26/2009	0.1
28601-2 MW 391	37123	< 0.5	2/17/2009	2/26/2009	0.1
28601-4 MW 384	37124	< 0.5	2/17/2009	2/26/2009	0.1
28601-1 MW 381	37125	< 0.5	2/17/2009	2/26/2009	0.1

Low-level mercury results are reagent blank corrected.

Reviewed By:

If you have any questions regarding this report, please call (218) 729-4658.

Sincerely,

Linda Christensen Chemical Engineer

The results provided above pertain only to the samples indicated. All results provided by NSA should be considered in their entirety, and are strictly for the use of its Customers. NSA is in no way responsible for subsequent use of said results, including, but not limited to, separation, detachment, reproduction, or any other use of any portion thereof, by Customers or third parties.



MDH Lab # 027-137-389 WDNR Lab # 399017190 4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone: (218) 729-4658

Fax: (218) 729-4659

### Analytical Report

Date Reported: 2/26/2009

Client:

White Water Associates, Inc.

Attn: Dr. Bette Premo 429 River Lane PO Box 27

Amasa, MI 49903

Phone: (906) 822-7889 Fax: (906) 822-7977

Sample Information:

Chain of Custody: 10473

Sampled By:

Method: EPA 1631

Sample ID	Laboratory ID#	Mercury (ng/L)	Sample Date	Analysis Date	MDL (ng/L)
(458-58)(blank)	37128	< 0.5	2/17/2009	2/26/2009	0.1
SC-W (173-56)	37129	4.4	2/17/2009	2/26/2009	0.1

Low-level mercury results are reagent blank corrected.

Reviewed By:

If you have any questions regarding this report, please call (218) 729-4658.

Sincerely,

Linda Christensen

Chemical Engineer

The results provided above pertain only to the samples indicated. All results provided by NSA should be considered in their entirety, and are strictly for the use of its Customers. NSA is in no way responsible for subsequent use of said results, including, but not limited to, separation, detachment, reproduction, or any other use of any portion thereof, by Customers or third parties.

### North Shore Analytical, Inc.

4511 W. 1<sup>st</sup> St., Suite #1 Duluth, MN 55807 Phone (218) 729-4658 Fax (218) 729-4659

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STF-COC-001 Revision Number: 5 Revision Date: 05/01/06

Chain of Custody

Client Name	Const	Lakes Environmental C	outer			Report to:	mie Sexter	<b>~</b>	Sampled by: Scaration Project: DIE	Reitz
Address		Hastings 87				Phone:	31-941	2230	Project: DIE	ENSR
		e City	m1		عالاه	Fax: 23	7-941	2740		
NSA Lab#	Bottle #	Client Sample Identification	Date Collected	Time Collected	Matrix	Samp Grab	le Type Composite	Container/ Preservation	Anal	ysis Requested
	422.57	MW 393	2/17/2019	1555	(jW	1.1		G NA	H Haz	
	96.57	mu 391	1	1215	GW			6 NA	1	
	18356	mw 384		1445	6W			6 NA		<u> </u>
	418.57	mu 381	1	1315	GW			6 NA		
	173.56	8C 40	17	1025	SW	1		6 NA		
		LA-W-VOID			Sto-			GNA		
	47.57	JE JET WOOD			esto	1		6 45		
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<u> </u>	AL COMME	NTS:		14.70.00						
						7/		N		
Low-level m		les supplied by North Shore Ans	alytical?		Containers	Y		Preservation:		
KEY:	Matrix:	W = 0	d Window		1	: T = Teflon/Fluc	nmonolymer	NA = None Add	ed	
	SW = Surface WW = Wastey				G = Glass	* - Telloin Line	oroborimor	H = Hydrochlori		
Particles.	WW = Wastev		ig Haw		B = Plastic B	ag		B = Bromine Mo		

North Shore Analytical, Inc.

Record #:

S1F-COC-001 Revision Number: 5 Revision Date: 05/01/06

4511 W. 1<sup>st</sup> St., Suite #1 Duluth, MN 55807 Phone (218) 729-4658 Fax (218) 729-4659

Chain of Custody Report to:

Client Name	) (W A							Prem		Sampled by:	
ddress 4	29 Ri	ver La	ine		<del></del>		Phone:	0 822	7888	Project:	
ity	ma.	na		State	Zip V99	03	Fax:	<u> </u>	100		
VSA Lab#	Bottle #	Client Sample I	dentification	Date Collected	Time	1.7		ple Type	Container/		
5/10/2	422.57	28601-3 M	13 203	2-17-9	Conected	Matrix	Grab	Composite	Preservation		lysis Requested
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7124	183.56	-4	384	<del>                                     </del>	┪━──	<del>                                     </del>	<del>                                     </del>	<del></del>	<del> </del>		
57125	418.57	-1	381	<del>                                     </del>			<del>                                     </del>		<del>                                     </del>		
7726	184.56	28607-10	IUP-W	2-18	<del> </del>		<del>                                     </del>	<b>_</b>	<del>                                     </del>	<u> </u>	
77	423.57	1 -2D	LEZ-W	2-18	<del> </del>		<del>                                     </del>		<b> </b>		
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**ENVIRONMENTAL LABORATORY SERVICES** 

### **Cover Page**

Client: Great Lal	kes Environmental Center		WWA Job #: 28901
Project: Date Received:	Monitoring 4/15/2009	Sample Matrix: Date Reported:	Water 6/2/2009
Sample Number	Client Sample ID	Date Sampled	
28901-001	QUW	04/14/09	
28901-002	LE2W	04/14/09	
28901-003	IUPW	04/14/09	
28901-004	LAW	04/14/09	
28901-005	MW 393	04/14/09	
28901-006	MW 391	04/14/09	

#### Cover Page..continued

Client: Great Lakes Environmental Center

WWA Job #: 28901

#### Comments (if any):

#### Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J+: The quantitation is an estimated value because the result exceeds the calibration range

J-: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.

M+: A matrix effect was present with a high bias

M-: A matrix effect was present with a low bias

Q: Batch QC data associated with the analysis does not meet the stated objectives

H: Indicates analytical holding time exceedance.

U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By:

W DNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

IL EPA NELAC Certification Number: 200049

429 River Lane • P.O. Box 27 • Amasa, Michigan 49903 • Phone (906) 822-7373 • FAX (906) 822-7977



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

**Project:** 

Date Received:

Monitoring

4/15/2009

Sample Matrix:

Water

Date Reported:

6/2/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28901-001 / QUW						
Antimony (t)	ND M-	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	ND M+	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.00040
Calcium (t)	127	mg/L	4/28/2009	6010B	0.04	0.14
Chromium (t)	0.0032	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	ND	. mg/L	5/1/2009	7211	0.0006	0.0020
Lead (t)	0.0006 J-	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	45.3	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	2.46	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	0.001 M-J	mg/L	4/29/2009	7740	0.001	0.004
Silver (t)	0.0010 J-	mg/L	4/29/2009	6010B	0.0005	0.0015
Sodium (t)	100	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03
<b>\</b> /		=				



### JHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Monitoring

Sample Matrix:

Water

Date Received:

4/15/2009

Date Reported:

6/2/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL		
28901-002 / LE2W								
Antimony (t)	0.002 J-	mg/L	4/23/2009	7041	0.001	0.004		
Arsenic (t)	0.002 J-	mg/L	4/28/2009	7060	0.001	0.004		
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004		
Cadmium (t)	0.00009 M+J	mg/L	5/6/2009	7131	0.00008	0.00040		
Calcium (t)	56.6	mg/L	4/28/2009	6010B	0.04	0.14		
Chromium (t)	0.0052	mg/L	4/29/2009	6010B	0.0006	0.0020		
Copper (t)	0.0036	mg/L	5/1/2009	7211	0.0006	0.0020		
Lead (t)	0.0029	mg/L	4/30/2009	7421	0.0006	0.0020		
Magnesium (t)	14.4	mg/L	4/28/2009	6010B	0.02	0.06		
Nickel (t)	0.004 J-	mg/L	4/29/2009	6010B	0.003	0.010		
Potassium (t)	3.02	mg/L	4/28/2009	6010B	0.05	0.20		
Selenium (t)	0.002 J-	mg/L	4/29/2009	7740	0.001	0.004		
Silver (t)	0.0007 J-	${ m mg/L}$	4/29/2009	6010B	0.0005	0.0015		
Sodium (t)	25.4	mg/L	4/28/2009	6010B	0.2	0.6		
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004		
Zinc (t)	0.02 J-	mg/L	4/29/2009	6010B	0.01	0.03		



### WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Monitoring

Sample Matrix:

Water

Date Received:

4/15/2009

Date Reported:

6/2/2009

#### **Trace Metals - Total**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL		
28901-003 / IUPW								
Antimony (t)	0.001 J-	mg/L	4/23/2009	7041	0.001	0.004		
Arsenic (t)	ND	mg/L	4/28/2009	7060	0.001	0.004		
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004		
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004		
Calcium (t)	51.8	mg/L	4/28/2009	6010B	0:04	0.14		
Chromium (t)	0.0025	mg/L	4/29/2009	6010B	0.0006	0.0020		
Copper (t)	ND	mg/L	5/1/2009	7211	0.0006	0.0020		
Lead (t)	0.0007 J-	mg/L	4/30/2009	7421	0.0006	0.0020		
Magnesium (t)	13.8	mg/L	4/28/2009	6010B	0.02	0.06		
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010		
Potassium (t)	2.71	mg/L	4/28/2009	6010B	0.05	0.20		
Selenium (t)	ND	mg/L	4/29/2009	7740	0.001	0.004		
Silver (t)	0.0008 J-	mg/L	4/29/2009	6010B	0.0003	0.0010		
Sodium (t)	27.8	mg/L	4/28/2009	6010B	0.2	0.6		
Thallium (t)	ND M-	mg/L	5/7/2009	7841	0.001	0.004		
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03		
**		-						

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 3 of 6



## VHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Date Received:

Monitoring

4/15/2009

Sample Matrix:

Water

**Date Reported:** 

6/2/2009

#### **Trace Metals - Total**

	TINGE MEMBER 1 OF THE PROPERTY									
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL				
28901-004 / LAW										
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004				
Arsenic (t)	ND	mg/L	4/28/2009	7060	0.001	0.004				
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004				
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004				
Calcium (t)	62.4	mg/L	4/28/2009	6010B	0.04	0.14				
Chromium (t)	0.0027	mg/L	4/29/2009	6010B	0.0006	0.0020				
Copper (t)	0.0011 J-	mg/L	5/1/2009	7211	0.0006	0.0020				
Lead (t)	0.0010 J-	mg/L	4/30/2009	7421	0.0006	0.0020				
Magnesium (t)	17.9	mg/L	4/28/2009	6010B	0.02	0.06				
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010				
Potassium (t)	3.26	mg/L	4/28/2009	6010B	0.05	0.20				
Selenium (t)	ND	mg/L	4/29/2009	7740	0.001	0.004				
Silver (t)	0.0008 J-	mg/L	4/29/2009	6010B	0.0003	0.0010				
Sodium (t)	34.8	mg/L	4/28/2009	6010B	0.2	0.6				
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004				
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03				

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 4 of 6



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Monitoring

Sample Matrix:

Water

Date Received:

4/15/2009

Date Reported:

6/2/2009

### **Trace Metals - Total**

	i i aoc ii	iotais - i ott				
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28901-005 / MW 393						
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	ND	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004
Calcium (t)	304	mg/L	4/30/2009	6010B	0.1	0.3
Chromium (t)	0.0044	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	ND	mg/L	5/1/2009	7211	0.0006	0.0020
Iron (t)	1.32	mg/L	4/28/2009	6010B	0.04	0.14
Lead (t)	ND	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	112	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	14.5	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	0.003 J-	mg/L	4/29/2009	7740.	0.001	0.004
Silver (t)	0.0025	mg/L	4/29/2009	6010B	0.0003	0.0010
Sodium (t)	31.9	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 5 of 6



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Monitoring

Sample Matrix:

Water

4/15/2009 Date Received:

Date Reported:

6/2/2009

	HACC N	ictais - iota	4.1			
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28901-006 / MW 391						
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	ND	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND ·	mg/L	5/6/2009	7131	0.00008	0.0004
Calcium (t)	79.1	mg/L	4/28/2009	6010B	0.04	0.14
Chromium (t)	0.0015 J-	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	ND	mg/L	5/1/2009	7211	0.0006	0.0020
Iron (t)	0.10 J-	mg/L	4/28/2009	6010B	0.04	0.14
Lead (t)	ND	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	24.7	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	2.56	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	ND	mg/L	4/29/2009	7740	0.001	0.004
Silver (t)	0.0012	mg/L	4/29/2009	6010B	0.0003	0.0010
Sodium (t)	22.1	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Monitoring

Sample Matrix: Date Reported: Water

Date Received: 4/1:

4/15/2009

6/2/2009

### **General Chemistry Parameters**

Ocheral onement i arametere									
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL			
28901-001 / QUW									
Chemical Oxygen Demand	10 J-	mg/L	4/21/2009	410.4	6	20			
SiO2	1.8 M-	mg/L	5/21/2009	7000	0.3	1.4			
Sulfate	398	mg/L	4/23/2009	6010B	1.5	4.5			
Turbidity	2.18	NTU's	4/15/2009	180.1	1	1			
28901-002 / LE2W									
Chemical Oxygen Demand	28	mg/L	4/21/2009	410.4	6	20			
SiO2	9.8	mg/L	5/21/2009	7000	0.7	2.7			
Sulfate	49.2	mg/L	4/23/2009	6010B	0.3	0.9			
Turbidity	53.7	NTU's	4/15/2009	180.1	1	1			
28901-003 / IUPW									
Chemical Oxygen Demand	20	mg/L	4/21/2009	410.4	6	20			
SiO2	5.9	mg/L	5/21/2009	7000	0.3	1.4			
Sulfate	35	mg/L	4/23/2009	375.2	4	12			
Turbidity	16.5	NTU's	4/15/2009	180.1	1	1			
28901-004 / LAW									
Chemical Oxygen Demand	21	mg/L	4/21/2009	410.4	6	20			
SiO2	7.1	mg/L	5/21/2009	7000	0.7	2.7			
Sulfate	72.2	mg/L	4/23/2009	6010B	0.6	1.8			
Turbidity	25.7	NTU's	4/15/2009	180.1	1	1			

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28901

Project:

Monitoring

Sample Matrix:

Water

Date Received: 4

4/15/2009

Date Reported:

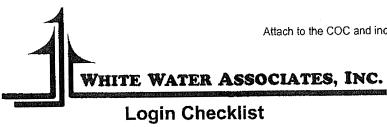
6/2/2009

### **General Chemistry Parameters**

	General One	mistry i arai				
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28901-005 / MW 393						
Chemical Oxygen Demand	16 J-	mg/L	4/21/2009	410.4	6	20
SiO2	13	mg/L	5/21/2009	7000	0.7	2.7
Sulfate	853	mg/L	4/23/2009	6010B	3	9
Turbidity	7.89	NTU's	4/15/2009	180.1	1	1
28901-006 / MW 391						
Chemical Oxygen Demand	ND	mg/L	4/21/2009	410.4	10	20
SiO2	3.5	mg/L	5/21/2009	7000	0.3	1.4
Sulfate	179	mg/L	4/23/2009	6010B	0.6	1.8
Turbidity	1.84	NTU's	4/15/2009	180.1	1	1

### CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

		CHAIN-	OF-CUS	SIUI	א אר	(ECOn	UA	IND I	HINH	LIS	13 n		753	1	-
J.O.H  28901  SAMPLER'S SIGNATURE  SURAFIE	PHONE	CHAIN- NAME JAYY AT LAKES S HASHINGS # TRAVELL 9412	e city, r	m14	NTAL CNTG GGS	NO. OF CON- TAIN-		7°Y	4	F. S.	M S	\$ C	13)	STED	*
SAMPLE LOCATION	SAMPLE I.D.#	TIME	DATE	GRAB		MATRIX			1/2	* 2/2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /				REMARKS: Sec	429 Riv 429 Riv Amasa, Phone
<b>800</b>	١	10100	मीमीव	X.		*	X	X	X	k	X			Bety Permo	1 % <b>~</b> 3 ~
REZ W TUPW	۷	12:00	2	X		¥	X	X	X	1X	X				er Lane, P. Michigan 906) 822-7
IUPW	3	12:30		1		4	1 X	X	X	3 k	X				O. Box 49903 373, F
2AW	4	1340	1	X		*	X	X	X	1	X				P.O. Box 27 n 49903 2-7373, Fax -7977
293 Mw 391	5	1545		X		35	X	*	X	X	X			turbidity, Si,	77
MW 391	6	1700	4	a		\$	X	X	1	X	*				
							A	13	C	Ð	D			Metalo;*	
													-1	<b>X</b> ,	
													107	K, Ca, Mg, Sb, 1	ya
														As, Be, Cd, Cr,	_
														Cu, Pb, Ni	
												2/		Se, Ag, TI, Zr	
RELINQUISHED BY	DATE		100	RECEIVI	ED BY		R	ELINQUI	SHED E	3Y		DATE		TIME / J   RECEIVED B	1
RELINQUISHED BY	DATE		E			ABORATORY		ATE -/S	5-9	TIME	45	HEMA	RKS:		



Proje	ect Number: $\frac{28901}{1000}$ Date Logged in: $\frac{41519}{1000}$ Login Person Initials:	
# of	Coolers: Courier:Courier:	llx_
Clier	nt: 6 L E C Project Name:	
If no	o to any, notify the project manager and project manager documents client response below.	
	YES.	<u>NO</u>
1.	Were custody seals/original packing tape intact?	<u> </u>
2.	Are the samples in good condition, i.e. not broken or leaking?	
3.	Are samples within holding times?	
4.	Were the samples received on ice (ice in direct contact with the samples)?	
5.	Is the temperature of the samples between 2-6°C? Temp. 1.8 NOTE: Samples not between 2-6°C that are received at the laboratory on the day of sample collections do not require client notification.	
6.	Do the samples match the COC?	
7.	Were the proper containers used?	
8.	Were the samples collected in White Water lab containers?	
9.	Is there adequate sample volume for requested analyses and QC?	
10.	Do water VOC samples contain headspace less than the size of a pea?	9
	Are samples preserved to the proper pH? If no, identify sample bottle and	<u> </u>
12.	. Is the chain of custody signed?	·
13.	. Is sub-sampling required? (Note bottles created and preserved below.)	
14.	For Dissolved Analysis, were samples filtered in the lab?	
15.	. Were encores received? (VOC analysis)	
	. Were soil VOCs preserved with methanol in the lab?	-
17.	. Is client contact necessary? Provide documentation below.	
	BP asked about parameters	
CL	LIENT RESPONSE (Provide date/time of contact, client response and project manager initials)	

North	Shore	Analy	tical,	Inc.
-------	-------	-------	--------	------

Record #: 4511 W. 1st St., Suite #1

STF-COC-001 Revision Number: 5 Revision Date: 05/01/06

Duluth, MN 55807 Phone (218) 729-4658 Fax (218) 729-4659

Chain of Custody

Client Name	11)(1	JA	•			Report to:	Prem	<b>3</b>	Sampled by:	
Address	429	Viver Lane				Phone:	Preum Xo GZZ	7889	Project:	
City	Amo	20	State	Zip 499	03	Fax:				
NSA Lab#	Bottle #	Client Sample Identification	Date Collected	Time Collected	Matrix	Samr Grab	Composite	Container/ * Preservation	Anal	ysis Requested
		28901-1A							<u> </u>	
	357.53	21								
	360.58									
	172.56	4								
	260.58								<u> </u>	
	572.59	(2								
	1	<u> </u>								
		1								
							-			
			1	1						
			<del>                                     </del>	1.						
Transfer #	·	Relinquished By	Date	Time		Accepted I	Зу	Date	Time	Condition
1	Cha	11.04	4-15-9	15:00						
2	1	(Live )	T							
3	1		<u> </u>							
4	+			<b>†</b>						
1	AL COMME	NTS:								
I am laval s	naroury hoff	les supplied by North Shore An	alvtical?	opening to the second s		Y	70.00	N		
KEY:	Matrix:	ics supplied by frostil citore Au			Containers	S:		Preservation:		
1.	SW = Surface	Water GW = Groun	d Water		P = Plastic	T = Teflon/Flu	oropolymer	NA = None Add		
Lab use	WW = Waster		ing Water		G = Glass			H = Hydrochlori		
70 (CAR CAR CAR CAR CAR CAR CAR CAR CAR CAR	P = Precipitati				B = Plastic B	B = Plastic Bag			onochloride	

### North Shore Analytical, Inc.

4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone (218) 729-4658 Fax (218) 729-4659

Record #: 10654	
-----------------	--

STF-COC-001 Revision Number: 5

Revision Number: 5
Revision Date: 05/01/06

Chain of Custody

Client Name	WU	) A				R	eport to:	Preum	ے		Sampled by:				
Address	429	River Lane				Pi	hone: Q E	Preum Xo & ZZ	7	889	Project:	***			
City	Amo	ma.	State M	Zip G Si Ci	03	Pi	ax:		-						
NSA Lab#	Bottle #	Client Sample Identification	Date Collected	Time Collected	Matrix	F	Sam Grab	ple Type Composite		Container/ reservation	Ana	lvsis R	equested		
37914	421. 57	7.8901-1A	4/19/09		JAI		×			3/		4		On	e-W
37915	359.58	21	TYPE				X			H.	•				Z-W
37916	360.58	3.		<u> </u>		一	X			<del>}</del>				70	P-14
27917	172.56	4	4/14/09			1	×			3/				IA	LP-h -W
37918	260.58	5 .					×			3/.				MU	1 393
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					À										
Transfer#		Relinguished By	Date	Time			ccepted I	Зу	T	Date	Time		Condition		•
1	Chap	1/95	4-15-9	15:00	Krie	sti	m G	ross	L	1/16/09	10:00	ok/			
2	U				*					-141					
3					14 14										
4					,										
ADDITION	AL COMME	NTS:			-										
Low-level m	ercury bottle	es supplied by North Shore Ana	lytical?			Q	7		N						
KEY:	Matrix:				Containe				1	reservation:					
Paying	SW = Surface V WW = Wastew				P = Plastic	T =	Teflon/Flux	propolymer		A = None Adde			•	İ	
	P = Precipitatio		g water		G = Glass B = Plastic	Rae		•		= Hydrochloric = Bromine Mor					



MDH Lab # 027-137-389 WDNR Lab # 399017190 4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone: (218) 729-4658 Fax: (218) 729-4659

### Analytical Report

Sample Information:

White Water Associates, Inc.

Attn: Dr. Bette Premo

429 River Lane PO Box 27

Client:

Amasa, MI 49903

Chain of Custody: 10654 Sampled By:

Date Reported: 4/21/2009

Phone: (906) 822-7889 Fax: (906) 822-7977 Method: EPA 1631

	Laboratory	Метсигу			MDL
Sample ID	ID#	(ng/L)	Sample Date	Analysis Date	(ng/L)
28901-1A	37914	< 0.5	4/13/2009	4/17/2009	0.1
28901-2A	37915	9.2	4/13/2009	4/20/2009	0.1
28901-3A	37916	1.8	4/13/2009	4/20/2009	0.1
28901-4A	37917	3.0	4/14/2009	4/20/2009	0.1
28901-5A	37918	< 0.5	4/14/2009	4/20/2009	0.1
28901-6A	37919	< 0.5	4/14/2009	4/20/2009	0.1

Low-level mercury results are reagent blank corrected.

Reviewed By:

If you have any questions regarding this report, please call (218) 729-4658.

Sincerely,

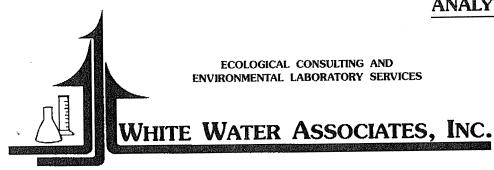
Linda Christensen Chemical Engineer



# WHITE WATER ASSOCIATES, INC.

### **Cover Page**

Client: Great Lal	ces Environmental Center	WWA Job #: 28908			
Project: Date Received:	Monitoring DTE Monroe, MI 4/16/2009	Sample Matrix: Date Reported:	Water 6/2/2009		
Sample Number	Client Sample ID	Date Sampled			
28908-001	MW 381D	04/15/09			
28908-002	MW 384D	04/15/09			
28908-003	SCW	04/15/09			
28908-004	LEIW	04/15/09			
28908-005	Blank LL Hg	04/15/09			



#### Cover Page..continued

Client: Great Lakes Environmental Center

WWA Job #: 28908

Comments (if any):

#### **Key to Laboratory Flags:**

B: The analyte was found in the associated blank as well as in the sample.

J+: The quantitation is an estimated value because the result exceeds the calibration range

J-: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.

M+: A matrix effect was present with a high bias

M-: A matrix effect was present with a low bias

Q: Batch QC data associated with the analysis does not meet the stated objectives

H: Indicates analytical holding time exceedance.

U: The analyte was analyzed for, but not detected.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By

WDNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

IL EPA NELAC Certification Number: 200049



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28908

Project:

Monitoring DTE Monroe, MI

Sample Matrix:

Water

Date Received:

4/16/2009

Date Reported:

6/2/2009

	Hace N	netais - i Ota				
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28908-001 / MW 381D						
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	ND	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004
Calcium (t)	169	mg/L	4/28/2009	6010B	0.04	0.14
Chromium (t)	0.0027	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	ND	mg/L	5/1/2009	7211	0.0006	0.0020
Iron (t)	0.18	mg/L	4/28/2009	6010B	0.04	0.14
Lead (t)	ND	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	55.8	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	1.96	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	0.003 J-	mg/L	4/29/2009	7740	0.001	0.004
Silver (t)	0.0014	mg/L	4/29/2009	6010B	0.0003	0.0010
Sodium (t)	40.9	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28908

Project:

Monitoring DTE Monroe, MI

Sample Matrix:

Water

Date Received:

4/16/2009

Date Reported:

6/2/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28908-002 / MW 384D						
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004
Calcium (t)	518	mg/L	4/30/2009	6010B	0.1	0.3
Chromium (t)	0.0077	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	ND	mg/L	5/1/2009	7211	0.0006	0.0020
Iron (t)	0.04 J-	mg/L	4/28/2009	6010B	0.04	0.14
Lead (t)	ND	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	176	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	3.07	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	0.004 J-	mg/L	4/29/2009	7740	0.001	0.004
Silver (t)	0.0044	mg/L	4/29/2009	6010B	0.0003	0.0010
Sodium (t)	28.9	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03



# WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28908

Project:

Monitoring DTE Monroe, MI

Sample Matrix:

Water

Date Received:

4/16/2009

Date Reported:

6/2/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28908-003 / SCW				,		
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	0.002 J-	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004
Calcium (t)	55.8	mg/L	4/28/2009	6010B	0.04	0.14
Chromium (t)	0.0033	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	0.0016 J-	mg/L	5/1/2009	7211	0.0006	0.0020
Lead (t)	0.0011 J-	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	14.1	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	2.86	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	0.001 J-	mg/L	4/29/2009	7740	0.001	0.004
Silver (t)	0.0005 J-	mg/L	4/29/2009	6010B	0.0003	0.0010
Sodium (t)	24.6	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03



# VHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28908

Project:

Monitoring DTE Monroe, MI

Sample Matrix:

Water

Date Received:

4/16/2009

Date Reported:

6/2/2009

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28908-004 / LEIW						
Antimony (t)	ND	mg/L	4/23/2009	7041	0.001	0.004
Arsenic (t)	0.001 J-	mg/L	4/28/2009	7060	0.001	0.004
Beryllium (t)	ND	mg/L	4/29/2009	6010B	0.0001	0.0004
Cadmium (t)	ND	mg/L	5/6/2009	7131	0.00008	0.0004
Calcium (t)	41.9	mg/L	4/28/2009	6010B	0.04	0.14
Chromium (t)	0.0026	mg/L	4/29/2009	6010B	0.0006	0.0020
Copper (t)	0.0012 J-	mg/L	5/1/2009	7211	0.0006	0.0020
Lead (t)	0.0016 J-	mg/L	4/30/2009	7421	0.0006	0.0020
Magnesium (t)	11.5	mg/L	4/28/2009	6010B	0.02	0.06
Nickel (t)	ND	mg/L	4/29/2009	6010B	0.003	0.010
Potassium (t)	1.95	mg/L	4/28/2009	6010B	0.05	0.20
Selenium (t)	ND	mg/L	4/29/2009	7740	0.001	0.004
Silver (t)	0.0006 J-	mg/L	4/29/2009	6010B	0.0003	0.0010
Sodium (t)	20.6	mg/L	4/28/2009	6010B	0.2	0.6
Thallium (t)	ND M-	mg/L	5/7/2009	7841	0.001	0.004
Zinc (t)	ND	mg/L	4/29/2009	6010B	0.01	0.03



## WHITE WATER ASSOCIATES, INC.

Client: Great Lakes Environmental Center

WWA Job #: 28908

Project:

Monitoring DTE Monroe, MI

Sample Matrix:

Water

Date Received: 4/

4/16/2009

Date Reported:

6/2/2009

### **General Chemistry Parameters**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
28908-001 / MW 381D						
Chemical Oxygen Demand	ND	mg/L	4/21/2009	410.4	6	20
SiO2	5.6 M-	mg/L	5/21/2009	7000	0.3	1.4
Sulfate	417	mg/L	4/23/2009	6010B	1.5	4.5
Turbidity	1.74	NTU's	4/17/2009	180.1	1	1
28908-002 / MW 384D						
Chemical Oxygen Demand	8 J-	mg/L	4/21/2009	410.4	6	20
SiO2	8.9	mg/L	5/21/2009	7000	0.7	2.7
Sulfate	1800	mg/L	4/23/2009	6010B	4	14
Turbidity	ND	NTU's	4/17/2009	180.1	1	1
28908-003 / SCW						
Chemical Oxygen Demand	9 J-	mg/L	4/21/2009	410.4	<b>6</b> .	20
SiO2	8.1	mg/L	5/21/2009	7000	0.7	2.7
Sulfate	53.6	mg/L .	4/23/2009	6010B	0.09	0.27
Turbidity	20.9 2	NTU's	4/17/2009	180.1	2	2
28908-004 / LEIW		•				
Chemical Oxygen Demand	8 J-	mg/L	4/21/2009	410.4	6	20
SiO2	2.9	mg/L	5/21/2009	7000	0.3	1.4
Sulfate	32.5	mg/L	4/23/2009	6010B	0.09	0.27
Turbidity	24.4	NTU's	4/17/2009	180.1	1	1

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 1



MDH Lab # 027-137-389 WDNR Lab # 399017190 4511 W. 1st St., Suite #1 Duluth, MN 55807 Phone: (218) 729-4658 Fax: (218) 729-4659

### Analytical Report

Sample Information:

Date Reported: 4/22/2009

White Water Associates, Inc.

Attn: Dr. Bette Premo 429 River Lane

PO Box 27

Client:

Amasa, MI 49903

Phone: (906) 822-7889 Fax: (906) 822-7977 Chain of Custody: 10665 Sampled By:

Method: EPA 1631

Laboratory	Mercury			MDL
ID#	(ng/L)	Sample Date	Analysis Date	(ng/L)
37949	< 0.5	4/15/2009	4/21/2009	0.1
37950	< 0.5	4/15/2009	4/21/2009	0.1
37951	3.6	4/15/2009	4/21/2009	0.1
37952	5.4	4/15/2009	4/21/2009	0.1
37953	< 0.5	4/15/2009	4/21/2009	0.1
	37949 37950 37951 37952	ID #     (ng/L)       37949     < 0.5	ID #         (ng/L)         Sample Date           37949         < 0.5	ID #         (ng/L)         Sample Date         Analysis Date           37949         < 0.5

Low-level mercury results are reagent blank corrected.

Reviewed By:

If you have any questions regarding this report, please call (218) 729-4658.

APR 2 7 2009

Sincerely

Linda Christensen Chemical Engineer

The results provided above pertain only to the samples indicated. All results provided by NSA should be considered in their entirety, and are strictly for the use of its Customers. NSA is in no way responsible for subsequent use of said results, including, but not limited to, separation, detachment, reproduction, or any other use of any portion thereof, by Customers or third parties.

North Shore Analytical, Inc.

Record # : 0664

STr-COC-001 Revision Number: 5 Revision Date: 05/01/06

20

4511 W. 1<sup>st</sup> St., Suite #1
Duluth, MN 55807
Phone (218) 729-4658

Fax (218) 729-4659

Chain of Custody

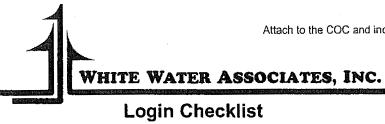
City  Address  Y29 Rives Lane  State Zip 9903  Phone: 906-827-7889  Project:  State Time Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure  NSA Lab # Bottle # Client Sample Identification Collected Matrix Grab Composite Preservation Analysis Report to: Brewnon Structure Identification Collected Collected Matrix Grab Composite Preservation Analysis Report To: Brewnon Structure Identification Collected Colle	equested
NSÀ Lab # Bottle # Client Sample Identification Collected Collected Matrix Grab Composite Preservation Analysis Reservation 78.61 Fr3 DI X G/	equested
NSÀ Lab # Bottle # Client Sample Identification	equested
37.94.8 117.61 28906-8 Eff 4-15-9 LUW K G/ LL H9 37.94.8 78.61 FB J DI X	requested
37878 78.61 F13 DI X G/	
37.66.78.61 FB DI X G1	
······································	
***************************************	
Transfer # Relinquished By Date Time Accepted By Date Time	Condition
1 challs 4-16-9 15100 Kristin Gross 4/17/09 10:30 OK	·
2	
3	
4	
ADDITIONAL COMMENTS:	
Low-level mercury bottles supplied by North Shore Analytical?	
KEY: Matrix: Containers: Preservation:	
SW = Surface Water GW = Ground Water P = Plastic: T = Teflon/Fluoropolymer NA = None Added	•
WW = Wastewater DW = Drinking Water G = Glass H = Hydrochloric Acid  B = Plastic Bag B = Bromine Monochloride	•

### CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

			OF-CUS							71474				· · · · · · · · · · · · · · · · · · ·			
J.O.#	CLIENT N	IAME GROOT	Jakes Er	hivor	ment	Yal			<del>-</del>	<del>. ,</del>			S TYPE	REQUE	STED		
28908	ADDRESS	3739 F	00-210 m	ST		۱۹۲					. H	1/2		V40			
SAMPLER'S SIGNATURE	PHONE #	Trave	Jakes Er Bokton 1957/1065 15e lite	M	496	PC.	NO. OF			100					/ /	·	
San Rot		(231)	741-22	05.			TAIN-	/	/_/	/ /	78 /				′ /		8
SAMPLE	SAMPLE	TIME	DATE	<del></del>	PLE TY		ERS		3	/4	ข/ู่	3/6					
LOCATION	1.D.#			GRAB	COMPOSITE	MATRIX		/ >	<u>/</u>			<u> </u>			REM SEE POOL	IARKS:	429 Rin Amasa Phone
mw 381Dr	Mintocin	1050	4/15/09	Χ			1	*	ኦ	X	χ	7			Be Bu	**************************************	429 River Lane, P Amasa, Michigan Phone (906) 822-
mw 381Dr	C) Monrock	E 1240	4/15/19	X			1	X	X	x	L	X					ane, P. shigan ) 822-7
DIE ENSE	SCW	1430	415/09	X			١	4	+		X	X					429 River Lane, P.O. Box 27 Amasa, Michigan 49903 Phone (906) 822-7373, Fax -7977
DIE ENSOR WIT	LEIW	1530	415/0	X			١	7	1		4	K		<u></u>		•••	x -797
<u> </u>	Blask	1530	415/09	1/4				X				<u></u>					77
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RELINQUISHED BY	DATE	·	1 <u>-</u>	A	191	11	Ø		t-((	9-9	Ì	30					

12345

Attach to the COC and include with the final report.



Proj	ect Number: $\frac{28908}{}$ Date Logged in: $\frac{4}{16}$ Login Person Initial		
# of	Coolers: Courier: FC	dex	
Clie	nt: Project Name:		·
If no	to any, notify the project manager and project manager documents client response bel	ow.	
		<u>YES</u>	NO
1.	Were custody seals/original packing tape intact?		
2.	Are the samples in good condition, i.e. not broken or leaking?	<u>'</u>	
3.	Are samples within holding times?	<u>~</u>	
4.	Were the samples received on ice (ice in direct contact with the samples)?	~	
5.	Is the temperature of the samples between 2-6°C? Temp  NOTE: Samples not between 2-6°C that are received at the laboratory on the day of sample collections do not require client notification.		
6.	Do the samples match the COC?	<u></u>	
7.	Were the proper containers used?	<u>~</u>	
8.	Were the samples collected in White Water lab containers?		
9.	Is there adequate sample volume for requested analyses and QC?		<u> </u>
10.	Do water VOC samples contain headspace less than the size of a pea?	<u>La</u>	· ——
11.	Are samples preserved to the proper pH? If no, identify sample bottle and preservative, adjust to the proper pH, and note below.		
12.	Is the chain of custody signed?	<u></u>	
13.	Is sub-sampling required? (Note bottles created and preserved below.)		<u></u>
14.	For Dissolved Analysis, were samples filtered in the lab?		MIII A.A.
15.	Were encores received? (VOC analysis)		
16.	Were soil VOCs preserved with methanol in the lab?		
17.	Is client contact necessary? Provide documentation below		<u> </u>
co	MMENTS/CORRECTIVE ACTION		
CLI	ENT RESPONSE (Provide date/time of contact, client response and project manager in	iitials)	
			•

bSampleID	SampleDescription	ParamID	Results	Units	RL	L	abQualific AnalysisMethod	AnalysisDate	SampleDate	Analyst	Calibration Date	Calibration Person
07220010	LE1	TKN	0.416	mg/L		0.3	EPA 351.2	8/4/2008	7/22/2008	Ben Cook	8/4/2008	Ben Cook
	SC	TKN	0.906	mg/L		0.3	EPA 351.2	8/4/2008	7/22/2008	Ben Cook	8/4/2008	Ben Cook
707220001	LE2	TKN	0.526	mg/L		0.3	EPA 351.2	8/4/2008		Ben Cook	8/4/2008	Ben Cook
07220002		TKN	0.357	mg/L		0.3	EPA 351.2	8/4/2008		Ben Cook	8/4/2008	Ben Cook
707220003	393		29.8	mg/L		0.5	A2540D	7/29/2008		Ben Cook		Ben Cook
'07220001A	SC	TSS	20.0	mg/L		0.5	A2540D	7/29/2008		Ben Cook		Ben Cook
<sup>-</sup> 07220001B	SC	TSS		-		0.5	A2540D	7/29/2008		Ben Cook		Ben Cook
07220002	LE2	TSS	2.3	mg/L		0.5	A2540D	7/29/2008		Ben Cook		Ben Cook
707220003	393	TSS	24.5	mg/L			A2540D A2540D	7/29/2008			7/29/2008	Ben Cook
707220004	IP	TSS	5.0	mg/L		0.5		7/29/2008			7/29/2008	Ben Cook
707220005	LA	TSS	24.1	mg/L		0.5	A2540D	7/29/2008			7/29/2008	Ben Cook
707220006	381	TSS	1.6	mg/L		0.5	A2540D	7/29/2008			7/30/2008	Ben Cook
707220005	LA	CL	122.64	·		4	A4500CI-E	7/25/2008			7/25/2008	Ben Cook
<sup>*</sup> 07220011A	SC	CHLRPHYLA	0.01740			005	A10200H		7/22/2000		7/25/2008	Ben Cook
<sup>-</sup> 07220011B	SC	CHLRPHYLA	0.01726		0.00		A10200H	7/25/2008			7/25/2008	Ben Cook
07220012	LE1	CHLRPHYLA	0.00194	•		005	A10200H	7/25/2008				Ben Cook
707220013	LE2	CHLRPHYLA	0.00296	_	0.0		A10200H	7/25/2008			7/25/2008	Ben Cook
707220014	IP	CHLRPHYLA	0.00286	mg/L		005	A10200H	7/25/2008			7/25/2008	Ben Cook
707220015	QU	CHLRPHYLA	0.00068	mg/L	0.0	005	A10200H	7/25/2008			7/25/2008	
07220016	LA	CHLRPHYLA	0.03039	mg/L	0.0	005	A10200H	7/25/2008			7/25/2008	Ben Cook
07220001	SC	NO3N	0.347	mg/L	C	0.02	A4500F	7/28/2008			7/28/2008	Ben Cook
07220002	LE2	NO3N	0.745	mg/L	C	0.05	A4500F	7/28/2008			7/28/2008	Ben Cook
07220003	393	NO3N	0.0246	mg/L	0.	005	A4500F	7/28/2008			7/28/2008	Ben Cook
<sup>1</sup> 07220004A	IP	NO3N	< 0.002	mg/L	0.	005	U A4500F	7/28/2008			7/28/2008	Ben Cook
<sup>-</sup> 07220004B	IP	NO3N	<0.002	mg/L	0.	005	U A4500F	7/28/2008			7/28/2008	Ben Cook
07220005	 LA	NO3N	0.0107	mg/L	0.	.005	A4500F	7/28/2008			7/28/2008	Ben Cook
707220006	381	NO3N	0.0459	mg/L	0.	.005	A4500F	7/28/2008			7/28/2008	Ben Cook
07220007	384	NO3N	0.955	mg/L		0.05	A4500F	7/28/2008			7/28/2008	Ben Cook
07220007	QU	NO3N	0.0441	mg/L		.005	A4500F	7/28/2008	3 7/22/200	Ben Cook	7/28/2008	Ben Cook
07220007	384	TSS	13.6	mg/L		0.5	A2540D	7/29/2008	3 7/22/200	Ben Cook	7/29/2008	Ben Cook
07220007	QU	TSS	1.4	mg/L		0.5	A2540D	7/29/2008	8 7/22/200	Ben Cook	7/29/2008	Ben Cook
07220009	391	TSS	8.2	mg/L		0.5	A2540D	7/29/2008	8 7/22/200	B Ben Cook	7/29/2008	Ben Cook
07220009	LE1	TSS	5.6	mg/L		0.5	A2540D	7/29/2008	8 7/22/200	8 Ben Cook	7/29/2008	Ben Cook
	SC	Hardness	148	mg/L		1	A2340C	7/29/2008	8 7/22/200	8 Angela C	7/29/2008	Angela C.
07220001A	SC	Hardness	156	mg/L		1	A2340C	7/29/2008			. 7/29/2008	Angela C.
'07220001B		Hardness	124	mg/L		· 1	A2340C	7/29/2008			. 7/29/2008	Angela C.
07220002	LE2		2330	mg/L		1	A2340C	7/29/2008			. 7/29/2008	Angela C.
07220003	393	Hardness		_		1	A2340C	7/29/2008			. 7/29/2008	Angela C.
07220004	IP.	Hardness	136	mg/L		1	A2340C	7/29/200			. 7/29/2008	Angela C.
707220005	LA	Hardness	268	mg/L		-	A2340C A2340C	7/29/200			. 7/29/2008	Angela C.
707220006	381	Hardness	656	mg/L		1	A2340C A2340C	7/29/200			. 7/29/2008	Angela C.
707220007	384	Hardness	2200	mg/L		1		7/29/200			. 7/29/2008	Angela C.
707220008	QU	Hardness	512	mg/L		1	A2340C				. 7/29/2008	Angela C.
707220009	391	Hardness	368	mg/L		1	A2340C	7/29/200			. 7/29/2008	Angela C.
707220010	LE1	Hardness	136	mg/L		1	A2340C	7/29/200				Ben Cook
07220001	SC	CL	41.97	mg/L		1	A4500CI-E	7/30/200	-		< 7/30/2008	Angela C.
07220007	384	NH3N	<0.5	mg/L		0.5	U A4500NH3D	7/29/200	0 11221200	o Angela C	. 7/29/2008	raigeia O.

				"	0.5.11	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
07220008	QU	NH3N	<0.5	mg/L	0.5 U		7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
07220009	391	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
07220010	LE1	NH3N		mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
<sup>1</sup> 07220001A	SC	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
<sup>-</sup> 07220001B	SC	NH3N	<0.5	mg/L	0.5 U	A4500NH3D		7/22/2008 Angela C. 7/29/2008	Angela C.
707220002	LE2	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
07220003	393	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
707220004	IP	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	7/29/2008		Angela C.
707220005	LA	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Ben Cook
'07220001A	SC	COLOR	189	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
<sup>*</sup> 07220001B	SC	COLOR	188	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220002	LE2	COLOR	39	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220003	393	COLOR	74	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220004	IP	COLOR	53	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220005	LA	COLOR	81	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220006	381	COLOR	7	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220007	384	COLOR	23	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220008	QU	COLOR	21	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220009	391	COLOR	7	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220010	LE1	COLOR	28	mg/L	5	A2120C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220006	381	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	7/29/2008	7/22/2008 Angela C. 7/29/2008	Angela C.
07220002	LE2	Alkalinity	98	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220003	393	Alkalinity	436	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220004	IP	Alkalinity	132	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220005	LA	Alkalinity	134	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220006	381	Alkalinity	276	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220007	384	Alkalinity	382	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220007	QU	Alkalinity	98	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220009	391	Alkalinity	356	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220009	LE1	Alkalinity	96	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	Ben Cook
07220010	LE2	TP	0.0362	mg/L	0.003	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220002	393	TP	0.0484	mg/L	0.003	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220003 07220004A	IP	TP	0.0785	mg/L	0.003	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220004A	SC	NO2N	0.0242	mg/L	0.005	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
*	SC	NO2N	0.0247	mg/L	0.005	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220001B	LE2	NO2N NO2N	0.0293	mg/L	0.005	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220002	393	NO2N NO2N	0.0046	mg/L	0.005 J	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220003		TDS	3015	mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220007	384	TDS	959		5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220008	QU		516	mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220009	391	TDS		mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220010	LE1	TDS	194	mg/L	0.003	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
<sup>-</sup> 07220004B	IP	TP	0.0781	mg/L			7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220007	384	TP	0.0029	mg/L	0.003 J	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220008	QU	TP	0.0032	mg/L	0.003	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
707220009	391	TP	0.0046	mg/L	0.003	A4500PF	7/24/2008 7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
707220010	LE1	TP	0.0456	mg/L	0.003	A4500PF	112412008	112212000 Dell Cook 112412000	DON COOK

07220001	SC	TP	0.0735	mg/L	0.003	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220005	LA	TP		mg/L	0.009	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220006	381	TP		mg/L	0.009	A4500PF	7/24/2008	7/22/2008 Ben Cook 7/24/2008	Ben Cook
07220004	IP	NO2N	<0.0011		0.005 U	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220004	LA	NO2N		mg/L	0.005 J	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220005	381	NO2N	<0.0011	•	0.005 U	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220007	384	NO2N	<0.0011	_	0.005 U	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220007	QU	NO2N	<0.0011		0.005 U	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220009	391	NO2N		mg/L	0.005	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220009	LE1	NO2N	0.0230	mg/L	0.005	A4500B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220010 07220001A	SC	TDS	260	mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
· ·	SC	TDS	261	mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
'07220001B		TDS	177	mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220002	LE2	TDS	3277	mg/L	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220003	393		241	•	5	A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220004	IP	TDS		mg/L	5	A2540C A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220005	LA	TDS	506	mg/L	5 5	A2540C A2540C	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220006	381	TDS	978	mg/L		A4500F	7/28/2008	7/22/2008 Ben Cook 7/28/2008	
07220010	LE1	NO3N	0.92	mg/L	0.1		7/28/2008	7/22/2008 Ben Cook 7/28/2008	
07220009	391	NO3N	0.197	mg/L	0.015	A4500F		7/22/2008 Ben Cook 7/30/2008 7/22/2008 Ben Cook 7/30/2008	
07220002	LE2	CL	23.33	mg/L	1	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008 7/22/2008 Ben Cook 7/30/2008	
07220003	393	CL	113.11	mg/L	4	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008 7/22/2008 Ben Cook 7/30/2008	
<sup>-</sup> 07220004A	IP	CL	49.19	mg/L	1	A4500CI-E	7/30/2008		
*07220004B	IP	CL	49.74	mg/L	. 1	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008	
707220006	381	CL	95.18	mg/L	3	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008	
07220007	384	CL	44.07	mg/L	1	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008	
07220008	QU	CL	199.75	mg/L	10	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008	
07220009	391	CL	52.51	mg/L	1	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008	
707220010	LE1	CL	26.04	mg/L	1	A4500CI-E	7/30/2008	7/22/2008 Ben Cook 7/30/2008	
707220003	393	SRP	<0.0005	mg/L	0.003 U	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
<sup>-</sup> 07220004A	IP	SRP	0.0223	mg/L	0.003	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
<sup>1</sup> 07220004B	IP	SRP	0.0231	mg/L	0.003	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
07220005	LA	SRP	0.0034	mg/L	0.003	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
707220006	381	SRP	0.0368	mg/L	0.003	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
707220007	384	SRP	<0.0005	mg/L	0.003 U	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
07220001	SC	BOD	2.6	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220002	LE2	BOD	1.2	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220003	393	BOD	0.8	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220004	IP	BOD	1.6	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220005	LA	BOD	11.7	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220006	381	BOD	0.6	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220007	384	BOD	1.2	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
707220008	QU	BOD	1.0	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220009	391	BOD	0.5	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	
07220009	LE1	BOD	0.8	mg/L	0.2	A5210B	7/23/2008	7/22/2008 Ben Cook 7/23/2008	Ben Cook
07220010 07220001A	SC	Alkalinity	124	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
07220001A	SC	Alkalinity	128	mg/L	2	A2320B	7/31/2008	7/22/2008 Ben Cook 7/31/2008	
0/2200016	30	$\Delta$ INAIII III.y	120	mg/L	_	, ,20200	.,0.,200		

07220008	QU	SRP	< 0.0005	mg/L	0.003 U	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/	31/2008	Ben Cook
07220009	391	SRP	< 0.0005	mg/L	0.003 U	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/	31/2008	Ben Cook
07220010	LE1	SRP	0.0134	mg/L	0.003	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/	31/2008	Ben Cook
07220001	SC	SRP	< 0.0005	mg/L	0.003 U	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/	/31/2008	Ben Cook
07220002	LE2	SRP	0.0070	mg/L	0.003	EPA 365.1	7/31/2008	7/22/2008 Ben Cook 7/	/31/2008	Ben Cook
07220004A	IP	TKN	0.790	ma/L	0.3	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook
07220004B	iP	TKN	0.760	mg/L	0.3	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook
07220005	LA	TKN	2.006	ma/L	0.3	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook
707220006	381	TKN	0.154	ma/L	0.3 J	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook
07220007	384	TKN	0.407	ma/L	0.3	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook
07220008	QU.	TKN	0.224	ma/L	0.3 J	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook
07220009	391	TKN	0.253	mg/L	0.3 J	EPA 351.2	8/4/2008	7/22/2008 Ben Cook 8/	/4/2008	Ben Cook

LabSampleID	SampleDe	e ParamID	Results	Units	RL Lab	Qualific AnalysisMetl A	AnalysisDate	SampleDate	Analyst	Calibration Date	Calibration Person
DT10220024	391	CL	37.33	mg/L	1	A4500CI-E	10/27/2008			10/27/2008	Ben Cook
DT10220021	284	CL	39.43	mg/L	1	A4500CI-E	10/27/2008	10/22/2008	Ben Cook	10/27/2008	Ben Cook
DT10220026	IUPW	CL	29.89	mg/L	1	A4500CI-E	10/27/2008	10/22/2008	Ben Cook	10/27/2008	Ben Cook
DT10210018	LA-W	CL	149.27	mg/L	5	A4500CI-E	10/27/2008	10/21/2008	Ben Cook	10/27/2008	Ben Cook
DT10210021	QU-W	CL	123.62	mg/L	5	A4500CI-E	10/27/2008	10/21/2008	Ben Cook	10/27/2008	Ben Cook
DT10220022	381	CL	83.35	mg/L	4	A4500CI-E	10/27/2008	10/22/2008	Ben Cook	10/27/2008	Ben Cook
DT10210017A	SC-W	CL	50.61	mg/L	1	A4500CI-E	10/27/2008	10/21/2008	Ben Cook	10/27/2008	Ben Cook
DT10210017B	SC-W	CL	50.51	mg/L	1	A4500CI-E	10/27/2008	10/21/2008	Ben Cook	10/27/2008	Ben Cook
DT10210019	LE1-W	CL	18.14	mg/L	1	A4500CI-E	10/27/2008	10/21/2008	Ben Cook	10/27/2008	Ben Cook
DT10210020	LE2-W	CL	44.32	mg/L	1	A4500CI-E	10/27/2008	10/21/2008	Ben Cook	10/27/2008	Ben Cook
DT10220023	393	CL	40.64	mg/L	1	A4500CI-E	10/27/2008	10/22/2008	Ben Cook	10/27/2008	Ben Cook
DT10210017B	SC-W	NO3N	< 0.002	mg/L	0.005 U	A4500F	10/29/2008	10/21/2008	Ben Cook	10/29/2008	Ben Cook
DT10220025	284	NO3N	< 0.002	mg/L	0.005 U	A4500F	10/29/2008	10/22/2008	Ben Cook	10/29/2008	Ben Cook
DT10220026	IUPW	NO3N	0.0165	mg/L	0.005	A4500F	10/29/2008	10/22/2008	Ben Cook	10/29/2008	Ben Cook
DT10210018	LA-W	TDS	643	mg/L	5	A2540C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook
DT10210019	LE1-W	TDS	165	mg/L	5	A2540C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook
DT10210020	LE2-W	TDS	162	mg/L	5	A2540C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook
DT10210021	QU-W	TDS	939	mg/L	5	A2540C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook
DT10220022A	381	TDS	918	mg/L	5	A2540C	10/23/2008			10/23/2008	Ben Cook
DT10220022B	381	TDS	948	mg/L	5	A2540C	10/23/2008			10/23/2008	Ben Cook
DT10220023	393	TDS	1620	mg/L	5	A2540C	10/23/2008		Ben Cook	10/23/2008	Ben Cook
DT10220024	391	TDS	499	mg/L	5	A2540C	10/23/2008			10/23/2008	Ben Cook
DT10210017A	SC-W	Color	93	mg/L	0	A2120C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook
DT10210017B	SC-W	Color	94	mg/L	0	A2120C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook
DT10210018	LA-W	Color	82	mg/L	0	A2120C	10/22/2008			10/22/2008	Ben Cook
DT10210019	LE1-W	Color	9	mg/L	0	A2120C	10/22/2008			10/22/2008	Ben Cook
DT10210020	LE2-W	Color	27	mg/L	0	A2120C	10/22/2008			10/22/2008	Ben Cook
DT10210021	QU-W	Color	70	mg/L	0	A2120C	10/22/2008			10/22/2008	Ben Cook
DT10220022A	381	Color	7	mg/L	0	A2120C	10/23/2008			10/23/2008	Ben Cook
DT10220022B	381	Color	8	mg/L	0	A2120C	10/23/2008			10/23/2008	Ben Cook
DT10220023	393	Color	18	mg/L	0	A2120C	10/23/2008			10/23/2008	Ben Cook
DT10220024	391	Color	14	mg/L	0	A2120C	10/23/2008			10/23/2008	Ben Cook
DT10220025	284	Color	130	mg/L	0	A2120C	10/23/2008			10/23/2008	Ben Cook
DT10220026	IUPW	Color	215	mg/L	0	A2120C	10/23/2008			10/23/2008	Ben Cook
DT10210017A	SC-W	TSS	20.7	mg/L	0.5	A2540D	10/22/2008			10/22/2008	Ben Cook
DT10220025	284	TDS	2787	mg/L	-5	A2540C	10/23/2008			10/23/2008	Ben Cook
DT10220026	IUPW	TDS	225	mg/L	5	A2540C	10/23/2008			10/23/2008	Ben Cook
DT10210017A	SC-W	TDS	275	mg/L	5	A2540C	10/22/2008	10/21/2008	Ben Cook	10/22/2008	Ben Cook

DT10210017B	SC-W	TDS	272	mg/L	5	A2540C	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210017B	SC-W	Alkalinity	120	mg/L	2	A2320B	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210017A	SC-W	Alkalinity	122	mg/L	2	A2320B	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210017B	LA-W	Alkalinity	154	mg/L	2	A2320B	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210010	LE1-W	Alkalinity	88	mg/L	2	A2320B	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210019	LE2-W	Alkalinity	94	mg/L	2	A2320B	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210020	QU-W	Alkalinity	102	mg/L	2	A2320B	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210021	381	Alkalinity	254	mg/L	2	A2320B	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220022	393	Alkalinity	306	mg/L	2	A2320B	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220024	391	Alkalinity	168	mg/L	2	A2320B	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT1022002+	284	Alkalinity	432	mg/L	2	A2320B	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220026	IUPW	Alkalinity	140	mg/L	2	A2320B	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220020	SC-W	Hardness	188	mg/L	1	A2340C	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210017K	SC-W	Hardness	184	mg/L	1	A2340C	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT102100112	LA-W	Hardness	336	mg/L	1	A2340C	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210019	LE1-W	Hardness	112	mg/L	1	A2340C	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210010	LE2-W	Hardness	120	mg/L	1	A2340C	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10210021	QU-W	Hardness	548	mg/L	1	A2340C	10/30/2008	10/21/2008 Ben Cook 10/30/2008	Ben Cook
DT10220022	381	Hardness	620	mg/L	1	A2340C	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220023	393	Hardness	1180	mg/L	1	A2340C	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220024	391	Hardness	352	mg/L	1	A2340C	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220025	284	Hardness	2168	mg/L	1	A2340C	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220026	IUPW	Hardness	128	mg/L	1	A2340C	10/30/2008	10/22/2008 Ben Cook 10/30/2008	Ben Cook
DT10220022	381	BOD	1.0	mg/L	0.2	A5210B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220023	393	BOD	1.2	mg/L	0.2	A5210B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10210017A	SC-W	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/21/2008 Ben Cook 11/5/2008	Ben Cook
DT10210017B	SC-W	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/21/2008 Ben Cook 11/5/2008	Ben Cook
DT10210018	LA-W	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/21/2008 Ben Cook 11/5/2008	Ben Cook
DT10210021	QU-W	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/21/2008 Ben Cook 11/5/2008	Ben Cook
DT10220022	381	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/22/2008 Ben Cook 11/5/2008	Ben Cook
DT10220023	393	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/22/2008 Ben Cook 11/5/2008	Ben Cook
DT10220024	391	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/22/2008 Ben Cook 11/5/2008	Ben Cook
DT10220025	284	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/22/2008 Ben Cook 11/5/2008	Ben Cook
DT10220026	IUPW	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/22/2008 Ben Cook 11/5/2008	Ben Cook
DT10210019	LE1-W	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/21/2008 Ben Cook 11/5/2008	Ben Cook
DT10210020	LE2-W	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	11/5/2008	10/21/2008 Ben Cook 11/5/2008	Ben Cook
DT10210027	SC-W	CHLRPH'	YL 0.0167	74 mg/L	0.0005	A10200H	10/24/2008	10/21/2008 Ben Cook 10/24/2008	Ben Cook
DT10210028	LA-W	CHLRPH'	Yl 0.0222	21 mg/L	0.0005	A10200H	10/24/2008	10/21/2008 Ben Cook 10/24/2008	Ben Cook
DT10210029	LE1-W	CHLRPH'	Yl 0.0048	33 mg/L	0.0005	A10200H	10/24/2008	10/21/2008 Ben Cook 10/24/2008	Ben Cook

DT40040000	LE2-W	CHI DDH	Yl 0.00332	ma/l	0.0005	A10200H	10/24/2008	10/21/2008 Ben Cook 10/24/2008	Ben Cook
DT10210030	QU-W		YL 0.00059		0.0005	A10200H	10/24/2008	10/21/2008 Ben Cook 10/24/2008	Ben Cook
DT10210031A	QU-W QU-W		YL 0.00059	-	0.0005	A10200H	10/24/2008	10/21/2008 Ben Cook 10/24/2008	Ben Cook
DT10210031B	IUPW		Yl 0.02060	-	0.0005	A10200H	10/24/2008	10/22/2008 Ben Cook 10/24/2008	Ben Cook
DT10220032A	IUPW		YI 0.02050	_	0.0005	A10200H	10/24/2008	10/22/2008 Ben Cook 10/24/2008	Ben Cook
DT10220032B		TSS		mg/L	0.5	A2540D	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210017B	SC-W	TSS		mg/L	0.5	A2540D	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210018	LA-W	TSS		mg/L	0.5	A2540D	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210019	LE1-W	TSS		mg/L	0.5	A2540D	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210020	LE2-W	TSS		mg/L	0.5	A2540D	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210021	QU-W			_	0.5	A2540D	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220022A	381	TSS		mg/L	0.5	A2540D	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220022B	381	TSS		mg/L	0.5	A2540D	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220023	393	TSS		mg/L	0.5	A2540D	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220024	391	TSS		mg/L	0.5	A2540D	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220025	284	TSS		mg/L	0.5	A2540D A2540D	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220026	IUPW	TSS	29.4	mg/L	0.003	A4500PF	10/28/2008	10/21/2008 Ben Cook 10/28/2008	Ben Cook
DT10210017A	SC-W	TP		mg/L	0.003	A4500PF	10/28/2008	10/21/2008 Ben Cook 10/28/2008	Ben Cook
DT10210017B	SC-W	TP	0.0460	mg/L	0.003	A4500PF	10/28/2008	10/21/2008 Ben Cook 10/28/2008	Ben Cook
DT10210018	LA-W	TP	0.0353	mg/L		A4500PF	10/28/2008	10/21/2008 Ben Cook 10/28/2008	Ben Cook
DT10210019	LE1-W	TP	0.0189	mg/L	0.003	A4500PF	10/28/2008	10/21/2008 Ben Cook 10/28/2008	Ben Cook
DT10210020	LE2-W	TP	0.0280	mg/L	0.003	A4500PF	10/28/2008	10/21/2008 Ben Cook 10/28/2008	Ben Cook
DT10210021	QU-W	TP	0.0024	mg/L	0.003 J	A4500FF	10/28/2008	10/22/2008 Ben Cook 10/28/2008	Ben Cook
DT10220022	381	TP	0.0028	mg/L	0.003 J	A4500PF	10/28/2008	10/22/2008 Ben Cook 10/28/2008	Ben Cook
DT10220023	393	TP	0.0114	mg/L	0.003	A4500PF	10/28/2008	10/22/2008 Ben Cook 10/28/2008	Ben Cook
DT10220024	391	TP	0.0011	mg/L	0.003 J	A4500PF A4500PF	10/28/2008	10/22/2008 Ben Cook 10/28/2008	Ben Cook
DT10220025	284	TP	0.0025	mg/L	0.003 J		10/28/2008	10/22/2008 Ben Cook 10/28/2008	Ben Cook
DT10220026	IUPW	TP	0.0678	mg/L	0.003	A4500PF	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220024	391	BOD	0.8	mg/L	0.2	A5210B		10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220025	284	BOD	2.2	mg/L	0.2	A5210B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220026	IUPW	BOD	9.0	mg/L	0.2	A5210B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10210017	SC-W	BOD	5.2	mg/L	0.2	A5210B	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210018	LA-W	BOD	6.9	mg/L	0.2	A5210B	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210019	LE1-W	BOD	1.8	mg/L	0.2	A5210B	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210020	LE2-W	BOD	1.7	mg/L	0.2	A5210B	10/22/2008	10/21/2008 Ben Cook 10/22/2008	Ben Cook
DT10210021	QU-W	BOD	1.1	mg/L	0.2	A5210B	10/22/2008		Ben Cook
DT10210021	QU-W	NO3N	<0.002	mg/L	0.005 U	A4500F	10/29/2008	10/21/2008 Ben Cook 10/29/2008	Ben Cook
DT10220022	381	NO3N	<0.002	mg/L	0.005 U	A4500F	10/29/2008	10/22/2008 Ben Cook 10/29/2008	Ben Cook
DT10220023	393	NO3N	<0.002	mg/L	0.005 U	A4500F	10/29/2008	10/22/2008 Ben Cook 10/29/2008	Ben Cook
DT10220024	391	NO3N	0.0596	mg/L	0.005	A4500F	10/29/2008	10/22/2008 Ben Cook 10/29/2008	Dell Cook

DT10210018	LA-W	NO3N	0.310 r	mg/L	0.015	A4500F	10/29/2008	10/21/2008 Ben Cook 10/29/2008	Ben Cook
DT10210010	LE1-W	NO3N		mg/L	0.05	A4500F	10/29/2008	10/21/2008 Ben Cook 10/29/2008	Ben Cook
DT10210010	LE2-W	NO3N		mg/L	0.05	A4500F	10/29/2008	10/21/2008 Ben Cook 10/29/2008	Ben Cook
DT10210020	SC-W	NO3N		mg/L	0.005 U	A4500F	10/29/2008	10/21/2008 Ben Cook 10/29/2008	Ben Cook
DT102100177	LA-W	SRP		mg/L	0.003	EPA 365.1	10/31/2008	10/21/2008 Ben Cook 10/31/2008	Ben Cook
DT10210010	LE1-W	SRP		mg/L	0.003	EPA 365.1	10/31/2008	10/21/2008 Ben Cook 10/31/2008	Ben Cook
DT10210010	LE2-W	SRP		mg/L	0.003	EPA 365.1	10/31/2008	10/21/2008 Ben Cook 10/31/2008	Ben Cook
DT10210020	QU-W	SRP		mg/L	0.003 J	EPA 365.1	10/31/2008	10/21/2008 Ben Cook 10/31/2008	Ben Cook
DT10220025	284	SRP		mg/L	0.003 J	EPA 365.1	10/31/2008	10/22/2008 Ben Cook 10/31/2008	Ben Cook
DT10220026	IUPW	SRP		mg/L	0.003	EPA 365.1	10/31/2008	10/22/2008 Ben Cook 10/31/2008	Ben Cook
DT10210017A	SC-W	SRP		mg/L	0.003	EPA 365.1	10/31/2008	10/21/2008 Ben Cook 10/31/2008	Ben Cook
DT10210017B	SC-W	SRP		mg/L	0.003	EPA 365.1	10/31/2008	10/21/2008 Ben Cook 10/31/2008	Ben Cook
DT10220022	381	SRP		mg/L	0.003 J	EPA 365.1	10/31/2008	10/22/2008 Ben Cook 10/31/2008	Ben Cook
DT10220023	393	SRP		mg/L	0.003 J	EPA 365.1	10/31/2008	10/22/2008 Ben Cook 10/31/2008	Ben Cook
DT10220024	391	SRP		mg/L	0.003 J	EPA 365.1	10/31/2008	10/22/2008 Ben Cook 10/31/2008	Ben Cook
DT10210017A	SC-W	TKN		mg/L	0.3	EPA 351.2	11/3/2008	10/21/2008 Ben Cook 11/3/2008	Ben Cook
DT10210017B	SC-W	TKN		mg/L	0.3	EPA 351.2	11/3/2008	10/21/2008 Ben Cook 11/3/2008	Ben Cook
DT10210018	LA-W	TKN		mg/L	0.3	EPA 351.2	11/3/2008	10/21/2008 Ben Cook 11/3/2008	Ben Cook
DT10210019	LE1-W	TKN		mg/L	0.3 J	EPA 351.2	11/3/2008	10/21/2008 Ben Cook 11/3/2008	Ben Cook
DT10210020	LE2-W	TKN		mg/L	0.3	EPA 351.2	11/3/2008	10/21/2008 Ben Cook 11/3/2008	Ben Cook
DT10210021	QU-W	TKN		mg/L	0.3 J	EPA 351.2	11/3/2008	10/21/2008 Ben Cook 11/3/2008	Ben Cook
DT10220022	381	TKN		mg/L	0.3 J	EPA 351.2	11/3/2008	10/22/2008 Ben Cook 11/3/2008	Ben Cook
DT10220023	393	TKN		mg/L	0.3	EPA 351.2	11/3/2008	10/22/2008 Ben Cook 11/3/2008	Ben Cook
DT10220024	391	TKN	0.061	mg/L	0.3 J	EPA 351.2	11/3/2008	10/22/2008 Ben Cook 11/3/2008	Ben Cook
DT10220025	284	TKN	0.576	mg/L	0.3	EPA 351.2	11/3/2008	10/22/2008 Ben Cook 11/3/2008	Ben Cook
DT10220026	IUPW	TKN	1.379	mg/L	0.3	EPA 351.2	11/3/2008	10/22/2008 Ben Cook 11/3/2008	Ben Cook
DT10210017A	SC-W	NO2N	0.0033	mg/L	0.005 J	A4500B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10210017B	SC-W	NO2N	0.0031	mg/L	0.005 J	A4500B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10210018	LA-W	NO2N	0.0133	mg/L	0.005	A4500B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10210019	LE1-W	NO2N	0.0187	mg/L	0.005	A4500B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10210020	LE2-W	NO2N	0.0188	mg/L	0.005	A4500B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10210021	QU-W	NO2N	<0.0011	mg/L	0.005 U	A4500B	10/23/2008	10/21/2008 Ben Cook 10/23/2008	Ben Cook
DT10220022	381	NO2N	< 0.0011	mg/L	0.005 U	A4500B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220023	393	NO2N	< 0.0011	mg/L	0.005 U	A4500B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220024	391	NO2N	<0.0011	mg/L	0.005 U	A4500B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220025	284	NO2N	0.0021	mg/L	0.005 J	A4500B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook
DT10220026	IUPW	NO2N	0.0357	mg/L	0.005	A4500B	10/23/2008	10/22/2008 Ben Cook 10/23/2008	Ben Cook

LabSampleID	SampleDescription	ParamID	Results	Units	RI	LabQualifier	AnalysisMethod	AnalysisDate	SampleDate	Analyst	Calibration Date	Calibration Person
DT02170033	SCW	TKN	1.069	mg/L	0.3	Lab Quaimor	EPA 351.2	3/12/2009	•	-	3/12/2009	Ben Cook
DT02170034A	393	TKN	1.467	mg/L	0.3		EPA 351.2	3/12/2009			3/12/2009	Ben Cook
DT02170034A	SCW	TSS	29.9	mg/L	0.5		A2540D	2/18/2009			2/18/2009	Ben Cook
DT02170033A	SCW	TSS	29.5	mg/L	0.5		A2540D	2/18/2009			2/18/2009	Ben Cook
DT02170033B	393	TSS	5.7	mg/L	0.5		A2540D	2/18/2009			2/18/2009	Ben Cook
DT02170034 DT02170035	391	TSS	2.0	mg/L	0.5		A2540D	2/18/2009			2/18/2009	Ben Cook
DT02170035 DT02170036	381	TSS	2.7	mg/L	0.5		A2540D	2/18/2009		Ben Cook		Ben Cook
DT02170030 DT02170037	384	TSS	1.9	mg/L	0.5		A2540D	2/18/2009			2/18/2009	Ben Cook
DT02170037 DT02180039A	IUPW	TSS	8.2		0.5		A2540D A2540D	2/19/2009		Ben Cook		Ben Cook
	IUPW	TSS	8.1	mg/L	0.5		A2540D A2540D	2/19/2009		Ben Cook		Ben Cook
DT02180039B			10.5	mg/L			A2540D A2540D	2/19/2009			2/19/2009	Ben Cook
DT02180040	LE2W	TSS		mg/L	0.5			2/19/2009		Ben Cook		Ben Cook
DT02180040	LE2W	TDS	206	mg/L	5		A2540C A2540C	2/19/2009			2/19/2009	Ben Cook
DT02180039A	IUPW	TDS	600	mg/L	5							
DT02180039B	IUPW	TDS	610	mg/L	5		A2540C	2/19/2009			2/19/2009	Ben Cook
DT02170033	SCW-	CL	48.38	mg/L	1		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02170034A	393	CL	40.09	mg/L	1		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02170034B	393	CL	40.20	mg/L	1		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02170035	391	CL	39.06	mg/L	1		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02170037	384	CL	36.39	mg/L	1		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02170036	381	CL	87.21	mg/L	3		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02180039	IUPW	CL	123.32	mg/L	4		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02180040	LE2W	CL	38.72	mg/L	2		A4500CI-E	3/4/2009		Ben Cook		Ben Cook
DT02170034B	393	TKN	1.419	mg/L	0.3		EPA 351.2	3/12/2009		Ben Cook	3/12/2009	Ben Cook
DT02170035	391	TKN	0.420	mg/L	0.3		EPA 351.2	3/12/2009	2/17/2009	Ben Cook	3/12/2009	Ben Cook
DT02170036	381	TKN	0.226	mg/L	0.3	J	EPA 351.2	3/12/2009		Ben Cook	3/12/2009	Ben Cook
DT02170037	384	TKN	0.477	mg/L	0.3		EPA 351.2	3/12/2009		Ben Cook	3/12/2009	Ben Cook
DT02180039	IUPW	TKN	1.110	mg/L	0.3		EPA 351.2	3/12/2009	2/18/2009	Ben Cook	3/12/2009	Ben Cook
DT02180040	LE2W	TKN	0.554	mg/L	0.3		EPA 351.2	3/12/2009	2/18/2009	Ben Cook	3/12/2009	Ben Cook
DT02180039	IUPW	NH3N	<0.5	mg/L	0.5	U	A4500NH3D	3/6/2009	2/18/2009	Ben Cook	3/6/2009	Ben Cook
DT02180040	LE2W	NH3N	<0.5	mg/L	0.5	U	A4500NH3D	3/6/2009	2/18/2009	Ben Cook	3/6/2009	Ben Cook
DT02170033A	SCW	NH3N	<0.5	mg/L	0.5	U	A4500NH3D	3/6/2009	2/17/2009	Ben Cook	3/6/2009	Ben Cook
DT02170033B	SCW	NH3N	< 0.5	mg/L	0.5	U	A4500NH3D	3/6/2009	2/17/2009	Ben Cook	3/6/2009	Ben Cook
DT02170034	393	NH3N	0.88	mg/L	0.5		A4500NH3D	3/6/2009	2/17/2009	Ben Cook	3/6/2009	Ben Cook
DT02170035	391	NH3N	<0.5	mg/L	0.5	U	A4500NH3D	3/6/2009	2/17/2009	Ben Cook	3/6/2009	Ben Cook
DT02170036	381	NH3N	< 0.5	mg/L	0.5	U	A4500NH3D	3/6/2009	2/17/2009	Ben Cook	3/6/2009	Ben Cook
DT02170033A	SCW	TDS	264	mg/L	5		A2540C	2/18/2009	2/17/2009	Ben Cook	2/18/2009	Ben Cook
DT02170033B	SCW	TDS	267	mg/L	5		A2540C	2/18/2009	2/17/2009	Ben Cook	2/18/2009	Ben Cook
DT02170034	393	TDS	1591	mg/L	5		A2540C	2/18/2009		Ben Cook	2/18/2009	Ben Cook
DT02170035	391	TDS	363	mg/L	5		A2540C	2/18/2009	2/17/2009	Ben Cook	2/18/2009	Ben Cook
DT02170036	381	TDS	735	mg/L	5		A2540C	2/18/2009			2/18/2009	Ben Cook
DT02170037	384	TDS	3316	mg/L	5		A2540C	2/18/2009			2/18/2009	Ben Cook
DT02170037	SCW	Color	419	mg/L	0		A2120C	2/18/2009			2/18/2009	Ben Cook
DT02170033	393	Color	85	mg/L	0		A2120C	2/18/2009			2/18/2009	Ben Cook
DT02170035	391	Color	11	mg/L	0		A2120C	2/18/2009			2/18/2009	Ben Cook
DT02170036	381	Color	8	mg/L	0		A2120C	2/18/2009			2/18/2009	Ben Cook
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DT00470027	384	Color	164	mg/L	0	A2120C	2/18/2009	2/17/2009 Ben Cook 2/	18/2009	Ben Cook
DT02170037	IUPW	Color	153	mg/L	0	A2120C	2/19/2009	2/18/2009 Ben Cook 2/	19/2009	Ben Cook
DT02180039	LE2W	Color	99	mg/L	0	A2120C	2/19/2009	2/18/2009 Ben Cook 2/	19/2009	Ben Cook
DT02180040	SCW	NO2N	0.0447	mg/L	0.01	A4500B	2/19/2009	2/17/2009 Ben Cook 2/	19/2009	Ben Cook
DT02170033A	SCW	NO2N	0.0444	mg/L	0.01	A4500B	2/19/2009	2/17/2009 Ben Cook 2/	19/2009	Ben Cook
DT02170033B		NO3N	0.0274	mg/L	0.01	A4500F	2/19/2009	2/17/2009 Ben Cook 2/		Ben Cook
DT02170037	384	SRP	0.0274	mg/L	0	EPA 365.1	2/20/2009	2/17/2009 Ben Cook 2/2	20/2009	Ben Cook
DT02170033A	SCW	SRP	0.0303	mg/L	0	EPA 365.1	2/20/2009	2/17/2009 Ben Cook 2/2	20/2009	Ben Cook
DT02170033B	SCW	SRP	0.0030	mg/L	0	EPA 365.1	2/20/2009	2/17/2009 Ben Cook 2/3		Ben Cook
DT02170034	393	SRP	0.0030	mg/L	0 J	EPA 365.1	2/20/2009	2/17/2009 Ben Cook 2/2		Ben Cook
DT02170035	391	SRP	0.0021	mg/L	0	EPA 365.1	2/20/2009	2/17/2009 Ben Cook 2/		Ben Cook
DT02170036	381	SRP	0.0072	mg/L	0 J	EPA 365.1	2/20/2009	2/17/2009 Ben Cook 2/	/20/2009	Ben Cook
DT02170037	384	SRP	0.0010	mg/L	0	EPA 365.1	2/20/2009	2/18/2009 Ben Cook 2/		Ben Cook
DT02180039	IUPW		0.0099	•	0	EPA 365.1	2/20/2009	2/18/2009 Ben Cook 2/		Ben Cook
DT02180040	LE2W	SRP		mg/L	2	A2320B	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170035	391	Alkalinity	144	mg/L	2	A2320B	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170036	381	Alkalinity	244	mg/L	2	A2320B	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170037	384	Alkalinity	394	mg/L	2	A2320B A2320B	3/2/2009	2/18/2009 Ben Cook 3/		Ben Cook
DT02180039	IUPW	Alkalinity	162	mg/L	2	A2320B	3/2/2009	2/18/2009 Ben Cook 3/		Ben Cook
DT02180040	LE2W	Alkalinity	92	mg/L		A2340C	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170033A	SCW	Hardness	148	mg/L	1	A2340C A2340C	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170033B	SCW	Hardness		mg/L	1	A2340C A2340C	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170034	393	Hardness		mg/L	1	A2340C A2340C	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170035	391	Hardness		mg/L	1		3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170036	381	Hardness		mg/L	1	A2340C	3/2/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170037	384	Hardness		mg/L	1	A2340C	3/2/2009	2/18/2009 Ben Cook 3/		Ben Cook
DT02180039	IUPW	Hardness		mg/L	1	A2340C	3/2/2009	2/18/2009 Ben Cook 3/		Ben Cook
DT02180040	LE2W	Hardness		mg/L	1	A2340C	3/6/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170037	384	NH3N	<0.5	mg/L	0.5 U	A4500NH3D		2/17/2009 Ben Cook 3/		Ben Cook
DT02170038A	SCW	CHLRPHY		-	0	A10200H	3/5/2009 3/5/2009	2/17/2009 Ben Cook 3/		Ben Cook
DT02170038B	SCW	CHLRPHY		-	0	A10200H		2/18/2009 Ben Cook 3/		Ben Cook
DT02180041	IUPW	CHLRPHY		_	0	A10200H	3/5/2009	2/18/2009 Ben Cook 3/		Ben Cook
DT02180042A	LE2W	CHLRPH			0	A10200H	3/5/2009	2/18/2009 Ben Cook 3		Ben Cook
DT02180042B	LE2W	CHLRPH		· · ·	0	A10200H	3/5/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02170034A	393	TP	0.0143	mg/L	0	A4500PF	2/23/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02170034B	393	TP	0.0140	mg/L	0	A4500PF	2/23/2009			Ben Cook
DT02170035	391	TP	0.0064	mg/L	0	A4500PF	2/23/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02170037	384	TP	0.0030	mg/L	0	A4500PF	2/23/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02180039	IUPW	TP	0.0664	mg/L	0	A4500PF	2/23/2009	2/18/2009 Ben Cook 2		Ben Cook
DT02180040	LE2W	TP	0.0408	mg/L	0	A4500PF	2/23/2009	2/18/2009 Ben Cook 2		
DT02170033	SCW	TP	0.116	mg/L	0.01	A4500PF	2/23/2009	2/17/2009 Ben Cook 2		Ben Cook Ben Cook
DT02170036	381	TP	0.0094	mg/L	0	A4500PF	2/23/2009	2/17/2009 Ben Cook 2		
DT02170034	393	NO2N	<0.0011	mg/L	0.01 U	A4500B	2/19/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02170035	391	NO2N	0.0062	mg/L	0.01	A4500B	2/19/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02170036	381	NO2N	<0.0011	mg/L	0.01 U	A4500B	2/19/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02170037	384	NO2N	0.0208	mg/L	0.01	A4500B	2/19/2009	2/17/2009 Ben Cook 2		Ben Cook
DT02180039	IUPW	NO2N	0.0515	mg/L	0.01	A4500B	2/19/2009	2/18/2009 Ben Cook 2	2/ 19/2009	Ben Cook

DT02180040	LE2W	NO2N	0.0173	mg/L	0.01	A4500B	2/19/2009	2/18/2009 Ben Cook 2/19/2009	Ben Cook
DT02170033A	SCW	NO3N	1.08	mg/L	0.1	A4500F	2/19/2009	2/17/2009 Ben Cook 2/19/2009	Ben Cook
DT02170033B	SCW	NO3N	1.08	mg/L	0.1	A4500F	2/19/2009	2/17/2009 Ben Cook 2/19/2009	Ben Cook
DT02170034	393	NO3N	<0.002	mg/L	0.01 U	A4500F	2/19/2009	2/17/2009 Ben Cook 2/19/2009	Ben Cook
DT02170035	391	NO3N	0.418	mg/L	0.08	A4500F	2/19/2009	2/17/2009 Ben Cook 2/19/2009	Ben Cook
DT02170036	381	NO3N	< 0.002	mg/L	0.01 U	A4500F	2/19/2009	2/17/2009 Ben Cook 2/19/2009	Ben Cook
DT02180039	IUPW	NO3N	2.91	mg/L	0.15	A4500F	2/19/2009	2/18/2009 Ben Cook 2/19/2009	Ben Cook
DT02180040	LE2W	NO3N	0.559	mg/L	0.08	A4500F	2/19/2009	2/18/2009 Ben Cook 2/19/2009	Ben Cook
DT02170033A	SCW	Alkalinity	108	mg/L	2	A2320B	3/2/2009	2/17/2009 Ben Cook 3/2/2009	Ben Cook
DT02170033B	SCW	Alkalinity	108	mg/L	2	A2320B	3/2/2009	2/17/2009 Ben Cook 3/2/2009	Ben Cook
DT02170034	393	Alkalinity	320	mg/L	2	A2320B	3/2/2009	2/17/2009 Ben Cook 3/2/2009	Ben Cook
DT02170033	SCW	BOD	3.7	mg/L	0.2	A5210B	2/18/2009	2/17/2009 Ben Cook 2/18/2009	Ben Cook
DT02170034	393	BOD	2.1	mg/L	0.2	A5210B	2/18/2009	2/17/2009 Ben Cook 2/18/2009	Ben Cook
DT02170035	391	BOD	0.8	mg/L	0.2	A5210B	2/18/2009	2/17/2009 Ben Cook 2/18/2009	Ben Cook
DT02170036	381	BOD	0.8	mg/L	0.2	A5210B	2/18/2009	2/17/2009 Ben Cook 2/18/2009	Ben Cook
DT02170037	384	BOD	1.7	mg/L	0.2	A5210B	2/18/2009	2/17/2009 Ben Cook 2/18/2009	Ben Cook
DT02180039	IUPW	BOD	4.0	mg/L	0.2	A5210B	2/19/2009	2/18/2009 Ben Cook 2/19/2009	Ben Cook
DT02180040	LE2W	BOD	4.0	mg/L	0.2	A5210B	2/19/2009	2/18/2009 Ben Cook 2/19/2009	Ben Cook
DT02170038B	SCW	CHLRPH	0.00074	mg/L	0	A10200H	3/5/2009	2/17/2009 Ben Cook 3/5/2009	Ben Cook

l -h O - manial D	CampleDescription	Daramin	Results	Units	RL LabQualifier	AnalysisMethod	AnalysisDate	SampleDate Analyst	Calibration Date	Calibration Person
LabSampleID	SampleDescription	CL	38.93	mg/L	1	A4500CI-E	4/28/2009	4/14/2009 Ben Cook		Ben Cook
DT04140047	MW 393	CL	36.97	mg/L	1	A4500CI-E	4/28/2009	4/14/2009 Ben Cook		Ben Cook
DT04140048	MW 391	CL	46.96	mg/L	1	A4500CI-E	4/28/2009	4/15/2009 Ben Cook		Ben Cook
DT04150055	SCW	CL	37.99	-	1	A4500CI-E	4/28/2009	4/15/2009 Ben Cook		Ben Cook
DT04150056	LE1W			mg/L	12	A4500CI-E	4/28/2009	4/14/2009 Ben Cook		Ben Cook
DT04140043A	•	CL	167.81	mg/L	12	A4500CI-E	4/28/2009	4/14/2009 Ben Cook		Ben Cook
DT04140043B	QUW	CL	177.87	mg/L	3	A4500CI-E A4500CI-E	4/28/2009	4/14/2009 Ben Cook		Ben Cook
DT04140046	LAW	CL	61.31	mg/L	5 5	A4500CI-E	4/28/2009	4/15/2009 Ben Cook		Ben Cook
DT04150053	MW 381	CL	72.78	mg/L	-	A4500CI-E A4500CI-E	4/28/2009	4/15/2009 Ben Cook		Ben Cook
DT04150054	MW 384	CL	85.88	mg/L	4	A2320B	4/27/2009	4/14/2009 Ben Cook		Ben Cook
DT04140043B		Alkalinity	110	mg/L	2	A4500F	4/24/2009	4/14/2009 Ben Cook		Ben Cook
DT04140044A		NO3N	0.490	mg/L	0.05		4/24/2009	4/14/2009 Ben Cook		Ben Cook
	LE2-W	NO3N	0.493	mg/L	0.05	A4500F		4/14/2009 Ben Cook		Ben Cook
DT04140045	IUPW	NO3N	0.320	mg/L	0.015	A4500F	4/24/2009	4/14/2009 Ben Cook		Ben Cook
DT04140046	LAW	NO3N	0.665	mg/L	0.05	A4500F	4/24/2009			Ben Cook
DT04140048	MW 391	NO3N	0.356	mg/L	0.02	A4500F	4/24/2009	4/14/2009 Ben Cook		
DT04150055	SCW	NO3N	0.552	mg/L	0.03	A4500F	4/24/2009	4/15/2009 Ben Cook		Ben Cook
DT04150056	LE1W	NO3N	0.473	mg/L	0.05	A4500F	4/24/2009	4/15/2009 Ben Cook		Ben Cook
DT04140043A	QUW	NO2N	0.0043	mg/L	0.005 J	A4500B	4/16/2009	4/14/2009 Ben Cook		Ben Cook
DT04140043B	QUW	NO2N	0.0044	mg/L	0.005 J	A4500B	4/16/2009	4/14/2009 Ben Cook		Ben Cook
DT04140044	LE2-W	NO2N	0.0339	mg/L	0.005	A4500B	4/16/2009	4/14/2009 Ben Cook		Ben Cook
DT04140045	IUPW	TKN	0.556	mg/L	0.3	EPA 351.2	5/7/2009	4/14/2009 Ben Cook		Ben Cook
DT04140046	LAW	TKN	0.799	mg/L	0.3	EPA 351.2	5/7/2009	4/14/2009 Ben Cook		Ben Cook
DT04140047	MW 393	TKN	1.246	mg/L	0.3	EPA 351.2	5/7/2009	4/14/2009 Ben Cook		Ben Cook
DT04140048	MW 391	TKN	0.143	mg/L	0.3 J	EPA 351.2	5/7/2009			Ben Cook
DT04150053	MW 381	TKN	0.238	mg/L	0.3 J	EPA 351.2	5/7/2009			Ben Cook
DT04150054	MW 384	TKN	0.564	mg/L	0.3	EPA 351.2	5/7/2009			Ben Cook
DT04150055	SCW	TKN	0.842	mg/L	0.3	EPA 351.2	5/7/2009			Ben Cook
DT04150056	LE1W	TKN	0.710	mg/L	0.3	EPA 351.2	5/7/2009		5/7/2009	Ben Cook
DT04140044	LE2-W	Alkalinity	126	mg/L	2	A2320B	4/27/2009	4/14/2009 Ben Cook	4/27/2009	Ben Cook
DT04140045	IUPW	Alkalinity	126	mg/L	2	A2320B	4/27/2009	4/14/2009 Ben Cook	4/27/2009	Ben Cook
DT04140046	LAW	Alkalinity	132	mg/L	2	A2320B	4/27/2009		4/27/2009	Ben Cook
DT04140047	MW 393	Alkalinity	320	mg/L	2	A2320B	4/27/2009	4/14/2009 Ben Cook	4/27/2009	Ben Cook
DT04140048	MW 391	Alkalinity	138	mg/L	2	A2320B	4/27/2009		4/27/2009	Ben Cook
DT04150053	MW 381	Alkalinity	270	mg/L	2	A2320B	4/27/2009	4/15/2009 Ben Cook	4/27/2009	Ben Cook
DT04150054	MW 384	Alkalinity	208	mg/L	2	A2320B	4/27/2009	4/15/2009 Ben Cook	4/27/2009	Ben Cook
DT04150055	SCW	Alkalinity	124	mg/L	2	A2320B	4/27/2009	4/15/2009 Ben Cook	4/27/2009	Ben Cook
DT04150056	LE1W	Alkalinity	108	mg/L	2	A2320B	4/27/2009	4/15/2009 Ben Cook	4/27/2009	Ben Cook
DT04140043A		Alkalinity	110	mg/L	2	A2320B	4/27/2009	4/14/2009 Ben Cook	4/27/2009	Ben Cook
DT04140043A		Hardness	536	mg/L	1	A2340C	4/27/2009	4/14/2009 Ben Cook	4/27/2009	Ben Cook
DT04140043B		Hardness	540	mg/L	1	A2340C	4/27/2009		4/27/2009	Ben Cook
DT04140043B	LE2-W	Hardness	180	mg/L	1	A2340C	4/27/2009			Ben Cook
DT04140045	IUPW	Hardness	188	mg/L	1	A2340C	4/27/2009		4/27/2009	Ben Cook
DT04140045	LAW	Hardness	220	mg/L	1	A2340C	4/27/2009		4/27/2009	Ben Cook
DT04140040	MW 393	Hardness	1252	mg/L	1	A2340C	4/27/2009		4/27/2009	Ben Cook
DT04140047	MW 391	Hardness	328	mg/L	1	A2340C	4/27/2009			Ben Cook
D 10-1-00-0		. 14. 4.1000		9,	•	<del>-</del>				

DT04150053	MW 381	Hardness	684	mg/L	1	A2340C	4/27/2009	4/15/2009 Ben Cook 4/27/2009	Ben Cook
	MW 384	Hardness		mg/L	1	A2340C	4/27/2009	4/15/2009 Ben Cook 4/27/2009	Ben Cook
DT04150055	SCW	Hardness		mg/L	1	A2340C	4/27/2009	4/15/2009 Ben Cook 4/27/2009	Ben Cook
	LE1W	Hardness		mg/L	1	A2340C	4/27/2009	4/15/2009 Ben Cook 4/27/2009	Ben Cook
	LAW	NH3N		mg/L	0.5 U	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/2009	Ben Cook
DT04140047	MW 393	NH3N		mg/L	0.5	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/2009	Ben Cook
DT04140047	LAW	BOD		mg/L	0.2	A5210B	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140047	MW 393	BOD		mg/L	0.2	A5210B	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140047	MW 391	BOD		mg/L	0.2	A5210B	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04150053	MW 381	BOD		mg/L	0.2	A5210B	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150055	MW 384	BOD	1.0	mg/L	0.2	A5210B	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150055	SCW	BOD	2.3	mg/L	0.2	A5210B	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
	LE1W	BOD	1.7	mg/L	0.2	A5210B	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04130030	QUW	BOD	1.0	mg/L	0.2	A5210B	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140043	LE2-W	BOD		mg/L	0.2	A5210B	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140044	IUPW	BOD	2.3	mg/L	0.2	A5210B	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
	IUPW	NO2N		mg/L	0.005	A4500B	4/16/2009	4/14/2009 Ben Cook 4/16/2009	Ben Cook
DT04140045 DT04140043	QUW	COLOR		mg/L	0.000	A2120C	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140043	LE2-W	COLOR		mg/L	0	A2120C	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
	IUPW	COLOR		mg/L	0	A2120C	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140045	LAW	COLOR	206	mg/L	0	A2120C	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140046		COLOR		mg/L	0	A2120C	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140047	MW 393	COLOR	15	mg/L	0	A2120C	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140048	MW 391	COLOR		mg/L	0	A2120C	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150053	MW 381	COLOR	6	mg/L	0	A2120C A2120C	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150054	MW 384	TSS	1.5	mg/L	0.5	A2540D	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140043B				•	0.5	A2540D A2540D	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140044	LE2-W	TSS	98.5	mg/L		A2540D A2540D	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140045	IUPW	TSS	4.5	mg/L	0.5	A2540D A2540D	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140046	LAW	TSS	21.1	mg/L	0.5	A2540D A2540D	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140047	MW 393	TSS	1.7	mg/L	0.5	A2540D A2540D	4/15/2009	4/14/2009 Ben Cook 4/15/2009	Ben Cook
DT04140048	MW 391	TSS	43.0	mg/L	0.5	A2540D A2540D	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150053A		TSS	3.2	mg/L	0.5		4/16/2009	4/15/2009 Ben Cook 4/16/2009 4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150053B	MW 381	TSS	3.1	mg/L	0.5	A2540D	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150054	MW 384	TSS	1.7	mg/L	0.5	A2540D	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150055	SCW	TSS	40.7	mg/L	0.5	A2540D	4/16/2009	4/15/2009 Ben Cook 4/16/2009 4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150056	LE1W	TSS	34.5	mg/L	0.5	A2540D	4/16/2009	4/14/2009 Ben Cook 4/16/2009	Ben Cook
DT04140046	LAW	NO2N	0.0246	mg/L	0.005	A4500B	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150053	MW 381	NO2N		mg/L	0.005 U	A4500B		4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150054	MW 384	NO2N		-	0.005 U	A4500B	4/16/2009	4/15/2009 Ben Cook 4/16/2009 4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150055	SCW	NO2N	0.0321	mg/L	0.005	A4500B	4/16/2009		Ben Cook
DT04150056	LE1W	NO2N	0.0173	mg/L	0.005	A4500B	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04140047	MW 393	NO2N		mg/L	0.005 U	A4500B	4/16/2009	4/14/2009 Ben Cook 4/16/2009	Ben Cook
DT04140044	LE2-W	CL	48.68	mg/L	1	A4500CI-E	4/28/2009	4/14/2009 Ben Cook 4/28/2009	Ben Cook Ben Cook
DT04140045	IUPW	CL	49.00	mg/L	1	A4500CI-E	4/28/2009	4/14/2009 Ben Cook 4/28/2009	
DT04150055	SCW	COLOR	261	mg/L	0	A2120C	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook
DT04150056	LE1W	COLOR	100	mg/L	0	A2120C	4/16/2009	4/15/2009 Ben Cook 4/16/2009	Ben Cook

DT04440040A	OL IIA/	TDO	000	/1	_	A05400	4/45/0000	4/4.4/2000 Ban Caala 4	1/4 = /0000	D Cl-
DT04140043A DT04140043B	•	TDS TDS	969	mg/L	5	A2540C A2540C	4/15/2009 4/15/2009	4/14/2009 Ben Cook 4 4/14/2009 Ben Cook 4		Ben Cook Ben Cook
DT04140043B	QUW LE2-W	TDS	969 322	mg/L	5 5	A2540C A2540C	4/15/2009	4/14/2009 Ben Cook 4		Ben Cook
				mg/L	5	A2540C A2540C		4/14/2009 Ben Cook 4		Ben Cook
DT04140045	IUPW	TDS	304	mg/L			4/15/2009	4/14/2009 Ben Cook 4		
DT04140046	LAW	TDS	383	mg/L	5	A2540C	4/15/2009			Ben Cook
DT04140047	MW 393	TDS	1657	mg/L	5	A2540C	4/15/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04140048	MW 391	TDS	483	mg/L	5.	A2540C	4/15/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04150053A		TDS	897	mg/L	5	A2540C	4/16/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04150053B		TDS	916	mg/L	5	A2540C	4/16/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04150054	MW 384	TDS	2487	mg/L	5	A2540C	4/16/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04150055	SCW	TDS	317	mg/L	5	A2540C	4/16/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04150056	LE1W	TDS	213	mg/L	5	A2540C	4/16/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04140043A		TSS	1.5	mg/L	0.5	A2540D	4/15/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04140043	QUW	NO3N	0.0510	mg/L	0.005	A4500F	4/24/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04140047	MW 393	NO3N	<0.0012		0.005 U	A4500F	4/24/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04150053	MW 381	NO3N	<0.0012	-	0.005 U	A4500F	4/24/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04150054	MW 384	NO3N	<0.0012	•	0.005 U	A4500F	4/24/2009	4/15/2009 Ben Cook 4		Ben Cook
DT04140048	MW 391	NO2N	0.0044	mg/L	0.005 J	A4500B	4/16/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04140043	QUW	TP	0.0026	mg/L	0.003 J	A4500PF	4/30/2009	4/14/2009 Ben Cook 4		Ben Cook
DT04140045	IUPW	TP	0.0455	mg/L	0.003	A4500PF	4/30/2009	4/14/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04140046	LAW	TP	0.0741	mg/L	0.003	A4500PF	4/30/2009	4/14/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04140047	MW 393	TP	0.0137	mg/L	0.003	A4500PF	4/30/2009	4/14/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04140048	MW 391	TP	0.0259	mg/L	0.003	A4500PF	4/30/2009	4/14/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04150053	MW 381	TP	0.0052	mg/L	0.003	A4500PF	4/30/2009	4/15/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04150054	MW 384	TP	0.0120	mg/L	0.003	A4500PF	4/30/2009	4/15/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04150055	SCW	TP	0.0434	mg/L	0.003	A4500PF	4/30/2009	4/15/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04150056	LE1W	TP	0.0387	mg/L	0.003	A4500PF	4/30/2009	4/15/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04140044A	LE2-W	TP	0.0881	mg/L	0.009	A4500PF	4/30/2009	4/14/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04140044B	LE2-W	TP	0.0843	mg/L	0.009	A4500PF	4/30/2009	4/14/2009 Ben Cook 4	4/30/2009	Ben Cook
DT04140045	IUPW	SRP	0.0027	mg/L	0.003 J	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04140046	LAW	SRP	0.0059	mg/L	0.003	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04140047	MW 393	SRP	0.0023	mg/L	0.003 J	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04140048	MW 391	SRP		mg/L	0.003 U	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04150053	MW 381	SRP	0.0032	mg/L	0.003	EPA 365.1	5/4/2009	4/15/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04150054	MW 384	SRP	0.0109	mg/L	0.003	EPA 365.1	5/4/2009	4/15/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04150055	SCW	SRP	0.0031	mg/L	0.003	EPA 365.1	5/4/2009	4/15/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04150056	LE1W	SRP	0.0046	mg/L	0.003	EPA 365.1	5/4/2009	4/15/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04140043A	QUW	SRP	0.0016	mg/L	0.003 J	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04140043B	QUW	SRP	0.0015	mg/L	0.003 J	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5		Ben Cook
DT04140044	LE2-W	SRP	0.0017	mg/L	0.003 J	EPA 365.1	5/4/2009	4/14/2009 Ben Cook 5	5/4/2009	Ben Cook
DT04140049A	QUW	CHLRPHYLA		•	0.0005	A10200H	5/5/2009	4/14/2009 Ben Cook 5		Ben Cook
DT04140049B	QUW	CHLRPHYLA			0.0005 J	A10200H	5/5/2009	4/14/2009 Ben Cook 5		Ben Cook
DT04140050	LE2-W	CHLRPHYLA		-	0.0005	A10200H	5/5/2009	4/14/2009 Ben Cook 5		Ben Cook
DT04140051	IUPW	CHLRPHYLA		•	0.0005	A10200H	5/5/2009	4/14/2009 Ben Cook 5		Ben Cook
DT04140051	LAW	CHLRPHYLA		•	0.0005	A10200H	5/5/2009	4/14/2009 Ben Cook 5		Ben Cook
DT04150057A		CHLRPHYLA		•	0.0005	A10200H	5/5/2009	4/15/2009 Ben Cook 3		Ben Cook
D10-100007A	J J V V	JILKI IIILA	3.00000	mg/ L	5.5000	/ (1020011	0/0/2000	TOTALOGO DOTT COOK (	0,0,2000	2011 200K

DT04150057B	SCW	CHLRPHYLA	0.00644	mg/L	0.0005	A10200H	5/5/2009	4/15/2009 Ben Cook 5/5/	/2009 E	Ben Cook
DT04150058	LE1W	CHLRPHYLA	0.00269	mg/L	0.0005	A10200H	5/5/2009	4/15/2009 Ben Cook 5/5/	/2009 E	Ben Cook
DT04140043A	QUW	TKN	0.179	mg/L	0.3 J	EPA 351.2	5/7/2009	4/14/2009 Ben Cook 5/7/	/2009 E	Ben Cook
DT04140043B	QUW	TKN	0.172	mg/L	0.3 J	EPA 351.2	5/7/2009	4/14/2009 Ben Cook 5/7/	/2009 E	Ben Cook
DT04140044	LE2-W	TKN	0.787	mg/L	0.3	EPA 351.2	5/7/2009	4/14/2009 Ben Cook 5/7/	/2009 E	Ben Cook
DT04140048	MW 391	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/	/2009 E	Ben Cook
DT04150053	MW 381	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/15/2009 Ben Cook 5/8/	/2009 E	Ben Cook
DT04150054	MW 384	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/15/2009 Ben Cook 5/8/	/2009 E	Ben Cook
DT04150055	SCW	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/15/2009 Ben Cook 5/8/	/2009 E	Ben Cook
DT04150056	LE1W	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/15/2009 Ben Cook 5/8/	/2009 E	Ben Cook
DT04140043A	QUW	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/	/2009	Ben Cook
DT04140043B	QUW	NH3N	< 0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/	/2009	Ben Cook
DT04140044	LE2-W	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/	/2009	Ben Cook
DT04140045	IUPW	NH3N	<0.5	mg/L	0.5 U	A4500NH3D	5/8/2009	4/14/2009 Ben Cook 5/8/	/2009	Ben Cook



TestAmerica Laboratories, Inc.

### ANALYTICAL REPORT

DTE-MI

Lot #: A8G230150

John Barkach

Great Lakes Environmental Cent 33045 Hamilton Court Suite W106 Farmington Hills, MI 48334

TESTAMERICA LABORATORIES, INC.

Kenneth J. Kuzior Project Manager

Kith & Kin

August 14, 2008

# CASE NARRATIVE

A8G230150

The following report contains the analytical results for four water samples submitted to TestAmerica North Canton by Great Lakes Environmental Center, Inc. from the DTE-MI Site. The samples were received July 23, 2008, according to documented sample acceptance procedures.

The 175 Carbon Dioxide analysis was performed at the TestAmerica Burlington Laboratory.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. 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, Kenneth J. Kuzior, 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 36.

# **CASE NARRATIVE (continued)**

# SUPPLEMENTAL QC INFORMATION

# SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.1°C.

# **GENERAL CHEMISTRY**

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

#### **QUALITY CONTROL ELEMENTS NARRATIVE**

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

#### 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**

# A8G230150

PARAMETER		RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
381 07/22/08 18:35	001				
Bicarbonate Alkalinity		291	5.0	mg/L	SM18 2320 B
393 07/22/08 16:00	002				
Bicarbonate Alkalinity		542	5.0	mg/L	SM18 2320 B
391 07/22/08 16:27	003				
Bicarbonate Alkalinity		191	5.0	mg/L	SM18 2320 B
384 07/22/08 14:25	004				
Bicarbonate Alkalinity		413	5.0	mg/L	SM18 2320 B

# ANALYTICAL METHODS SUMMARY

### A8G230150

PARAMETER ANALYTICAL METHOD

Bicarbonate alkalinity SM18 2320 B

#### References:

SM18

"Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.

# SAMPLE SUMMARY

#### A8G230150

WO # SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME_
KR1T9 001 KR1VD 002 KR1VE 003 KR1VG 004	381 393 391 384	07/22/08 07/22/08 07/22/08 07/22/08	16:00 16:27

# 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: 381

### General Chemistry

Lot-Sample #...: A8G230150-001 Work Order #...: KR1T9 Matrix..... WG

Date Sampled...: 07/22/08 18:35 Date Received..: 07/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 291
 5.0
 mg/L
 SM18 2320 B
 07/24/08
 8207072

Alkalinity

Dilution Factor: 1

Client Sample ID: 393

### General Chemistry

Lot-Sample #...: A8G230150-002 Work Order #...: KR1VD Matrix.....: WG

Date Sampled...: 07/22/08 16:00 Date Received..: 07/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Bicarbonate
 542
 5.0
 mg/L
 SM18 2320 B
 07/24/08
 8207072

Alkalinity

Dilution Factor: 1

Client Sample ID: 391

## General Chemistry

Lot-Sample #...: A8G230150-003 Work Order #...: KR1VE Matrix.....: WG

Date Sampled...: 07/22/08 16:27 Date Received..: 07/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 191
 5.0
 mg/L
 SM18 2320 B
 07/24/08
 8207072

Alkalinity

Dilution Factor: 1

Client Sample ID: 384

#### General Chemistry

Lot-Sample #...: A8G230150-004 Work Order #...: KR1VG Matrix.....: WG

Date Sampled...: 07/22/08 14:25 Date Received..: 07/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 413
 5.0
 mg/L
 SM18 2320 B
 07/24/08
 8207072

Dilution Factor: 1

Alkalinity



# QUALITY CONTROL SECTION

#### METHOD BLANK REPORT

# General Chemistry

Client Lot #...: A8G230150

Matrix..... WATER

		REPORTING	,		PREPARATION-	PREP
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	BATCH #
Bicarbonate Alkalinity		Work Order	#: KR5RD1AC	MB Lot-Sample #:	A8G250000-072	
	ND	5.0	mg/L	SM18 2320 B	07/24/08	8207072
		Dilution Facto	or: 1			

NOTE (S):

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

#### SAMPLE DUPLICATE EVALUATION REPORT

### General Chemistry

Client Lot #...: A8G230150

Work Order #...: KR1PK-SMP

Matrix....: WATER

KR1PK-DUP

Date Sampled...: 07/22/08 09:26 Date Received..: 07/23/08

	DUPLICATE			RPD	Marion	PREPARATION-	PREP
PARAM RESULT	RESULT	UNITS	RPD	LIMIT	METHOD	ANALYSIS DATE	BATCH #
Bicarbonate					SD Lot-Sample #:	A8G230131-004	
Alkalinity							
62.5	62.8	mg/L	0.50	(0-20)	SM18 2320 B	07/24/08	8207072
	:	Dilution Fa	ctor: 1				

# Chain of Custody Record

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes □ No 🕽

THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)																											
Jamie Saxton - GLE	C	Projec				٨m					UN							Date	122	408	?		Chain of Custody Number 085235				
Client Jamie Saxton - GLE  Address 739 Hastings Street  City State Zip		Teleph	one I			ea Co						231	-9	41	-2	24	0	ab Ni	ımber				Pag		1	of _	1
Traverse City MI	49686	Site C	ontac	t			La	b Coi	ntact										ttach is ne								
Project Name and Location (State)  DTE - MI		Carrie	84	bill N	umbei 1 <b>U</b>	23	93	7-	72				3	N N										Sn	acial I	nstruc	tions.
Contract/Purchase Order/Quote No.					atrix				Con Pres	taine				Dicarbonate	2											s of R	
Sample I.D. No. and Description Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCI	NaOH	ZnAc/ NaOH	-	2010	3												
381	7/22/08	635P		X			X	_					1	X	X												
393	7/22/08	300 P		X			X							X.	X												
391	7/22/08	429 P		X			X							X	K												
384	7/20/08	525P		X			X							γ.	X						1						
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Relinquished By		Date			Time	9		3. 1	Recei	ived l	Ву												Da	ite	.	Time	
omments					L							•									<del></del>						

		Lot Number: <u>사용성 230 6</u> 0	
North Canton Facili			
Client <u>Glec</u>	Project Opened on ===================================	By:	
		(Signature)	
FEGEX LY UPS   DHL	☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestA		
TestAmerica Cooler #			
	on the outside of the cooler(s)? Yes \( \text{\backsquare} \) No \( \text{\backsquare} \)	Intact? Yes 🗌 No 🐙 NA 🗭	
If YES, Quantity			
	on the outside of cooler(s) signed and dated?	Yes 🔲 No 🔲 NA 💯	
Were custody seals o		Yes 🗌 No 🖾	
If YES, are there any			
	attached to the cooler(s)?	Yes ☑ No 🗌	
	ccompany the sample(s)? Yes \bigodetatharpoonup\big	Relinquished by client? Yes	No 🗌
	pers signed in the appropriate place?	Yes 🗹 No 🗌	
	2 1-6	her	
	pon_receipt °C See back of form for	or multiple coolers/temps 🗌	
	R 1⁄2	<u> </u>	
COOLANT: Wet lo	ce ☑ Blue Ice ☐ Dry Ice ☐ Water ☐		
7. Did all bottles arrive in	n good condition (Unbroken)?	Yes 🖾 No 🗌	
8. Could all bottle labels	be reconciled with the COC?	Yes ☑ No 🗆	
9. Were sample(s) at the	e correct pH upon receipt?	Yes ☐ No ☐ NA 💯	
10. Were correct bottle(s)	used for the test(s) indicated?	Yes ℚ No □	
11. Were air bubbles >6 r	mm in any VOA vials?	Yes ☐ No 💯 NA 🗌	
12. Sufficient quantity rec	eived to perform indicated analyses?	Yes ☑ No 🗌	
13. Was a trip blank prese	ent in the cooler(s)? Yes 🔲 No 🗹 Were VOA	As on the COC? Yes ☑ No 🗌	
		via Verbal 🔲 Voice Mail 🔲 Oth	er 🔲
Concerning			
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14. CHAIN OF CUSTOD The following discrepance			
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The following discrepance	es occurred:	recommended holding time had ex	pired.
The following discrepance	es occurred:	recommended holding time had ex were received in a broken conta	
The following discrepance  15 SAMPLE CONDITION  Sample(s)	were received after the		iner.
The following discrepance  15 SAMPLE CONDITION  Sample(s)  Sample(s)	Were received with weight of the weight of t	were received in a broken conta	iner.
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The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phoronomical phoronomic	were received after the  were received with the second sec	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	einer. PM) eiving Lot#
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The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phoraum of the property of the preservation of the preservati	were received after the  were received with the series of	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	eiving Lot#
The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phoraum of the property of the preservation of the preservati	were received after the  were received with the series of	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	eiving Lot#
The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phoraum of the property of the preservation of the preservati	were received after the  were received with the series of	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	eiving Lot#
The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phoraum of the property of the preservation of the preservati	were received after the  were received with the series of	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	eiving Lot#
The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phoraum of the property of the preservation of the preservati	were received after the  were received with the series of	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	eiving Lot#
The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) to meet recommended phorasor -NaOH; Hydrochloric What time was preservati	were received after the  were received with the series of	were received in a broken contain bubble >6 mm in diameter. (Notify were further preserved in sample rect tot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium Hydroxide etate Lot# 050205-(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH	eiving Lot#

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<b>.</b>			
	TestAmerica Cooler Receipt Form/Narrat North Canton Facility	ive	
	North Carton Facility		
Client ID	<u>pH</u>	<u>Date</u>	<u>initials</u>
,			
4-2			
Cooler	<u>Temp</u> °C	<u>Method</u>	Coolant
Discrepancies Cont'd			
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# BURLINGTON DATA



August 13, 2008

Mr. Ken Kuzior TestAmerica, Inc. 4101 Shuffel Drive NW North Canton, OH 44720

Re: Laboratory Project No. 28008 Case: DTE-MI; SDG: 8G230150

Dear Mr. Kuzior:

Enclosed are the analytical results for the samples that were received by TestAmerica Burlington on July 24<sup>th</sup>, 2008. Laboratory identification numbers were assigned, and designated as follows:

<u>Lab ID</u>	Client <u>Sample ID</u>	Sample <u>Date</u>	Sample <u>Matrix</u>
	Received: 07/24/08 ETR No:	126722	
761089	381	07/22/08	WATER
761090	393	07/22/08	WATER
761091	391	07/22/08	WATER
761092	384	07/22/08	WATER

Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal.

The samples were analyzed for carbon dioxide by RSK175. Samples 393 and 384 were analyzed at a dilution for in order to quantity within the response of the instrument calibration.

Any reference within this report to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.) The analytical results associated with the samples presented in this test report were generated under a quality system that adheres to requirements specified in the NELAC standard. Release of the data in this test report and any associated electronic deliverables is authorized by the Laboratory Director's designee as verified by the following signature.

If there are any questions regarding this submittal, please contact me at 802 660-1990.

Sincerely,

Kristine A. Dusablon Project Manager

Enclosure

SDG: 8G230150

TestAmerica Burlington

Page 1.1 of 57

TestAmerica Laboratories, Inc.

# TestAmerica Burlington Data Qualifier Definitions

#### **Organic**

- U: Compound analyzed but not detected at a concentration above the reporting limit.
- J: Estimated value.
- N: Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds (TICs) where the identification of a compound is based on a mass spectral library search.
- P: SW-846: The relative percent difference for detected concentrations between two GC columns is greater than 40%. Unless otherwise specified the higher of the two values is reported on the Form I.
  - CLP SOW: Greater than 25% difference for detected concentrations between two GC columns. Unless otherwise specified the lower of the two values is reported on the Form I.
- C: Pesticide result whose identification has been confirmed by GC/MS.
- B: Analyte is found in the sample and the associated method blank. The flag is used for tentatively identified compounds as well as positively identified compounds.
- E: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis.
- D: Concentrations identified from analysis of the sample at a secondary dilution.
- A: Tentatively identified compound is a suspected aldol conden sation product.
- X,Y,Z: Laboratory defined flags that may be used alone or combined, as needed. If used, the description of the flag is defined in the project narrative.

#### Inorganic/Metals

- E: Reported value is estimated due to the presence of interference.
- N: Matrix spike sample recovery is not within control limits.
- Duplicate sample analysis is not within control limits.
- B: The result reported is less than the reporting limit but greater than the instrument detection limit.
- U: Analyte was analyzed for but not detected above the reporting limit.

### Method Codes:

P ICP-AES

MS ICP-MS

CV Cold Vapor AA

AS Semi-Automated Spectrophotometric

FQA009:02.18.08:4 TestAmerica Burlington

Z		TestAmeri	ica Laboratories, Inc.
⊿ La <b>g</b> oratory	TestAmerica Burlington	SAMPLE ANAI	LYSIS REQUISTION
th	55 South Park Drive	Lab Request	SR105113

Report Package:

Report

Need Analytical Report

2008-08-04

Colchester, VT

Canton

Sample I.D.

A8G230150-1

A8G230150-2

A8G230150-3

A8G230150-4

05446

Client Code:

1380492

Project Manager:

2008-07-22 18:35

KEN KUZIOR

**Analysis Required** 

Work Order Number Client Sample ID KR1T9

KR1VD

KR1VE

KR1VG

381

393

391

384

Sampling Date

WATER, RSK-175, Carbon Dioxide (CO2)

2008-07-22 16:00

WATER, RSK-175, Carbon Dioxide (CO2)

2008-07-22 16:27

WATER, RSK-175, Carbon Dioxide (CO2)

2008-07-22 14:25

WATER, RSK-175, Carbon Dioxide (CO2)

Please use Client Sample ID for report

Call KEN KUZIOR with questions at 330-497-9396

at the TAL North Canton Laboratory

Shipping Method:

**FEDEX** 

Need detection limit and analysis date included in report.

Please send a signed copy this form with the report at completion of analysis

Relinquished b

Relinquished by:



# Sample Data Summary – RSK-175 CO2

STLOHN SAMPLE NO.

Lah Ma	ama, TECTAMEDI	CA BURLINGTON	Contract: 2800	2		381		
пар ис	ille: IESIAMEKI	CA BURLINGTON	COILLIACL. 2000	ا				
Lab Co	ode: STLV	Case No.: DTE_MI	SAS No.:	SDG	No.: 8	3G23015	0	
Matrix	k: (soil/water	) WATER	Lab Sa	ample ID:	76108	39		
Sample	e wt/vol:	(g/mL) ML	Lab F	ile ID:	26JUI	L081356	-R011	
Level:	: (low/med)	LOW	Date I	Received:	07/24	1/08		
% Mois	sture: not dec	•	Date A	Analyzed:	07/26	5/08		
GC Col	lumn: CTR-1	ID: 6.35 (mm)	Dilut	ion Facto	or: 1.0	)		
Soil E	Extract Volume	:(uL)	Soil A	Aliquot V	olume:		(uL	(ر
	CAS NO.	COMPOUND	CONCENTRATION (ug/L or ug/			Q		
	124-38-9	Carbon Dioxide			2600			

STLOHN SAMPLE NO.

					384	
Lab Name: TESTAMERIC	A BURLINGTON	Contract: 28008	3	***************************************		_
Lab Code: STLV	Case No.: DTE_MI	SAS No.:	SDG	No.: 8	3G230150	
<pre>Matrix: (soil/water)</pre>	WATER	Lab Sa	imple ID:	76109	92	
Sample wt/vol:	(g/mL) ML	Lab Fi	le ID:	26JUI	J081509-R	071
Level: (low/med)	LOW	Date R	Received:	07/24	1/08	
% Moisture: not dec.		Date A	malyzed:	07/26	5/08	
GC Column: CTR-1	ID: 6.35 (mm)	Diluti	on Facto	r: 10.	0	
Soil Extract Volume:	(uL)	Soil A	liquot V	olume:		_(uL)
CAS NO.	COMPOUND	CONCENTRATIC (ug/L or ug/			Q	
124-38-9	Carbon Dioxide			28000		

FORM I VOA

STLOHN SAMPLE NO.

T 1 3T		Ca. Dura Talomoa	G			391	
Lab Na	ame: TESTAMERIO	CA BURLINGTON	Contract: 2800	18			
Lab Co	ode: STLV	Case No.: DTE_MI	SAS No.:	SDG	No.: 8	G230150	
Matrix	k: (soil/water)	WATER	Lab S	Sample ID:	76109	1	
Sample	e wt/vol:	(g/mL) ML	Lab F	ile ID:	26JUL	081356-	R031
Level	: (low/med)	LOW	Date	Received:	07/24	/08	
% Mois	sture: not dec	•	Date	Analyzed:	07/26	/08	
GC Co	lumn: CTR-1	ID: 6.35 (mm)	Dilut	ion Facto	r: 1.0		
Soil E	Extract Volume	:(uL)	Soil	Aliquot V	olume:	<del>*************************************</del>	(uL)
	CAS NO.	COMPOUND	CONCENTRATI (ug/L or ug			Q	
	124-38-9	Carbon Dioxide			2300		

STLOHN SAMPLE NO.

			393
Lab Name: TESTAMERIC	CA BURLINGTON	Contract: 28008	
Lab Code: STLV	Case No.: DTE_MI	SAS No.: SDG	No.: 8G230150
Matrix: (soil/water)	WATER	Lab Sample ID	: 761090
Sample wt/vol:	(g/mL) ML	Lab File ID:	26JUL081509-R061
Level: (low/med)	LOW	Date Received	: 07/24/08
% Moisture: not dec.		Date Analyzed	: 07/26/08
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Fact	or: 10.0
Soil Extract Volume:	(uL)	Soil Aliquot	Volume:(uL)
CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/	
124-38-9	Carbon Dioxide	2	28000

CLIENT SAMPLE NO.

Lab Name	: TESTAMERIC	CA BURLINGTON	Contract	28008		MBLK	C072608	BA
Lab Code:	: STLV	Case No.: DTE_MI	SAS No.	:	SDG	No.: 8	3G2301	50
Matrix:	(soil/water)	WATER		Lab Sa	mple ID:	MBLK	C072608	ЗА
Sample wt	:/vol:	(g/mL) ML		Lab Fi	le ID:	26JU	L08125′	7-R021
Level:	(low/med)	LOW		Date R	eceived:		on Marian	
% Moistur	ce: not dec.			Date A	nalyzed:	07/2	5/08	
GC Column	n: CTR-1	ID: 6.35 (mm)		Diluti	on Facto	r: 1.0	)	
Soil Extr	act Volume:	(uL)		Soil A	liquot V	olume		(uL)
CA	AS NO.	COMPOUND			N UNITS: Kg) UG/L		Q	
12	24-38-9	Carbon Dioxide	1			1000	Ū	

FORM I VOA

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

CLIENT SAMPLE NO.

C072608ALCS

Lab Code: STLV Case No.: DTE MI SAS No.: SDG No.: 8G230150 Matrix: (soil/water) WATER Lab Sample ID: C072608ALCS Sample wt/vol: \_\_\_\_ (g/mL) ML Lab File ID: 26JUL081257-R011 Date Received: Level: (low/med) LOW % Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/26/08 GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.0 Soil Aliquot Volume: \_\_\_\_(uL) Soil Extract Volume: \_\_\_\_(uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

124-38-9-----Carbon Dioxide 4300

#### FORM 3 WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTE MI SAS No.: SDG No.: 8G230150

Matrix Spike - Sample No.: C072608ALCS

	SPIKE	SAMPLE	LCS	LCS	QC.
	ADDED	CONCENTRATION	CONCENTRATION	%	LIMITS
COMPOUND	(ug/L)	(ug/L)	(ug/L)	REC #	REC.
	=======	==========	=========		=====
Carbon Dioxide	5000		4300	86	70-130

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside	of	QC	limit	S
------------------	----	----	-------	---

RPD: 0 out of 0 outside limits Spike Recovery: 0 out of 1 outside limits

COMMENTS:		
	*	

### FORM 4 VOLATILE METHOD BLANK SUMMARY

MBLKC072608A

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTE\_MI SAS No.: SDG No.: 8G230150

Lab File ID: 26JUL081257-R021

Lab Sample ID: MBLKC072608A

Date Analyzed: 07/26/08

Time Analyzed: 1307

GC Column: CTR-1 ID: 6.35 (mm)

Heated Purge: (Y/N) N

Instrument ID: 2866\_2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

		LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
		=======================================		========
01	C072608ALCS	C072608ALCS	26JUL081257-	1300
02	381	761089	26JUL081356-	1400
03	391	761091	26JUL081356-	1409
04	393	761090	26JUL081509-	1538
05	384	761092	26JUL081509-	1542
06				,
07				
08				
09	M	***************************************		
10				
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29				
30				

COMMENTS:			

page 1 of 1

FORM IV VOA

#### 6A VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTE\_MI SAS No.: SDG No.: 8G230150

06/28/08

Instrument ID: 2866\_2 Calibration Date(s): 06/28/08

Heated Purge: (Y/N) N Calibration Time(s): 0918

0948

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF   1000	RRF 2500	RRF 5000	RRF 7500	RRF 10000	RRF	% RSD
arbon Dioxide		0.464	0.441	0.422	0.414	0.436	4.
·		:					
·							
· · · · · · · · · · · · · · · · · · ·							

\* Compounds with required minimum RRF and maximim %RSD values. All other compounds must meet a minimim RRF of 0.010.

FORM VI VOA

3/90

#### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTE\_MI SAS No.: SDG No.: 8G230150

Instrument ID: 2866\_2 Calibration Date: 07/26/08 Time: 1246

Lab File ID: 26JUL081244-R0 Init. Calib. Date(s): 06/28/08 06/28/08

Heated Purge: (Y/N) N Init. Calib. Times: 0918 0948

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
=======================================	=======	=======	=======	=====	====
Carbon Dioxide	0.436	0.342		21.6	30.0

FORM VII VOA

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTE\_MI SAS No.: SDG No.: 8G230150

Instrument ID: 2866\_2 Calibration Date: 07/26/08 Time: 1610

Lab File ID: 26JUL081609-R0 Init. Calib. Date(s): 06/28/08 06/28/08

Heated Purge: (Y/N) N Init. Calib. Times: 0918 0948

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
Carbon Dioxide	0.436	0.427		2.1	30.0

# FORM 8 VOLATILE ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON

Contract: 28008

Lab Code: STLV

Case No.: DTE\_MI SAS No.:

SDG No.: 8G230150

GC Column: CTR-1

•

ID: 6.35 (mm) Init. Calib. Date(s): 06/28/08 06/28/08

Instrument ID: 2866 2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURRO	GATE RT FROM I	INITIAL CAL	IBRATION		
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED		RT #
					1	1 " 1
01	CAL2	CAL2	06/28/08	0918		======
02	CAL3	CAL3	06/28/08	0922		
03	CAL4	CAL4	06/28/08	0926		
04	CAL5	CAL5	06/28/08	0931		
05	CAL1	CAL1	06/28/08	0948		
06	CCV	CCV	07/26/08	1246		
07	C072608ALCS	C072608ALCS	07/26/08	1300		
08	MBLKC072608A	MBLKC072608A	07/26/08	1307		
09	381	761089	07/26/08	1400		
10	391	761091	07/26/08	1409		
11	393	761090	07/26/08	1538		
12	384	761092	07/26/08	1542		
13	CCV	CCV	07/26/08	1610		
14						
15						
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26						
27						
28						
29						
30						
31	<u> </u>					
32			<u> </u>			

QC LIMITS

<sup>#</sup> Column used to flag retention time values with an asterisk.

<sup>\*</sup> Values outside of QC limits.



# END OF REPORT



# **ANALYTICAL REPORT**

DTE 1967-00

Lot #: A8J230272

John Barkach

Great Lakes Environmental Cent 33045 Hamilton Court Suite W106 Farmington Hills, MI 48334

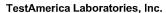
TESTAMERICA LABORATORIES, INC.

Kenneth J. Kuzior

Project Manager ken.kuzior@testamericainc.com

Approved for release Kenneth J. Kuzior Project Manager 11/10/2008 4:05 PM









#### **CASE NARRATIVE**

A8J230272

The following report contains the analytical results for four water samples submitted to TestAmerica North Canton by Great Lakes Environmental Center, Inc. from the DTE 1967-00 Site. The samples were received October 23, 2008, according to documented sample acceptance procedures.

The Carbon Dioxide analysis was performed at the TestAmerica Burlington Laboratory.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. 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, Kenneth J. Kuzior, 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 1.0°C.

#### **GENERAL CHEMISTRY**

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

#### QUALITY CONTROL ELEMENTS NARRATIVE

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

#### **QC BATCH**

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

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

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

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

#### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the 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**

#### A8J230272

	PARAMETER		RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
MW 381	10/22/08 10:37	001				
	Bicarbonate Alkalinity		272	5.0	mg/L	SM18 2320 B
MW 393	10/22/08 12:45	002				
	Bicarbonate Alkalinity		335	5.0	mg/L	SM18 2320 B
MW 391	10/22/08 13:44	003				
	Bicarbonate Alkalinity		182	5.0	mg/L	SM18 2320 B
MW 384	10/22/08 15:00	004				
	Bicarbonate Alkalinity		482	5.0	mg/L	SM18 2320 B

## ANALYTICAL METHODS SUMMARY

#### A8J230272

PARAMETER ANALYTICAL METHOD

Bicarbonate alkalinity SM18 2320 B

References:

SM18

"Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.

#### SAMPLE SUMMARY

#### A8J230272

WO # SAMPLE	# CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
K1GH1 001	MW 381	10/22/08 10:37
K1GJJ 002	MW 393	10/22/08 12:45
K1GJL 003	MW 391	10/22/08 13:44
K1GJM 004	MW 384	10/22/08 15:00

#### 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: MW 381

#### General Chemistry

Lot-Sample #...: A8J230272-001 Work Order #...: K1GH1 Matrix.....: WG

Date Sampled...: 10/22/08 10:37 Date Received..: 10/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 272
 5.0
 mg/L
 SM18 2320 B
 10/27/08
 8302082

Alkalinity

Client Sample ID: MW 393

#### General Chemistry

Lot-Sample #...: A8J230272-002 Work Order #...: K1GJJ Matrix..... WG

Date Sampled...: 10/22/08 12:45 Date Received..: 10/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 335
 5.0
 mg/L
 SM18 2320 B
 10/27/08
 8302082

Alkalinity

Client Sample ID: MW 391

#### General Chemistry

Lot-Sample #...: A8J230272-003 Work Order #...: K1GJL Matrix.....: WG

Date Sampled...: 10/22/08 13:44 Date Received..: 10/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 182
 5.0
 mg/L
 SM18 2320 B
 10/27/08
 8302082

Alkalinity

Client Sample ID: MW 384

#### General Chemistry

Lot-Sample #...: A8J230272-004 Work Order #...: K1GJM Matrix.....: WG

Date Sampled...: 10/22/08 15:00 Date Received..: 10/23/08

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 482
 5.0
 mg/L
 SM18 2320 B
 10/27/08
 8302082

Alkalinity



# QUALITY CONTROL SECTION

#### METHOD BLANK REPORT

#### General Chemistry

Client Lot #...: A8J230272

Matrix..... WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate		Work Order	#: K1PWQ1AD	MB Lot-Sample #:	A8J280000-082	
Alkalinity	ND	5.0	mg/L	SM18 2320 B	10/27/08	8302082
		Dilution Fact	J.		,	

NOTE(S):

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

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A8J230272

Work Order #...: K03R8-SMP

Matrix....: WATER

Date Sampled...: 10/16/08 11:50 Date Received..: 10/17/08

K03R8-DUP

PARAM RESULT Bicarbonate	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD SD Lot-Sample #:	PREPARATION- ANALYSIS DATE A8J170156-001	PREP BATCH #
Alkalinity 597	577	mg/L Dilution Fac	3.4	(0-20)	SM18 2320 B	10/27/08	8302082

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A8J230272

Work Order #...: K03WA-SMP

Matrix....: WATER

K03WA-DUP

Date Sampled...: 10/16/08 13:05 Date Received..: 10/17/08

PARAM RESULT Bicarbonate	DUPLICATE RESULT	UNITS	RPD_	RPD LIMIT	METHOD SD Lot-Sample #:	PREPARATION- ANALYSIS DATE A8J170156-002	PREP BATCH #
Alkalinity 639	632	mg/L Dilution Fa	1.1 ctor: 1	(0-20)	SM18 2320 B	10/27/08	8302082

# nain of ustody Record

Temperature	on	Receipt	

# **TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

24 (1007) t		Project	Mana	ager	Tr	Mi		•	Sa	x-h	<u></u>						Date Id 77/08 Chain of Custody Number 104391					91				
GLEC		Telepho	ne N				1-1/5	A /				1-2	124	10		Lab Number					Pi	age	1	of		
739 Hastings Street State Zip C	Code 49686	Site Co			11-6	<i>,,,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	La	b Co	ntact		• •					Anal nore	ysis ( spac	Attac e is r	h list leedd	t if ed)						
raverse City MI  oct Name and Location (State)  DTE 1967-00	77088	Carrier	Wayl	bill Nu	umbe	r								Bicarbanate									Sp	ecial In	nstructi e of Re	ons
ract/Purchase Order/Quote No.				. M	latrix		_	43	Pres	taine serva	rs & tives	· •	(O)	arte									Coi	TUITUOLIS	507710	<i></i>
Sample I.D. No. and Description tainers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	1 Innras	H2SO4	HNO3	HCI	NaOH	ZnAc/ NaOH		<del> </del>		-				-				· · · · · · · · · · · · · · · · · · ·		·.
mw 381	10/22/08	10:37	<u> </u>	X		_	-   }		-				X			-	-	+-			-	+-				
Parat 292	10/2/08	12:45	-	X		+	1	0	+-	-		+	X	X	+-+	+	-	+								
	10/22/08	13:44		X			+	+	+	+			X					$\top$			1					
mw 384	10/22/18	10100	+	1			+	4																		
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ssible Hazard Identification  Non-Hazard	☐ Poison B	☐ Unkno	- 1			isposa n To C			Dis	•		ab ts (Spe		chive	For _		^	fonths	(A loi	fee n nger ti	nay be han 1	asses month)	sed if san	npies are	retained	
urn Around Time Required	Davs	ays 🗆 (	Other					_				is (Ope	City/										Date		, Time	
Relinquished By	• .	Date	1/22	1/0	3	ime	SD.	.	1. Re	1	n	بر	L	, 52	1			-						23-45	1	2
Ara 1975 Relinquished By		Date				Time			2. Re	ceive	d By	U	-	7	٠		•								<u> </u>	
Relinquished By		Date	9			Time			3. Re	ceive	d By												Date		Time	

Local Description Local Local Description Local	ot Number: <u>ARJ236272</u>
lestamenca coolei neccipi i dille i di le	
North Canton Facility  Project	By: Chr off
Client	(Signature)
Cooler Received on Client Drop Off TestAmo	erica Courier  Other
TestAmerica Cooler # Multiple Coolers  Foam Box Cooler  Ind	lient Cooler  Other
1. Were custody seals on the outside of the cooler(s)? Yes No Int	act? Yes 🔯 No 🗌 NA 🗍
1. Were custody seals on the outside of the cooler(s): 166 dg 166	
Were custody seals on the outside of cooler(s) signed and dated?	Yes No NA
Were custody seals on the bottle(s)?	Yes 🗌 No 🔯
Were custody seals on the bottle(s)?	,
If YES, are there any exceptions?	Yes ☑ No 🗌
	Relinquished by client? Yes No
by ductory purposes a signed in the appropriate place?	Yes ☒ No □
le e l'en meterial modi Bubblo Wran IXI Foam I I None I I Ulli	er
6. Cooler temperature upon receipt °C See back of form for	multiple coolers/temps
METHOD: IR D Other	
COOLANT: Wet Ice Blue Ice Dry Ice Water N	lone 🗌
7. Did all bottles arrive in good condition (Unbroken)?	Yes ⊠ No 🗌
8. Could all bottle labels be reconciled with the COC?	Yes ☒ No ☐
9. Were sample(s) at the correct pH upon receipt?	Yes 🗋 No 🗌 NA 🔯
10. Were correct bottle(s) used for the test(s) indicated?	Yes ★ No 🗌
11. Were air bubbles >6 mm in any VOA vials?	Yes 🗌 No 🖾 NA 🗌
12. Sufficient quantity received to perform indicated analyses?	Yes 🛣 No 🗋
142 Mas a trip blank present in the cooler(s)? Yes   No M Were VOAS	s on the COC? Yes 🗵 No 🗌
Contacted PM Date by	via Verbal 🔲 Voice Mail 🔲 Other 🗍
Concerning	
14. CHAIN OF GUSTODY	
The following discrepancies occurred:	
The following dissipations countries.	4
15. SAMPLE CONDITION	
Sample(s) were received after the	recommended holding time had expired.
Sample(s)	were received in a broken container.
Sample(s) were received with	bubble >6 mm in diameter. (Notify PM)
16. SAMPLE PRESERVATION	
	ere further preserved in Sample
Receiving to meet recommended pH level(s). Nitric Acid Lot# 031808-HNO <sub>3</sub> ; Su	Ifuric Acid Lot# 031808-H <sub>2</sub> SO <sub>4</sub> ; Sodium
Hydroxide Lot# 073007 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxid	de and ∠inc Acetate Lot# U50205-
(CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. What time was preservative added to sample(s)?	Pote Initials
Client ID pH	<u>Date</u> <u>Initials</u>
	. 1

Client ID	llity <u>pH</u>	Date	Initials
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Cooler #	Temp. °C	Method	Coolan
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# BURLINGTON DATA



THE LEADER IN ENVIRONMENTAL TESTING

November 5, 2008

Mr. Ken Kuzior TestAmerica, Inc. 4101 Shuffel Drive NW North Canton, OH 44720

Re: Laboratory Project No. 28008 Case: DTEME; SDG: 8J230272

Dear Mr. Kuzior:

Enclosed are the analytical results for the samples that were received by TestAmerica Burlington on October 24<sup>th</sup>, 2008. Laboratory identification numbers were assigned, and designated as follows:

TestAmerica Laboratories, Inc.

<u>Lab ID</u>	Client Sample ID	Sample <u>Date</u>	Sample <u>Matrix</u>
	Received: 10/24/08 ETR No:	128384	
772853	MW 381	10/22/08	WATER
772854	MW 393	10/22/08	WATER
772855	MW 391	10/22/08	WATER
772856	MW 384	10/22/08	WATER

Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal.

The samples were analyzed for carbon dioxide by RSK175. Sample MW 384 was analyzed at a dilution for carbon dioxide in order to quantity within the response of the instrument calibration.

Any reference within this report to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.) The analytical results associated with the samples presented in this test report were generated under a quality system that adheres to requirements specified in the NELAC standard. Release of the data in this test report and any associated electronic deliverables is authorized by the Laboratory Director's designee as verified by the following signature.

If there are any questions regarding this submittal, please contact me at 802 660-1990.

Sincerely,

Kristine A. Dusablon Project Manager

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**Enclosure** 

SDG: 8J230272 TestAmerica Burlington Page 1.1 of 59

#### **TestAmerica Burlington Data Qualifier Definitions**

#### <u>Organic</u>

- U: Compound analyzed but not detected at a concentration above the reporting limit.
- J: Estimated value.
- N: Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds (TICs) where the identification of a compound is based on a mass spectral library search.
- P: SW-846: The relative percent difference for detected concentrations between two GC columns is greater than 40%. Unless otherwise specified the higher of the two values is reported on the Form I.
  - CLP SOW: Greater than 25% difference for detected concentrations between two GC columns. Unless otherwise specified the lower of the two values is reported on the Form I.
- C: Pesticide result whose identification has been confirmed by GC/MS.
- B: Analyte is found in the sample and the associated method blank. The flag is used for tentatively identified compounds as well as positively identified compounds.
- E: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis.
- D: Concentrations identified from analysis of the sample at a secondary dilution.
- A: Tentatively identified compound is a suspected aldol condensation product.
- X,Y,Z: Laboratory defined flags that may be used alone or combined, as needed. If used, the description of the flag is defined in the project narrative.

#### Inorganic/Metals

- E: Reported value is estimated due to the presence of interference.
- N: Matrix spike sample recovery is not within control limits.
- Duplicate sample analysis is not within control limits.
- B: The result reported is less than the reporting limit but greater than the instrument detection limit.
- U: Analyte was analyzed for but not detected above the reporting limit.

#### Method Codes:

- P ICP-AES
- MS ICP-MS
- CV Cold Vapor AA
- AS Semi-Automated Spectrophotometric
  22 of 38

#### aboratory

Sample I.D.

A8J230272-1

#### TestAmerica Burlington 55 South Park Drive

TestAmerica Laboratories, Inc. SAMPLE ANALYSIS REQUISTION

Lab Request

SR107319

Report Package:

Report

Need Analytical Report

2008-11-06

KEN KUZIOR

Analysis Required

Colchester, VT

05446

Client Code:

KIGHI

1380492

Work Order Number

Client Sample ID / B × 40

A8J230272-2 K1GJJ

> KIGJL MW 391

A8J230272-4

A8J230272-3

KIGJM

MW 384

MW 393

2008-10-22 12:45

2008-10-22 13:44

2008-10-22 10:37

Project Manager:

Sampling Date

WATER, RSK-175, Carbon Dioxide (Burlingt

WATER, RSK-175, Carbon Dioxide (Burlingt

WATER, RSK-175, Carbon Dioxide (Burlingt

2008-10-22 15:00

WATER, RSK-175, Carbon Dioxide (Burlingt

### Please use Client Sample ID for report

Call KEN KUZIOR with questions at 330-497-9396

at the TAL North Canton Laboratory

Veed detection limit and analysis date included in report.

Please send a signed copy of this form with the report at completion of analysis.

Shipping Method:

FEDEX

PLEASE RETURN ORIGINAL SAMPLE ANALYSIS REQUISITION



# Sample Data Summary – RSK-175 CO2

STLOHN SAMPLE NO.

MW 381 Lab Name: TESTAMERICA BURLINGTON Contract: 28008 SDG No.: 8J230272 Lab Code: STLV Case No.: DTEME SAS No.: Lab Sample ID: 772853 Matrix: (soil/water) WATER \_\_\_\_ (g/mL) ML 290CT081450-R011 Lab File ID: Sample wt/vol: Date Received: 10/24/08 Level: (low/med) LOW Date Analyzed: 10/29/08 % Moisture: not dec. GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.0 Soil Aliquot Volume: (uL) Soil Extract Volume: (uL) CONCENTRATION UNITS: CAS NO. (ug/L or ug/Kg) UG/L Q COMPOUND 124-38-9-----Carbon Dioxide 1900

STLOHN SAMPLE NO.

30000

MW 384 Lab Name: TESTAMERICA BURLINGTON Contract: 28008 SDG No.: 8J230272 Lab Code: STLV Case No.: DTEME SAS No.: Lab Sample ID: 772856 Matrix: (soil/water) WATER \_\_\_\_ (g/mL) ML Lab File ID: Sample wt/vol: 29OCT081631-R021 Date Received: 10/24/08 Level: (low/med) LOW % Moisture: not dec. Date Analyzed: 10/29/08 Dilution Factor: 5.0 GC Column: CTR-1 ID: 6.35 (mm) Soil Extract Volume: (uL) Soil Aliquot Volume: (uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L CAS NO. COMPOUND Q 124-38-9-----Carbon Dioxide

STLOHN SAMPLE NO.

Lab Na	ame: TESTAMERI	CA BURLINGTON	Contract: 28008		/W 391	
Lab Co	ode: STLV	Case No.: DTEME	SAS No.:	SDG No.:	8J230272	
Matrix	c: (soil/water	) WATER	Lab Sar	mple ID: 7728	355	
Sample	e wt/vol:	(g/mL) ML	Lab Fi	le ID: 2900	CT081450-R	031
Level:	(low/med)	LOW	Date Re	eceived: 10/2	24/08	
% Mois	sture: not dec	•	Date Ar	nalyzed: 10/2	29/08	
GC Co]	lumn: CTR-1	ID: 6.35 (mm)	Dilutio	on Factor: 1.	. 0	
Soil E	Extract Volume	:(uL)	Soil A	liquot Volume	<b>:</b>	_(uL)
	CAS NO.	COMPOUND	CONCENTRATION (ug/L or ug/l		Q .	
Í	124-38-9	Carbon Dioxide	e	2000		

STLOHN SAMPLE NO.

MW 393 Lab Name: TESTAMERICA BURLINGTON Contract: 28008 Lab Code: STLV Case No.: DTEME SAS No.: SDG No.: 8J230272 Matrix: (soil/water) WATER Lab Sample ID: 772854 (g/mL) ML Sample wt/vol: Lab File ID: 290CT081450-R021 Level: (low/med) LOW Date Received: 10/24/08 % Moisture: not dec. \_\_\_\_\_ Date Analyzed: 10/29/08 GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.0 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL) CONCENTRATION UNITS: CAS NO. (ug/L or ug/Kg) UG/L COMPOUND Q 124-38-9-----Carbon Dioxide 1700

FORM I VOA

CLIENT SAMPLE NO.

MBLKC102908A

Lab Name: TESTAMERICA BURLINGTON Contract: 28008 SDG No.: 8J230272 Lab Code: STLV Case No.: DTEME SAS No.: Matrix: (soil/water) WATER Lab Sample ID: MBLKC102908A \_\_\_\_ (g/mL) ML Lab File ID: 290CT081400-R021 Sample wt/vol: Date Received: \_\_\_\_\_ Level: (low/med) LOW Date Analyzed: 10/29/08 % Moisture: not dec. GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.0 Soil Aliquot Volume: \_\_\_\_(uL) Soil Extract Volume: (uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L CAS NO. Q COMPOUND 124-38-9-----Carbon Dioxide 1000 U

124-38-9-----Carbon Dioxide\_

CLIENT SAMPLE NO.

4300

C102908ALCS

Lab Name: TESTAMERIC	A BURLINGTON Co	ontract: 28008	
Lab Code: STLV	Case No.: DTEME S	SAS No.: SDG	No.: 8J230272
Matrix: (soil/water)	WATER	Lab Sample ID:	C102908ALCS
Sample wt/vol:	(g/mL) ML	Lab File ID:	290CT081400-R011
Level: (low/med)	LOW	Date Received:	
% Moisture: not dec.		Date Analyzed:	10/29/08
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Facto	or: 1.0
Soil Extract Volume:	(uL)	Soil Aliquot V	Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/I	

# FORM 3 WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: TESTAMERICA BURLINGTON

Contract: 28008

Lab Code: STLV

Case No.: DTEME

SAS No.:

SDG No.: 8J230272

Matrix Spike - Sample No.: C102908ALCS

	SPIKE	SAMPLE	LCS	LCS	QC.
	ADDED	CONCENTRATION	CONCENTRATION	%	LIMITS
COMPOUND	(ug/L)	(ug/L)	(ug/L)	REC #	REC.
				=====	=====
Carbon Dioxide	5000		4300	86	70-130

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

COMMENTS:	

#### FORM 4 VOLATILE METHOD BLANK SUMMARY

MBLKC102908A

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV

Case No.: DTEME SAS No.:

SDG No.: 8J230272

Lab File ID: 290CT081400-R021

Lab Sample ID: MBLKC102908A

Date Analyzed: 10/29/08

Time Analyzed: 1406

GC Column: CTR-1 ID: 6.35 (mm)

Heated Purge: (Y/N) N

Instrument ID: 2866 2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

		LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	C102908ALCS	C102908ALCS	290CT081400-	1402
02	MW 381	772853	290CT081450-	1458
03	MW 393	772854	290CT081450-	1503
04	MW 391	772855	290CT081450-	1511
05	MW 384	772856	290CT081631-	1648
06				
07				
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09 10				
11				
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30				

COMMENTS:			
	······································		

page 1 of 1

#### FORM 6 VOLATILE INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTEME SAS No.:

SDG No.: 8J230272

Instrument ID: 2866 2

Calibration Date(s): 10/01/08 10/01/08

Column: CTR-1 ID: 6.35 (mm) Calibration Time(s): 1210 1227

LAB FILE ID: RF1000: 010CT08120RF2500: 010CT08120RF5000: 010CT08120

RF7500: 010CT08120RF10000: 010CT0812

COMPOUND	RF1000	RF2500	RF5000	RF7500	RF10000
Carbon Dioxide	0.377	0.413	0.419	0.392	0.372

#### FORM 6 VOLATILE INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTEME SAS No.: SDG No.: 8J230272

Instrument ID: 2866\_2 Calibration Date(s): 10/01/08 10/01/08

Column: CTR-1 ID: 6.35 (mm) Calibration Time(s): 1210 1227

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Carbon Dioxide	AVRG	0.39468000	5.3

#### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTEME SAS No.: SDG No.: 8J230272

Instrument ID: 2866 2 Calibration Date: 10/29/08 Time: 1352

Lab File ID: 290CT081348-R0 Init. Calib. Date(s): 10/01/08 10/01/08

Heated Purge: (Y/N) N Init. Calib. Times: 1210 1227

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
Carbon Dioxide	0.395	0.286		27.6	30.0

#### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 28008

Lab Code: STLV Case No.: DTEME SAS No.: SDG No.: 8J230272

Instrument ID: 2866\_2 Calibration Date: 10/29/08 Time: 1805

Lab File ID: 290CT081805-R0 Init. Calib. Date(s): 10/01/08 10/01/08

Heated Purge: (Y/N) N Init. Calib. Times: 1210 1227

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
Carbon Dioxide	0.395	0.356		9.9	30.0

#### FORM 8 VOLATILE ANALYTICAL SEQUENCE

Contract: 28008 Lab Name: TESTAMERICA BURLINGTON

Lab Code: STLV Case No.: DTEME SAS No.: SDG No.: 8J230272

GC Column: CTR-1 ID: 6.35 (mm) Init. Calib. Date(s): 10/01/08 10/01/08

Instrument ID: 2866 2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURRO	ATE RT FROM I	NITIAL CALI	BRATION		
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED		RT #
01 02 03 04 05 06 07 08 09 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26					RT #	RT #
26 27 28 29 30						
31 32						

QC LIMITS

<sup>#</sup> Column used to flag retention time values with an asterisk.
\* Values outside of QC limits.



# END OF REPORT



# **ANALYTICAL REPORT**

DTE ENSR MONROE, MI

Lot #: A9B180226

John Barkach

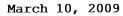
Great Lakes Environmental Cent 33045 Hamilton Court Suite W106 Farmington Hills, MI 48334

TESTAMERICA LABORATORIES, INC.

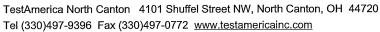
Kenneth J. Kuzior

Project Manager ken.kuzior@testamericainc.com

Approved for release. Kenneth J. Kuzior Project Manager 3/10/2009 10:47 AM









# **CASE NARRATIVE**

A9B180226

The following report contains the analytical results for four water samples submitted to TestAmerica North Canton by Great Lakes Environmental Center Inc. from the DTE ENSR Monroe, MI Site. The samples were received February 18, 2009, according to documented sample acceptance procedures.

The Carbon Dioxide analysis was performed at the TestAmerica Burlington laboratory.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. 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, Kenneth J. Kuzior, 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 1.2°C.

# **GENERAL CHEMISTRY**

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

# **QUALITY CONTROL ELEMENTS NARRATIVE**

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

#### **QC BATCH**

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

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

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

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

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the 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	

### **OUALITY 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

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# **EXECUTIVE SUMMARY - Detection Highlights**

# A9B180226

	PARAMETER		RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
MW 393	02/17/09 11:00	001				
	Bicarbonate Alkalinity		337	5.0	mg/L	SM18 2320 B
MW 391	02/17/09 12:15	002				
	Bicarbonate Alkalinity		157	5.0	mg/L	SM18 2320 B
MW 384	02/17/09 14:45	003				
	Bicarbonate Alkalinity		421	5.0	mg/L	SM18 2320 B
MW 381	02/17/09 13:15	004				
	Bicarbonate Alkalinity		255	5.0	mg/L	SM18 2320 B

# **ANALYTICAL METHODS SUMMARY**

# A9B180226

PARAMETER	ANALYTICAL METHOD
Bicarbonate alkalinity	SM18 2320 B
References:	

"Standard Methods for the Examination of Water and SM18

Wastewater", 18th Edition, 1992.

# SAMPLE SUMMARY

# A9B180226

WO # SAMPLE#	CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
K7DJ3 001	MW 393	02/17/09 11:00
K7DJ9 002	MW 391	02/17/09 12:15
K7DKA 003	MW 384	02/17/09 14:45
K7DKC 004	MW 381	02/17/09 13:15

### 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: MW 393

# General Chemistry

Lot-Sample #...: A9B180226-001 Work Order #...: K7DJ3 Matrix..... WG

Date Sampled...: 02/17/09 11:00 Date Received..: 02/18/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 337
 5.0
 mg/L
 SM18 2320 B
 02/24/09
 9056249

Dilution Factor: 1

Alkalinity

Client Sample ID: MW 391

# General Chemistry

Lot-Sample #...: A9B180226-002 Work Order #...: K7DJ9 Matrix.....: WG

Date Sampled...: 02/17/09 12:15 Date Received..: 02/18/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 157
 5.0
 mg/L
 SM18 2320 B
 02/24/09
 9056249

Alkalinity

Dilution Factor: 1

Client Sample ID: MW 384

# General Chemistry

Lot-Sample #...: A9B180226-003 Work Order #...: K7DKA Matrix.....: WG

Date Sampled...: 02/17/09 14:45 Date Received..: 02/18/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Bicarbonate
 421
 5.0
 mg/L
 SM18 2320 B
 02/24/09
 9056249

Alkalinity

Dilution Factor: 1

Client Sample ID: MW 381

# General Chemistry

Lot-Sample #...: A9B180226-004 Work Order #...: K7DKC Matrix.....: WG

Date Sampled...: 02/17/09 13:15 Date Received..: 02/18/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 255
 5.0
 mg/L
 SM18 2320 B
 02/24/09
 9056249

Alkalinity

Dilution Factor: 1



# QUALITY CONTROL SECTION

# METHOD BLANK REPORT

# General Chemistry

Client Lot #...: A9B180226

Matrix..... WATER

		REPORTING	3		PREPARATION-	PREP
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	BATCH #
Bicarbonate Alkalinity		Work Order	#: K7NXH1AA	MB Lot-Sample #:	A9B250000-249	
	ND	5.0	mg/L	SM18 2320 B	02/24/09	9056249
		Dilution Fact	or: 1			

NOTE(S):

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

### SAMPLE DUPLICATE EVALUATION REPORT

# General Chemistry

Client Lot #...: A9B180226

Work Order #...: K7DJ3-SMP

Matrix..... WG

K7DJ3-DUP

Date Sampled...: 02/17/09 11:00 Date Received..: 02/18/09

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate					SD Lot-Sample #:	A9B180226-001	
Alkalinity							
337	345	mg/L	2.2	(0-20)	SM18 2320 B	02/24/09	9056249
		Dilution Fa	actor: 1				

# Chain of Custody Record

Temperature on Receipt \_\_\_\_\_

TestAmerica

Drinking Water? Yes□ No □ THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007) Cilent																													
Const Qhe Ender 100	1 (115)							2/17/200g						CI	Chain of Custody Number														
Address	Hader (Prec)	Telephone Number (Area Code)/Fax Number									Lab Number				129916														
Great Aulus Environmental (2 Address 739 Hastings St City State Z Traverse City M		(23	15.	94	1-	22	30 / Fax 941-2240													F	Page	1	01	<i>f</i>					
City State Z	ip Code	Site Co	Site Contact										nalysis (Attach list if re space is needed)											-					
Project Name and Location (State)	4-10:40	Carrier/	14/01/	hill N	·									╁╌	Т	T-	1110	103	Paci		1000	Jeu)		I	$\vdash$				
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Sample I.D. No. and Description (Containers for each sample may be combined on one line	Date	Time	Air	Aqueous	Sed.	Soil.	Unpres.	H2SO4	HNO3	HCI	NaOH	ZnAc/ NaOH		Can Dond	Bica														
mw 393	2117/2009	11,00		K			76							7	١.														
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Possible Hazard Identification			IS	amole	Digr	osal		<u></u>	<u></u>	L	<u> </u>	<u></u>	<u>L</u>			<u> </u>				Ŀ		l	Ш		$oxed{oxed}$	L			8.8
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TestAmerica Cooler Rec	eipt Form/Narrative Lot No			
LI AL Canton Escility		By: alain	a Ma	v1
Oliont C antintes for	Project	(S	Signature)	X
Cooler Received on 2/18	Project		ther	$U_{\perp}$
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	William Cooleis     Dain Box L	Yes X No	NA [	
Were custody seals on the	outside of the cooler(s): Tes (2) The Cooler (s):	TES IN		
ICATO Constitue	Clistific Ottoalvageable	Yes X No	- CL NA I	<u> </u>
Were custody seals on the	outside of cooler(s) signed and dated?			
Were custody seals on the	bottle(s)?	Yes No	• <u>J</u> A	
If VES, are there any excel	otions?			
a alternationaling clin after	shed to the cooler(s)?	Yes 🖟 No	U L	* No [
a Did outlody papers accomi	nany the sample(s)? Tes (4) No L	linquished by	CHERT! YES	HINDTI
	ianad in the shifthhillie blake!	Yes N	о 🗀 🧳	
E Dacking material used. B	Subble Wrap  Foam None  Other _			
D. Packing material used.	eceipt °C See back of form for mult	iple coolers/te	mps 📙	
6. Cooler temperature upon //	J Corner I I			
METHOD: IR	Blue Ice Dry Ice Water None			
COOLANT: Wet Ice 1 7. Did all bottles arrive in good			o 🔲	
8. Could all bottle labels be re	econciled with the COC?	Yes 🔼 N	o 🗆	JZ
8. Could all domie ladels de la	room nH unon receint?		o 🔲 NA	<b>X</b>
9. Were sample(s) at the con	tor the test(s) indicated?	Yes ☑ N	lo 🗖 🥤	<b>A</b>
10. Were correct bottle(s) used	J IUI LITE LESI(S) INGIOGLOG:	· —	lo 🖔 NA	-and
11. Were air bubbles >6 mm i	n any vua vidiotod analyses?		lo 🔽	- Steel as
12. Sufficient quantity received	d to perform indicated analyses?  the cooler(s)? Yes \tag{\tag{No}} \text{No} \text{Were VOAs on t}			
13. Was a trip blank present ir		Verbal 🔲 Vo	oice Mail	Other [
Contacted PM	Date via			
Concerning				
14 CHAIN OF CUSTODY				
The following discrepancies of	ccurrea:			
15. SAMPLE CONDITION	were received after the reco	nmended hold	ling time ha	d expired
Sample(s)	were received after the recoi	ere received i	in a hrokan	container
Sample(s)				
Sample(s)	were received with bub	ole >0 mm in	uiaiiielei. (i	INULITY FIVI)
16. SAMPLE PRESERVATION	NC			L_
0 1 - (=)	were fu	urther preserve	ed in Samp	le
m	nded pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric	Acid Lot# 1001	08-H2SO4; S	oaium
Hudrovide Lot# 073007 -NaOH	Hydrochloric Acid Lot# 092006-HCi; Sodium riyaroxide an	a Zinc Acetate	LUI# UDUZUD	-
(CH₃COO)₂ZN/NaOH. What tin	me was preservative added to sample(s)?			
Client ID	рН		<u>Date</u>	<u>Initials</u>
and the second s				

	На	<u>Date</u>	Initials
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			<del> </del>
			<u> </u>
<u> </u>			
Cooler#	Temp. °C	Method	Coolant
			30010110
	· · · · · · · · · · · · · · · · · · ·		



# BURLINGTON DATA

# TestAmerica South Burlington, VT

Sample Data Summary Package

9B180226



TestAmerica Laboratories, Inc.

March 9, 2009

Mr. Ken Kuzior TestAmerica, Inc. 4101 Shuffel Drive NW North Canton, OH 44720

Re: Laboratory Project No. 29008 Case: DTE-MI; SDG: 9B180226

Dear Mr. Kuzior:

Enclosed are the analytical results for the samples that were received by TestAmerica Burlington on February 19<sup>th</sup>, 2009. Laboratory identification numbers were assigned, and designated as follows:

<u>Lab ID</u>	Client	Sample	Sample
	Sample ID	<u>Date</u>	<u>Matrix</u>
	Received: 02/19/09 ETR No:	130286	
785698	MW 393	02/17/09	WATER
785699	MW 391	02/17/09	WATER
785700	MW 384	02/17/09	WATER
785701	MW 381	02/17/09	WATER

Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal.

# RSK-175 - Carbon Dioxide only:

The analyses of samples MW 393 and MW 384 were accomplished at a dilution in order to get the response of the analyte with the highest concentration within the initial calibration range. Only the results for the dilution analysis were provided.

Any reference within this report to Severn Trent Laboratories, Inc. or STL, should be understood to refer to TestAmerica Laboratories, Inc. (formerly known as Severn Trent Laboratories, Inc.) The analytical results associated with the samples presented in this test report were generated under a quality system that adheres to requirements specified in the NELAC standard. Release of the data in this test report and any associated electronic deliverables is authorized by the Laboratory Director's designee as verified by the following signature.



If there are any questions regarding this submittal, please contact me at 802 660-1990.

Sincerely,

Ron Pentkowski Project Manager

Enclosure

# TestAmerica Burlington Data Qualifier Definitions

### <u>Organic</u>

- U: Compound analyzed but not detected at a concentration above the reporting limit.
- J: Estimated value.
- N: Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds (TICs) where the identification of a compound is based on a mass spectral library search.
- P: SW-846: The relative percent difference for detected concentrations between two GC columns is greater than 40%. Unless otherwise specified the higher of the two values is reported on the Form I.

CLP SOW: Greater than 25% difference for detected concentrations between two GC columns. Unless otherwise specified the lower of the two values is reported on the Form I.

- C: Pesticide result whose identification has been confirmed by GC/MS.
- B: Analyte is found in the sample and the associated method blank. The flag is used for tentatively identified compounds as well as positively identified compounds.
- E: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis.
- D: Concentrations identified from analysis of the sample at a secondary dilution.
- A: Tentatively identified compound is a suspected aldol condensation product.
- X,Y,Z: Laboratory defined flags that may be used alone or combined, as needed. If used, the description of the flag is defined in the project narrative.

### Inorganic/Metals

- E: Reported value is estimated due to the presence of interference.
- N: Matrix spike sample recovery is not within control limits.
- Duplicate sample analysis is not within control limits.
- B: The result reported is less than the reporting limit but greater than the instrument detection limit.
- U: Analyte was analyzed for but not detected above the reporting limit.

## Method Codes:

P ICP-AES

MS ICP-MS

CV Cold Vapor AA

AS Semi-Automated Spectrophotometric

FQA009:02.18.08:4 TestAmerica Burlington



# **Chain of Custody**

Laboratory

Sample 1.D.

A9B180226-1

A9B180226-2

# TestAmerica Laboraturies, Inc.

SAMPLE ANALYSIS REQUISTION

Lab Request

SR109958

·Report Package:

Report

Need Analytical Report

2009-02-27

Colchester, VT

55 South Park Drive

05446

TestAmerica Burlington

Client Code:

1380492

Work Order Number	Client Sample 1D
K7DJ3	MW 393

MW 391

A9B180226-3 K7DKA MW 384

K7DJ9

A9B180226-4 K7DKC MW 381 Project Manager:

KEN KUZIOR

Analysis Required Sampling Date

WATER, RSK-175, Carbon Dioxide (Burlingt 2009-02-17 11:00

WATER, RSK-175, Carbon Dioxide (Burlingt 2009-02-17 12:15

WATER, RSK-175, Carbon Dioxide (Burlingt 2009-02-17 14:45

WATER, RSK-175, Carbon Dioxide (Burlingt 2009-02-17 13:15

# Please use Client Sample ID for report

Call KEN KUZIOR with questions at 330-497-9396

at the TAL North Canton Laboratory

Need detection limit and analysis date included in report.

Please send a signed copy of this form with the report at completion of analysis.

Relinquished by: Relinquished by:

Received for lab by:

Date/Time: 2.18-09 3:00p

PLEASE RETURN ORIGINAL SAMPLE ANALYSIS REQUISITION

Shipping Method:

FED EX



# **Sample Data Summary – RSK-175**

STLOHN SAMPLE NO.

_ 7		G	MW 381
Lab Name: TESTAMERIC	A BURLINGTON	Contract: 29008	
Lab Code: STLV	Case No.: DTE-MI	SAS No.: SDG	No.: 9B180226
Matrix: (soil/water)	WATER	Lab Sample ID	: 785701
Sample wt/vol:	(g/mL) ML	Lab File ID:	26FEB091223-R061
Level: (low/med)	LOW	Date Received	: 02/19/09
% Moisture: not dec.		Date Analyzed	: 02/26/09
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Fact	or: 1.0
Soil Extract Volume:	(uL)	Soil Aliquot	Volume:(uL)
CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/	
124-38-9	Carbon Dioxide	3	8300

STLOHN SAMPLE NO.

Lab Name: TESTAMERICA	DIDI TAKUMAN G	ontract. 20000	MW 384
Lab Name: TESTAMERICA	BURLINGTON CC	Milacl: 29008	<u> </u>
Lab Code: STLV Ca	ase No.: DTE-MI S	SAS No.: SDG	No.: 9B180226
Matrix: (soil/water)	WATER	Lab Sample II	): 785700
Sample wt/vol:	(g/mL) ML	Lab File ID:	26FEB091604-R021
Level: (low/med)	TOM	Date Received	l: 02/19/09
% Moisture: not dec.		Date Analyzed	1: 02/26/09
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Fact	or: 5.0
Soil Extract Volume:_	(uL)	Soil Aliquot	Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS	
124-38-9	Carbon Dioxide_		46000

STLOHN SAMPLE NO.

Tall Maria (DOCERANDETO) DUDI INCEDI	MW 391 Contract: 29008
Lab Name: TESTAMERICA BURLINGTON	Concract: 25008
Lab Code: STLV Case No.: DTE-M	I SAS No.: SDG No.: 9B180226
Matrix: (soil/water) WATER	Lab Sample ID: 785699
Sample wt/vol: (g/mL) M	L Lab File ID: 26FEB091223-R041
Level: (low/med) LOW	Date Received: 02/19/09
% Moisture: not dec.	Date Analyzed: 02/26/09
GC Column: CTR-1 ID: 6.35 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q
124-38-9Carbon Dioxi	de2100

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

STLOHN SAMPLE NO.

MW.393	1
PW. 323	•

 Lab Code: STLV
 Case No.: DTE-MI
 SAS No.:
 SDG No.: 9B180226

 Matrix: (soil/water)
 WATER
 Lab Sample ID: 785698

 Sample wt/vol:
 \_\_\_\_\_ (g/mL) ML
 Lab File ID: 26FEB091447-R021

 Level:
 (low/med)
 LOW
 Date Received: 02/19/09

% Moisture: not dec. Date Analyzed: 02/26/09

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 2.0

Soil Extract Volume: \_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_(uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

124-38-9-----Carbon Dioxide 19000

CLIENT SAMPLE NO.

		MBLKC022609A
Lab Name: TESTAME	RICA BURLINGTON	Contract: 29008
Lab Code: STLV	Case No.: DTE-MI	SAS No.: SDG No.: 9B180226
Matrix: (soil/wat	er) WATER	Lab Sample ID: MBLKC022609A
Sample wt/vol:	(g/mL) ML	Lab File ID: 26FEB090916-R031
Level: (low/med	) LOW	Date Received:
% Moisture: not d	ec	Date Analyzed: 02/26/09
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Factor: 1.0
Soil Extract Volu	me:(uL)	Soil Aliquot Volume:(uL)
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q
124-38-9	Carbon Dioxide	1000 U

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

124-38-9-----Carbon Dioxide\_\_\_

CLIENT SAMPLE NO.

C022609ALCS
SDG No.: 9B180226
e ID: C022609ALCS
ID: 26FEB090916-R021
ived:
yzed: 02/26/09
Factor: 1.0
uot Volume:(uL)

5400

Lab Code: STLV Case No.: DTE-MI SAS No.: Matrix: (soil/water) WATER Lab Sample Lab File Sample wt/vol: \_\_\_\_\_(g/mL) ML Level: (low/med) LOW Date Rece: Date Anal % Moisture: not dec. \_\_\_\_\_ GC Column: CTR-1 ID: 6.35 (mm) Dilution Soil Aliqu Soil Extract Volume: (uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L 0 COMPOUND CAS NO.

# FORM 3 WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9B180226

Matrix Spike - Sample No.: C022609ALCS

	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %	QC. LIMITS
COMPOUND	(ug/L)	(ug/L)	(ug/L)	REC #	REC.
		=========	~~~=========	=====	
Carbon Dioxide	5000		5400	108	70-130

- # Column to be used to flag recovery and RPD values with an asterisk
- \* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

COMMENTS:	

# FORM 4 VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MBLKC022609A

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.:

SDG No.: 9B180226

Lab File ID: 26FEB090916-R031

Lab Sample ID: MBLKC022609A

Date Analyzed: 02/26/09

Time Analyzed: 0930

GC Column: CTR-1 ID: 6.35 (mm) Heated Purge: (Y/N) N

Instrument ID: 2866\_2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

		LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
				========
0.1	C022609ALCS	C022609ALCS	26FEB090916-	0925
02	MW 391	785699	26FEB091223-	1256
03	MW 381	785701	26FEB091223-	1322
04	MW 393	785698	26FEB091447-	1459
05	MW 384	785700	26FEB091604-	1615
06				
07	***************************************	***************************************		
08				
09		***************************************		
10	The state of the s			
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25				
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28				
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30				

COMMENTS:		

page 1 of 1

# 6A VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9B180226

01/15/09

Instrument ID: 2866\_2

Calibration Date(s): 01/15/09

Heated Purge: (Y/N) N Calibration Time(s): 1019

1037

GC Column: CTR-1

ID: 6.35 (mm)

COMPOUND	RRF 1000	RRF 2500	RRF 5000	RRF 7500	RRF 10000	RRF	RSD
arbon Dioxide	* 0.497	0.490	0.476	0.443	0.401	: :	8.
						·	
							2002-00-00-00-00-00-00-00-00-00-00-00-00
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		***************************************					
					***************************************		
						l	

\* Compounds with required minimum RRF and maximim \*RSD values. All other compounds must meet a minimim RRF of 0.010.

FORM VI VOA

3/90

#### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9B180226

Instrument ID: 2866\_2 Calibration Date: 02/26/09 Time: 0920

Lab File ID: 26FEB090916-R0 Init. Calib. Date(s): 01/15/09 01/15/09

Heated Purge: (Y/N) N Init. Calib. Times: 1019 1037

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
		=======	=======	=====	====
Carbon Dioxide	0.461	0.494		7.2	30.0

FORM VII VOA

#### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9B180226

Instrument ID: 2866\_2 Calibration Date: 02/26/09 Time: 1631

Lab File ID: 26FEB091631-R0 Init. Calib. Date(s): 01/15/09 01/15/09

Heated Purge: (Y/N) N Init. Calib. Times: 1019 1037

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
	=======		=======	=====	====
Carbon Dioxide	0.461	0.422		8.4	30.0
				***************************************	

FORM VII VOA

#### FORM 8 VOLATILE ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9B180226

GC Column: CTR-1

ID: 6.35 (mm) Init. Calib. Date(s): 01/15/09 01/15/09

Instrument ID: 2866\_2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURRO					
	CLIENT	LAB	DATE	TIME		
	SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT #	1 1
			========			:
01	CAL1	CALl	01/15/09	1019	***************************************	
02	CAL2	CAL2	01/15/09	1023		_
03	CAL3	CAL3	01/15/09	1027		_
04	CAL4	CAL4	01/15/09	1033		
05	CAL5	CAL5	01/15/09	1037		_
06	CCV -	CCV	02/26/09	0920		
07	C022609ALCS	C022609ALCS	02/26/09	0925		_
08	MBLKC022609A	MBLKC022609A	02/26/09	0930		
09	MW 391	785699	02/26/09	1256		_
10	MW 381	785701	02/26/09	1322		
11	MW 393	785698	02/26/09	1459		_
12	MW 384	785700	02/26/09	1615		_
13	CCV	CCV	02/26/09	1631		_ [ [
14					***************************************	_ [
15						_
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17						_   ]
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32					l	_ ! !

QC LIMITS

page 1 of 1

FORM VIII VOA

<sup>#</sup> Column used to flag retention time values with an asterisk.

<sup>\*</sup> Values outside of QC limits.



## **Sample Handling**

# -Seden

# Fed Ex.

ORIGIN ID: PHDA AL HAIDET TEST AMERICA 4101 SHUFFEL DR

NORTH CANTON, OH 44720 UNITED STATES US

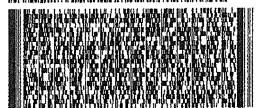
TO SAMPLE RECEIVING TESTAMERICA 30 COMMUNITY DRIVE

SOUTH BURLINGTON, VT 05403

Ref: AL HAIDET Dept: AL HAIDET FedEx

Ship Date: 18FEB09 ActWgt: 22.6 LB System#: 507102/CAFE2359 Account: 5 \*\*\*\*\*\*\*\*





Delivery Address Barcoda

BILL RECIPIENT

PRIORITY OVERNIGHT

THU Deliver By 19FEB09

TRK# **9784 4668 6485** 020

STV AA

05403 -VT-US

XH BTVA



.

		TestAmerica Bu						
	SAMPL	E RECEIPT & LO	GINE	HEC	KLIST			
Client: STLOHN		Date Received: 21	19/0	7	Log in	Data: O	2/24/0	97
ETR: 130286	Time Received:	25	7	By:	700		7	
SDG: 9B180226		Raceived By:	7710	1	Signat	ire: Joseph	~ 00d	71
Project: 2908		# Coolers Received:	1	U	PM Sig	nature: //	16.A7	5
Samples Delivered By: ¥ Shipp	ping Service & Courier	g Hand c Other (specify	}		Date:	4	Troday	
List Air bill Number(s) or Attach					<del>/====================================</del>	7	7	
							V	
COOLERISCREEN	PORTE YEAR TO SEE	ADS A A B A L AND	YES	#NO:	J. NA	1976 124	COMMEN	rs: Filler, R
There is no evidence to indica			×	1	1			
Custody seals are present and			文		Ť	<u> </u>		
Custody seal numbers are pres				X	1	Ì		
If yes, list custody seal number					<u>م</u>			
Tyes, hat clasedy sear named			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Thermal Preservation Type:	Wet Ice o Blue Ice o	None on Other (specify)		· · · · · · · · · · · · · · · · · · ·			1	
	Correction Factor (CF							······································
	Cooler 6	°C Cooler 11		٦٠	Cooler	15	°C	,
<u> </u>	Cooler 7	*C Cooler 12			Cooler			
	Cooler 8	°C Cooler 13			Cooler		•c	
	Cooler 9	*C Cooler 14	······································		Cooler		°C	
	Cooler 10	°C Cooler 15			Cooler		°C	
Cooler 5 °C Uniess otherwise documented,			d cealing					
EPA Criteria: 0-6°C, except for	eis and and anomalas w	hich chould be at ambien	t temper	ture an	d tissue	samnies wh	ich may be fro	
Some clients require thermal pr	construction acitaria of 2	4°C or other such criteria	The PA	i must n	ntify SM	when altern	ate criteria is s	pecified.
SAMPLE CONDITION			TYER	Linos	NA.	194 3 gran	COMMENT	<b>S</b> *45, (25, 124-15)
· · · · · · · · · · · · · · · · · · ·			X	7,70	<del>  ```</del>			
Sample containers were receive		·	+	<del> </del>	<del> </del>	<u> </u>		
Legible sample labels are affixe CHAIN OF DUSTODY (COC)	o to each container	ANGEL PATAL AGENT	4	SNO.	A NAT	727.17.0	COMMENT	KILVAMUR'
CHARADE BESTELL (COC)		for each portainer	ALLERS.	11119	Titali Mari	(1.) \$1.34.74.5 × *		71.0 40.00.00
COC is present and includes th	**************************************	TO BACH COMMINET.	TX	T		<u> </u>		
Sample ID / Sample Description	OH		+ <del>√</del>	<del> </del>				
Date of Sample Collection  The of Sample Collection  The of Sample Collection			$+ \bigcirc$	<u></u>	<del> </del>		THE PARTY OF THE P	
Time of Sample Collection     Identification of the Sampler			+	1				
Miles and the same				$\rightarrow$				
Preservation Type     Requested Tests Method(s)			T		<b>-</b>	1,77,77,77,11		
Necessary Signatures			$\pm \hat{\mathbf{\chi}}$					
Internal Chain of Custody (ICO	2) Required		1-2	7			The state of the s	<u> </u>
If yes to above, ICOC Record in		heet	†		X			
SAMPLE INTEGRITY / USABIL	Hotel of every works	TO THE REPORT OF THE R	VES	E'NO.	NA.	kyl•, selik Jaj¥.	COMMENT	s.autray.
The sample container matches			V				-	
Appropriate sample containers v		sts requested						
Samples were received within h		.sts requested	1					
Sufficient amount of sample is p		analyses						
VOA vials do not have headspar				-				
Appropriate preservatives were			1			,		
pH of inorganic samples checke			-	X				
If no, attach Inorganic Sample p		specification	╁╾╾╂		X			
			412	ا :			44.3	· · · · · · · · · · · · · · · · · · ·
ANOMALY I NOR SUMMARY			# 1 h 1 h 2 h					
	-							
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## END OF REPORT



#### ANALYTICAL REPORT

DTE ENSR MONROE, MI SDG #: 9D16101

John Barkach

Great Lakes Environmental Cent 33045 Hamilton Court Suite W106 Farmington Hills, MI 48334

TESTAMERICA LABORATORIES, INC.

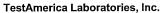
Kenneth J. Kuzior

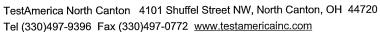
Project Manager

ken.kuzior@testamericainc.com

Approved for release. Kenneth J. Kuzior Project Manager 5/8/2009 4:05 PM









#### CASE NARRATIVE

9D16101

The following report contains the analytical results for four water samples submitted to TestAmerica North Canton by Great Lakes Environmental Center, Inc. from the DTE ENSR Monroe, MI Site. The samples were received April 15, 2009 and April 16, 2009, according to documented sample acceptance procedures.

This SDG consists of (2) laboratory ID's: A9D160101 and A9D160107.

The Carbon Dioxide analysis was performed at the TestAmerica Burlington Laboratory.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. 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, Kenneth J. Kuzior, 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 temperatures of the coolers upon sample receipt were 1.3 and 0.3°C.

#### **GENERAL CHEMISTRY**

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

#### **OUALITY 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:

ARMY, USDA Soil Permit

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,

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### **EXECUTIVE SUMMARY - Detection Highlights**

9D16101 : A9D160101

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
MW 393	04/14/09 001				
	Bicarbonate Alkalinity	339	5.0	mg/L	SM18 2320 B
MW 391	04/14/09 002				
	Bicarbonate Alkalinity	164	5.0	mg/L	SM18 2320 B
			,		

## **EXECUTIVE SUMMARY - Detection Highlights**

9D16101 : A9D160107

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
MW381D 04/15/09 10:50 001				
Bicarbonate Alkalinity	300	5.0	mg/L	SM18 2320 B
MW384D 04/15/09 12:40 002				
Bicarbonate Alkalinity	238	5.0	mg/L	SM18 2320 B

### ANALYTICAL METHODS SUMMARY

#### 9D16101

	ANALYTICAL	
PARAMETER	METHOD	
Bicarbonate alkalinity	SM18 2320 B	

#### References:

SM18

"Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.

#### SAMPLE SUMMARY

9D16101 : A9D160101

WO # SF	MPLE#	CLIENT S	SAMPLE	ID	SAMPLED DATE	SAMP TIME_
K96DM K96DN	001	MW 393 MW 391			04/14/09 04/14/09	

#### 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.

(Continued on next page)

#### **SAMPLE SUMMARY**

9D16101 : A9D160107

WO # S	AMPLE#	CLIENT SAMPLE		SAMP TIME_
К96НХ	001	MW381D	04/15/09	
К96Н5	002	MW384D	04/15/09	

#### 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.

Client Sample ID: MW 393

#### General Chemistry

Lot-Sample #...: A9D160101-001

Work Order #...: K96DM

Matrix..... WG

Date Sampled...: 04/14/09

Date Received..: 04/15/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 339
 5.0
 mg/L
 SM18 2320 B
 04/17/09
 9108117

Alkalinity

Client Sample ID: MW 391

#### General Chemistry

Lot-Sample #...: A9D160101-002 Work Order

Work Order #...: K96DN

Matrix..... WG

Date Sampled...: 04/14/09 Date Received..: 04/15/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 164
 5.0
 mg/L
 SM18 2320 B
 04/17/09
 9108117

Alkalinity

Client Sample ID: MW381D

#### General Chemistry

Lot-Sample #...: A9D160107-001 Work Order #...: K96HX Matrix.....: WG

Date Sampled...: 04/15/09 10:50 Date Received..: 04/16/09

Alkalinity

Client Sample ID: MW384D

#### General Chemistry

Lot-Sample #...: A9D160107-002 Work Order #...: K96H5 Matrix.....: WG

Date Sampled...: 04/15/09 12:40 Date Received..: 04/16/09

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Bicarbonate
 238
 5.0
 mg/L
 SM18 2320 B
 04/16/09
 9107069

Alkalinity



# QUALITY CONTROL SECTION

#### METHOD BLANK REPORT

#### General Chemistry

Client Lot #...: 9D16101

NOTE(S):

Matrix..... WATER

PARAMETER Bicarbonate Alkalinity	RESULT	REPORTING LIMIT Work Order	G <u>UNITS</u> #: K98N61AA	METHOD  MB Lot-Sample #:	PREPARATION- ANALYSIS DATE A9D170000-069	PREP BATCH #
Mikatimicy	ND	5.0 Dilution Fact	mg/L cor: 1	SM18 2320 B	04/16/09	9107069
Bicarbonate		Work Order	#: LADGR1AA	MB Lot-Sample #:	A9D180000-117	
Alkalinity	ND	5.0 Dilution Fact	mg/L cor: 1	SM18 2320 B	04/17/09	9108117

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

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A9D160101

Work Order #...: K943T-SMP

Matrix.....: WATER

K943T-DUP

Date Sampled...: 04/10/09 10:30 Date Received..: 04/15/09

PARAM RESULT Bicarbonate	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD SD Lot-Sample #:	PREPARATION- ANALYSIS DATE A9D150161-001	PREP BATCH #
Alkalinity ND	ND	mg/L	0	(0-20)	SM18 2320 B	04/16/09	9107069

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A9D160101 Work Order #...: K96HX-SMP Matrix.....: WG

K96HX-DUP

Date Sampled...: 04/15/09 10:50 Date Received..: 04/16/09

DUPLICATE RPD PREPARATION-PREP ANALYSIS DATE BATCH # PARAM RESULT RESULT UNITS RPD LIMIT METHOD SD Lot-Sample #: A9D160107-001 Bicarbonate Alkalinity (0-20) SM18 2320 B 04/16/09 9107069 300 310 mg/L 3.1 Dilution Factor: 1

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A9D160101 Work Order #...: K9TVP-SMP

Matrix....: WATER

K9TVP-DUP

Date Sampled...: 04/08/09 14:10 Date Received..: 04/09/09

	DUPLICATE			RPD		PREPARATION-	PREP
PARAM RESULT	RESULT	UNITS	RPD	LIMIT	METHOD	ANALYSIS DATE	BATCH #
Bicarbonate Alkalinity					SD Lot-Sample #:	A9D090119-002	
490	480	mg/L	2.7	(0-20)	SM18 2320 B	04/17/09	9108116

# Chain of Custody Record

Temperature on Receipt .



TAL-4124 (1007)			NVIRONMENTAL TESTING	i :
Client CREAT XAKESENVI CNIR	Project Manager	·	Date 4/4/09	Chain of Custody Number
739 HASTINGS	Telephone Number (Area Co	👸)/Fax Number	Lab Number	Page of
City TRAVERSE CITY MI 49686	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)	
Project Name and Location (State)  DE LOSE MONROE M  Contract/Purchase Order/Quote No.	Carrier/Waybill Number	Containers & Preservatives  Record Re		Special Instructions/
Jamie Saxton (231)941-2230	Matrix	Containers & Preservatives		Conditions of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)  Date	Time Aqueous Sed. Air	Unpress HINGS HINGS MACH COMPACE RECE RECE RECE RECE RECE RECE RECE R		
MW 393 4/40	X	X X H		
MW 391 4/14/19	X	K XL		- i
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Possible Hazard Identification	Sample Disposal			
	Unknown Return To Clier	nt 🔲 Disposal By Lab 🗓 Archive For _	(A fee may be a	assessed if samples are retained
Turn Around Time Required		QC Requirements (Specify)	,onge, mar , m	onun
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days  1. Relia@ished By				
Son Restal	Date Time	1. Received By		415/19 9:20h
2. Relinquished By	Date Time	2. Received By		Date Time
3. Relinquished By	Date Time	3. Received By		Date Time
Comments				

TestAmerica Coole	r Receipt Form/Narrative	Lot Number: 🏔	9 DIGOIAL
North Canton Facili		· · · · · · · · · · · · · · · · · · ·	
Client Great Lake		By A	Madda
Cooler Received on	4115109 Opened on 411510		(Signature)
FedEx X UPS ☐ DHL	FAS Stetson Client Drop Off Tes	America Courier	Other
TestAmerica Cooler #	<u> </u>	Client Cooler 🔲 (	Other
Were custody seals of the	on the outside of the cooler(s)? Yes 🔲 No 💢		No 🗌 NA 🔯
	Quantity Unsalvageable		
	on the outside of cooler(s) signed and dated?	Yes 🗌 1	
Were custody seals of	• •	Yes 🗌 1	No 🔯 🦯
If YES, are there any			<i>,</i>
	attached to the cooler(s)?	Yes X 1	
	ccompany the sample(s)? Yes 🕅 No 🗌	Relinquished by	y client? Yes 🔯 No 🗌
	pers signed in the appropriate place?	Yes 🔼 1	No 📙
_		Other/	·
	pon receipt °C ′See back of form R ☑ Other □	for multiple coolers/to	emps 🔲
	R ☑ Other □ ce ☑ Blue Ice □ Dry Ice □ Water □	— None □	
	n good condition (Unbroken)?		No 🗆
	be reconciled with the COC?	<b>1</b>	<b>Vo</b> □
	e correct pH upon receipt?		NO I NA 🗹
	used for the test(s) indicated?		V0 □ NA
11. Were air bubbles >6 r			No 🗌 NA 🖄
	eived to perform indicated analyses?		Vo
13. Was a trip blank prese		OAs on the COC? Ye	(
Contacted PM			oice Mail Other
Concerning			
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14. CHAIN OF CUSTOD			
14. CHAIN OF CUSTOD The following discrepance			
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The following discrepance	es occurred:		ling time had expired.
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The following discrepance  15 SAMPLE CONDITION Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERVA Sample(s) Receiving to meet recomme Hydroxide Lot# 073007 -Nac	were received after the were received after the were received after the were received after the were received after the were received and were received were	were received in the bubble >6 mm in of the b	n a broken container. diameter. (Notify PM) ed in Sample 08-H <sub>2</sub> SQ <sub>4</sub> : Sodium
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Client ID	ler Receipt Form/Narrative ility <u>pH</u>	<u>Date</u>	Initials
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Cooler #	Temp. °C	<u>Method</u>	Coolar
			·

### Chain of Custody Record

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes□ No 😭 THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)						:		•								••									
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City State Zip Code	7	Site Cor	ntact			1	Lab	Conta	act				Т-			Ans	lveis	(AH)	ch lis	et if			Page	of	=
raverse City M1 49	686													ذ		more	9 SPE	ce is	need	led)					
Project Name and Location (State)	<del></del>	Carrier/	Waybi	ll Nun	nber	¥.	ــــــــــــــــــــــــــــــــــــــ						13	J.									7		
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Jamie Saxton	···			ma	ınx		ļ.,		rese	rvat	ives		3	7							İ			•	
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air.	Aqueous	Soil		Unpres.	H2SO4	HNO3	HC!	NaOH ZnAc/	NaOH	Carrition	Bicarbantete											
mw381D 4	15/09 11	250	,	1		{	X						<b>V</b>	X								1			****
mw 384b #	15/09 1:	240	•	1			X						K	V											
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24 Hours 48 Hours 7 Days 14 Days	21 Days	☐ Othe	er			į.		QC F	Requi	reme	ents (	Specif	y)												
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2. Relinquished By		Date	<u> </u>	•	Time			2. Re				<u> </u>											4-14-09 Date	Time	_
3. Relinquished By		Date		<u></u>	Time			3. Re	ceive	ed By	,												Date	Time	_
Comments																									

	er Receipt Form/Narrative Lot Number	er: Hady	1-0107
North Canton Facil			·e
Client G.L. Env. (	NTR Project By	res	
Cooler Received on	4-16-99 Opened on 4-16-99	/Signatur	re)
FedEx UPS DHI	L 🔲 FAS 🔲 Stetson 🦳 Client Drop Off 🗍 TestAmerica Courie	er 🗀 Other	•
TestAmerica Cooler # _	Zपाङ्ख Multiple Coolers ☐ Foam Box ☐ Client Coole	r Other	
1. Were custody seals	on the outside of the cooler(s)? Yes No I Intact? Yes	No D N	ΔΓΊ
If YES, Quantity	Quantity Unsalvageable		
Were custody seals		₽ No □ N	IA 🔲
Were custody seals		O No O	
If YES, are there any			•
		☑ No □	
3. Did custody papers a	· · · · · · · · · · · · · · · · · · ·	hed by client? Y	on Dale D
4. Were the custody pa		No [	es 🖂 Mo 🗀
5. Packing material use			
6. Cooler temperature	ed: Bubble Wrap Foam None Other  upon receipt 6.3 °C See back of form for multiple cod	-la#a []	
METHOD:	IR Other	piers/temps [_]	•
	lee D. Blacker D. S. C.		
7. Did all bottles arrive	the same of the sa		•
8 Could all bottle label			
	an assessment and transmission of the	₽ № □	
10 Were correct bottle/s	A control of the second of the		A 🔟
11. Were air bubbles >6	A		
12 Sufficient quantity ro	and could be seen to the seen		A [_]
13 Was a trip blank prod	ceived to perform indicated analyses? Yes	□ No □	-
Contacted DM	sent in the cooler(s)? Yes \( \bar{\pi} \) No \( \bar{\pi} \) Were VOAs on the COO	? Yes 🗗 No	<u> </u>
Concerning	byvia Verbal	☐ Voice Mail	_ Other 🔲
14. CHAIN OF CUSTOE	· · · · · · · · · · · · · · · · · · ·	Access the second	8200
The following discrepance			
The following discrepance	ies occurred:		
			_
15 SAMPLE CONDITIO			
Sample(s)	were received after the recommended		
Sample(s)	were received after the recommended were received after the recommended were received.	ived in a broken	container.
Sample(s) Sample(s) Sample(s)	were received after the recommended were received with bubble >6 m	ived in a broken	container.
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV	were received after the recommended were received with bubble >6 m	ived in a broken	container.
Sample(s) Sample(s) Sample(s) 16SAMPLE PRESERV Sample(s)	were received after the recommender were received with bubble >6 m  ATION	ived in a broken m in diameter.	container. (Notify PM)
Sample(s) Sample(s) Sample(s) 16 SAMPLE PRESERV Sample(s) Receiving to meet recommendation	were received after the recommender were received with bubble >6 m  ATION  were further pre mended pH level(s) Nitric Acid Lot# 100108 HNO: Suffusio Acid Lot#	m in diameter. served in Samp	container. (Notify PM)
Sample(s) Sample(s) Sample(s)  16. SAMPLE PRESERV Sample(s) Receiving to meet recommed Hydroxide Lot# 073007 -Nac	were received after the recommended were received with bubble >6 m  ATION were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl: Sodium Hydroxide and Zinc Acid OH; Hydrochloric Acid Lot# 092006-HCl: Sodium Hydroxide and Zinc Acid	m in diameter. served in Samp	container. (Notify PM)
Sample(s) Sample(s) Sample(s) 16:::SAMPLE PRESERV Sample(s) Receiving to meet recomi Hydroxide Lot# 073007 -Nat (CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. Wha	were received after the recommender were received with bubble >6 m  ATION	m in diameter. served in Samp	container. (Notify PM)
Sample(s) Sample(s) Sample(s)  16. SAMPLE PRESERV Sample(s) Receiving to meet recommed Hydroxide Lot# 073007 -Nac	were received after the recommended were received with bubble >6 m  ATION were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl: Sodium Hydroxide and Zinc Acid OH; Hydrochloric Acid Lot# 092006-HCl: Sodium Hydroxide and Zinc Acid	m in diameter. served in Samp	container. (Notify PM) ole Sodium
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Sample(s) Sample(s) Sample(s) 16:::SAMPLE PRESERV Sample(s) Receiving to meet recomi Hydroxide Lot# 073007 -Nat (CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. Wha	were received after the recommended were received with bubble >6 m  ATION were received with bubble >6 m  were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Ace at time was preservative added to sample(s)?	ived in a broken m in diameter. eserved in Samp 100108-H <sub>2</sub> SO <sub>4</sub> ; Sotate Lot# 050205	container. (Notify PM) ole Sodium
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Sample(s) Sample(s) Sample(s) 16:::SAMPLE PRESERV Sample(s) Receiving to meet recomi Hydroxide Lot# 073007 -Nat (CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. Wha	were received after the recommended were received with bubble >6 m  ATION were received with bubble >6 m  were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Ace at time was preservative added to sample(s)?	ived in a broken m in diameter. eserved in Samp 100108-H <sub>2</sub> SO <sub>4</sub> ; Sotate Lot# 050205	container. (Notify PM) ole Sodium
Sample(s) Sample(s) Sample(s) 16:::SAMPLE PRESERV Sample(s) Receiving to meet recomi Hydroxide Lot# 073007 -Nat (CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. Wha	were received after the recommended were received with bubble >6 m  ATION were received with bubble >6 m  were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Ace at time was preservative added to sample(s)?	ived in a broken m in diameter. eserved in Samp 100108-H <sub>2</sub> SO <sub>4</sub> ; Sotate Lot# 050205	container. (Notify PM) ole Sodium
Sample(s) Sample(s) Sample(s) 16:::SAMPLE PRESERV Sample(s) Receiving to meet recomi Hydroxide Lot# 073007 -Nat (CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. Wha	were received after the recommended were received with bubble >6 m  ATION were received with bubble >6 m  were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Ace at time was preservative added to sample(s)?	ived in a broken m in diameter. eserved in Samp 100108-H <sub>2</sub> SO <sub>4</sub> ; Sotate Lot# 050205	container. (Notify PM) ole Sodium
Sample(s) Sample(s) Sample(s) 16:::SAMPLE PRESERV Sample(s) Receiving to meet recomi Hydroxide Lot# 073007 -Nat (CH <sub>3</sub> COO) <sub>2</sub> ZN/NaOH. Wha	were received after the recommended were received with bubble >6 m  ATION were received with bubble >6 m  were further pre mended pH level(s). Nitric Acid Lot# 100108-HNO3; Sulfuric Acid Lot# OH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Ace at time was preservative added to sample(s)?	ived in a broken m in diameter. eserved in Samp 100108-H <sub>2</sub> SO <sub>4</sub> ; Sotate Lot# 050205	container. (Notify PM) ole Sodium

1	Receipt Form/Narrative / <u>pH</u>	<u>Date</u>	Initials
Cooler #			
COOICI #	Temp. °C	Method	Coolant
			***************************************
		<del>-</del>	
crepancies Cont'd:			
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			·



# BURLINGTON DATA

#### TestAmerica Burlington Data Qualifier Definitions

#### **Organic**

- U: Compound analyzed but not detected at a concentration above the reporting limit.
- J: Estimated value.
- N: Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds (TICs) where the identification of a compound is based on a mass spectral library search.
- P: SW-846: The relative percent difference for detected concentrations between two GC columns is greater than 40%. Unless otherwise specified the higher of the two values is reported on the Form I.
  - CLP SOW: Greater than 25% difference for detected concentrations between two GC columns. Unless otherwise specified the lower of the two values is reported on the Form I.
- C: Pesticide result whose identification has been confirmed by GC/MS.
- B: Analyte is found in the sample and the associated method blank. The flag is used for tentatively identified compounds as well as positively identified compounds.
- E: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis.
- D: Concentrations identified from analysis of the sample at a secondary dilution.
- A: Tentatively identified compound is a suspected aldol condensation product.
- X,Y,Z: Laboratory defined flags that may be used alone or combined, as needed. If used, the description of the flag is defined in the project narrative.

#### Inorganic/Metals

- E: Reported value is estimated due to the presence of interference.
- N: Matrix spike sample recovery is not within control limits.
- Duplicate sample analysis is not within control limits.
- B: The result reported is less than the reporting limit but greater than the instrument detection limit.
- U: Analyte was analyzed for but not detected above the reporting limit.

#### Method Codes:

ICP-AES

MS ICP-MS

CV Cold Vapor AA

AS Semi-Automated Spectrophotometric

FQA009:02.18.08:4 TestAmerica Burlington



**Chain of Custody** 

Laboratory

Sample I.D.

A9D160101-1

A9D160101-2

**TestAmerica Burlington** 

Client Code:

K96DM

K96DN

Work Order Number

55 South Park Drive

Colchester, VT

	Need detection limit and analysis date included in report.
	Please send a signed copy of this form with the report at completion of analysis.
	Relinquished by: Alana Wangun Date/Time: 4/110/09 830
ال ا	Relinquished by: Date/Time: #1/7/09 10/6
Paqe	Received for Inb by: Date/Time: 11 1 7 10 10
w	PLEASE RETURN ORIGINAL SAMPLE ANALYSIS REQUISITION
<u>Q</u>	

Please use	Client	Sample	ID	for report

Call KEN KUZIOR with questions at 330-497-9396

TestAmerica Laboratories, Inc. SAMPLE ANALYSIS REQUISTION

SR111099

Lab Request

Cilent Sample ID MW 393 (3メ40)

MW 391

05446

1380492

at the TAL North Canton Laboratory

Shipping Method:

Report Package:

Project Manager:

Sampling Date

2009-04-14

2009-04-14

Need Analytical Report

Report

2009-04-29

KEN KUZIOR

Analysis Required

WATER, RSK-175, Carbon Dioxide (Burlingt

WATER, RSK-175, Carbon Dioxide (Burlingt

**FEDEX** 



## Sample Data Summary – RSK-175 CO2

STLOHN SAMPLE NO.

Lab Name: TESTAMERIO	CA BURLINGTON	Contract: 29008	MW 391
Lab Code: STLV	Case No.: DTE-MI	SAS No.: SDG	No.: 9D160101
Matrix: (soil/water)	) WATER	Lab Sample ID	: 792877
Sample wt/vol:	(g/mL) ML	Lab File ID:	18AP091113-R021
Level: (low/med)	LOM	Date Received	: 04/17/09
% Moisture: not dec	•	Date Analyzed	: 04/18/09
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Fact	or: 1.0
Soil Extract Volume	:(uL)	Soil Aliquot	Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/	=
124-38-9	Carbon Dioxide		1600

STLOHN SAMPLE NO.

				MW 393
Lab Na	ame: TESTAMERIC	A BURLINGTON	Contract: 29008	
Lab Co	ode: STLV	Case No.: DTE-MI	SAS No.: SDG	No.: 9D160101
Matri	k: (soil/water)	WATER	Lab Sample ID	: 792876
Sample	e wt/vol:	(g/mL) ML	Lab File ID:	18AP091259-R011
Level	(low/med)	LOW	Date Received	: 04/17/09
% Mois	sture: not dec.	Management of the Control of the Con	Date Analyzed	: 04/18/09
GC Col	lumn: CTR-1	ID: 6.35 (mm)	Dilution Facto	or: 2.0
Soil E	Extract Volume:	(uL)	Soil Aliquot	Volume:(uL
	CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/	=
	124-38-9	Carbon Dioxide	·	16000

CLIENT SAMPLE NO.

Lab Name: TESTAMERI	CA BURLINGTON	Contract: 29008	MBLKC041809A
Lab Code: STLV	Case No.: DTE-MI	SAS No.: SDG	No.: 9D160101
Matrix: (soil/water	) WATER	Lab Sample ID	: MBLKC041809A
Sample wt/vol:	(g/mL) ML	Lab File ID:	18AP091033-R031
Level: (low/med)	LOW	Date Received	
% Moisture: not dec	•	Date Analyzed	: 04/18/09
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Facto	or: 1.0
Soil Extract Volume	:(uL)	Soil Aliquot	Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/	
124-38-9	Carbon Dioxide		1000 U

CLIENT SAMPLE NO.

Lab Name: TESTAMER	RICA BURLINGTON	Contract: 29008
Lab Code: STLV	Case No.: DTE-MI	SAS No.: SDG No.: 9D160101
Matrix: (soil/wate	er) WATER	Lab Sample ID: C041809ALCS
Sample wt/vol:	(g/mL) ML	Lab File ID: 18AP091033-R021
Level: (low/med)	LOW	Date Received:
% Moisture: not de	ec	Date Analyzed: 04/18/09
GC Column: CTR-1	ID: 6.35 (mm)	Dilution Factor: 1.0
Soil Extract Volum	ne:(uL)	Soil Aliquot Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q
124-38-9	Carbon Dioxide	s5100

### FORM 3 WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9D160101

Matrix Spike - Sample No.: C041809ALCS

	SPIKE	SAMPLE	LCS	LCS	QC.
	ADDED	CONCENTRATION	CONCENTRATION.	ક	LIMITS
COMPOUND	(ug/L)	(ug/L)	(ug/L)	REC #	REC.
		==========	=========	=====	=====
Carbon Dioxide	5000		5100	102	70-130

- # Column to be used to flag recovery and RPD values with an asterisk
- \* Values outside of QC limits

RPD: 0 out of 0 outside limits Spike Recovery: 0 out of 1 outside limits

3	·
COMMENTS:	

### FORM 4 VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MBLKC041809A

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9D160101

Lab File ID: 18AP091033-R031

Lab Sample ID: MBLKC041809A

Date Analyzed: 04/18/09

Time Analyzed: 1052

GC Column: CTR-1 ID: 6.35 (mm)

Heated Purge: (Y/N) N

Instrument ID: 2866\_2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

		LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
	*****	=======================================		
01	C041809ALCS	C041809ALCS	18AP091033-R	1048
02	MW 391	792877	18AP091113-R	1129
03	MW 393	792876	18AP091259-R	1309
04				
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COMMENTS:		
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page 1 of 1

FORM 6 VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.:

SDG No.: 9D160101

Instrument ID: 2866 2

Calibration Date(s): 03/28/09 03/28/09

Heated Purge: (Y/N) N Calibration Time(s): 1056

1114

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF 1000	RRF 2500	RRF 5000	7500	RRF 10000	RRF	% RSD ====
arbon Dioxide	* 0.408	0.394	0.414	0.387	0.411	0.403	2.
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\* Compounds with required minimum RRF and maximim \*RSD values.
All other compounds must meet a minimim RRF of 0.010.

#### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9D160101

Instrument ID: 2866\_2 Calibration Date: 04/18/09 Time: 1035

Lab File ID: 18AP091033-R01 Init. Calib. Date(s): 03/28/09 03/28/09

Heated Purge: (Y/N) N Init. Calib. Times: 1056 1114

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
Carbon Dioxide	0.403	0.400		0.7	30.0

### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9D160101

Instrument ID: 2866\_2 Calibration Date: 04/18/09 Time: 1422

Lab File ID: 18AP091420-R01 Init. Calib. Date(s): 03/28/09 03/28/09

Heated Purge: (Y/N) N Init. Calib. Times: 1056 1114

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF ========	RRF 5000 =======	MIN RRF	%D ====== 3 0	MAX %D ====
Carbon Dioxide	0.403	0.415		3.0	30.0
	i i			l	

# FORM 8 VOLATILE ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9D160101

GC Column: CTR-1

ID: 6.35 (mm) Init. Calib. Date(s): 03/28/09 03/28/09

Instrument ID: 2866 2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURRO	GATE RT FROM I	INITIAL CALI	IBRATION		
				······································	**************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	CLIENT	LAB	DATE	TIME		
	SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT #	RT #
			========		=======	
01		CAL1	03/28/09	1056		
02	CAL2	CAL2	03/28/09	1100	Harris and the state of the sta	
03	CAL3	CAL3	03/28/09	1104		
04	CAL4	CAL4	03/28/09	1109		
05	CAL5	CAL5	03/28/09	1114		
06	CCA	CCV	04/18/09	1035		
07	C041809ALCS	C041809ALCS	04/18/09	1048		***************************************
80	MBLKC041809A	MBLKC041809A	04/18/09	1052	***************************************	
09	MW 391	792877	04/18/09	1129		
10	MW 393	792876	04/18/09	1309		
11	CCV	CCV	04/18/09	1422		
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QC LIMITS

page 1 of 1

FORM VIII VOA

<sup>#</sup> Column used to flag retention time values with an asterisk.

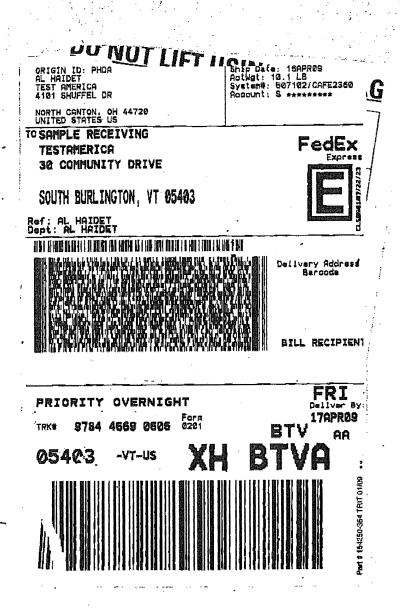
<sup>\*</sup> Values outside of QC limits.



# **Sample Handling**

Page 15 of 1

DG: 9D160101



			Tes	st	America Bu	irlinate	חכ	·				
		SAN	IPLE RI	ΞC	EIPT & LO	GINC	HECH	(LIST				
Client: KITL DHN			Date	Re	ceived: ()	//4/	<b>34</b>	Log In	Date:	17	17/09	<u> </u>
ETR: 131281			Time	Re	eceived:	10		By:		ممل		
SDG: 9D160101			Raca	ive	d By:			Signatu	ire:		<del>`</del>	
Project: 29006			# Co	ole	rs Received:	1		PM Sig	nature	1	PA/	
Samples Delivered By: A Sh	ippi	ng Service 🗅 Co	urier o Har	nd :	Other (specify	)		Date:		Vin	Ila HAO	
List Air bill Number(s) or Atta				-	,						11.00	
COOLER SCREEN	.4					YES	NO	NA	1		COMMENTS	od i d
There is no evidence to indi	-				• .	X						
Custody seals are present a	nd i	ntact				X						
Custody seal numbers are p	rese	ent					LY	<u> </u>				
If yes, list custody seal numb	ers	:										
,	,											,
Thermal Preservation Type:	XV	Vet Ice a Blue Ic	e o None	۵	Other (specify)							
IR Gun ID: 46	1	Correction Factor	(CF) = -	- /	2°C							
Cooler 1: 0.2	°C (	Cooler 6		°C	Cooler 11			Cooler			<u>"C</u>	
	°C (	Cooler 7		•c	Cooler 12			Cooler			*C	
Cooler 3:	°C (	Cooler 8		°Ç	Copler 13		-c	Cooler	18		,C	
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		Cooler 10			Cooler 15			Cooler			,C	
Unless otherwise documente	d, t	he recorded temp	oerature rea	adii	ngs are adjusted	d readings	to acco	ount for t	he CF	of the la	R Gun	
EPA Criteria: 0-6°C, except f	or a	ir and geo sampi	es which s	họi	ıld be at ambier	it te <u>m</u> pera	iture and	d tissue .	sample	s, whic	h may be frozen.	
Some clients require thermal	pre	eservation criteria	of 2-4°C o	r o	her such criteria	a. The PN	muşt n	ctify SM	when a	altemat	e criteria is specifii	ed.
SAMPLE CONDITION.						YES		NA ·			COMMENTS	
Sample containers were rece	eive	d intact				X			<u> </u>	-	· · · · · · · · · · · · · · · · · · ·	
Legible sample labels are aff	ixec	to each contain	er			X						
CHAIN OF CUSTODY (COC	} :-		ei, 4			YES	NO	NA.		."	COMMENTS	ì.
COC is present and includes				ch	container:							
· Sample ID / Sample Descrip	ptio	n				X _						
- Date of Sample Collection						7		L				
Time of Sample Collection						×						
· Identification of the Sample	Г						Х.					
Preservation Type								X				
<ul> <li>Requested Tests Method(s)</li> </ul>						I X			<u> </u>			···
<ul> <li>Necessary Signatures</li> </ul>	_					X						
Internal Chain of Custody (IC	QC.	) Required					×					
If yes to above, ICOC Record								<u> </u>				
SAMPLE INTEGRITY (USA	3IL	my 🧏 i i i i je			3 8	YES	NO.	NA :			COMMENTS	
The sample container matche	es th	he COC		<u>~</u>	W/17/1/4	<u>-</u> ≻←	<b>&gt;</b>			<del>خلا / ب</del>	<u> </u>	
Appropriate sample container	's W	ere received for i	he tests re	que	ested	<u> </u>		***	·		just and the many and the second	
Samples were received within	_					1>						<del>elementa ele somo</del>
Sufficient amount of sample is	s pr	ovided for reques	ted analys	es		ノベ						
VOA vials do not have heads	pac	e or a bubble >6r	nm (1/4* di	am	eter)	1×_					. M	
Appropriate preservatives we						<u> </u>					·	
pH of inorganic samples chec				fica	tion							
If no, attach Inorganic Sample		HAdjustment For	n			⊥ <u></u>		X				
ANOMALY INCR SUMMARY							1				,	-
- Snok lakes 1	4	two of or	30, U	>(	راسدديك	F ( = }	tis	<u>. Nic</u>	4000	<u> يال</u>	d For lathe	
			······································									
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FSR002:12.19.07:3 TestAmerica Burlington



# BURLINGTON DATA

### TestAmerica Burlington Data Qualifier Definitions

### **Organic**

- U: Compound analyzed but not detected at a concentration above the reporting limit.
- J: Estimated value.
- N: Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds (TICs) where the identification of a compound is based on a mass spectral library search.
- P: SW-846: The relative percent difference for detected concentrations between two GC columns is greater than 40%. Unless otherwise specified the higher of the two values is reported on the Form I.
  - CLP SOW: Greater than 25% difference for detected concentrations between two GC columns. Unless otherwise specified the lower of the two values is reported on the Form I.
- C: Pesticide result whose identification has been confirmed by GC/MS.
- B: Analyte is found in the sample and the associated method blank. The flag is used for tentatively identified compounds as well as positively identified compounds.
- E: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis.
- D: Concentrations identified from analysis of the sample at a secondary dilution.
- A: Tentatively identified compound is a suspected aldol condensation product.
- X,Y,Z: Laboratory defined flags that may be used alone or combined, as needed. If used, the description of the flag is defined in the project narrative.

### Inorganic/Metals

- E: Reported value is estimated due to the presence of interference.
- N: Matrix spike sample recovery is not within control limits.
- Duplicate sample analysis is not within control limits.
- B: The result reported is less than the reporting limit but greater than the instrument detection limit.
- U: Analyte was analyzed for but not detected above the reporting limit.

#### **Method Codes:**

P ICP-AES

MS ICP-MS

CV Cold Vapor AA

AS Semi-Automated Spectrophotometric

FQA009:02.18.08:4 TestAmerica Burlington



**Chain of Custody** 

TestAmeri46af Surlington Page 2 of 1

Page

TestAmerica Laboratories, Inc.

SAMPLE ANALYSIS REQUISTION

Lab Request

SRILLIOI

**Need Analytical Report** 

Report 2009-04-30

Colchester, VT

55 South Park Drive

05446

Client Code:

TestAmerica Burlington

1380492

Project Manager:

Report Package:

KEN KUZIOR

Sample I.D. A9D160107-1

Laboratory

Work Order Number

Client Sample 10 MW381D

Sampling Date 2009-04-15 10:50

**Analysis Required** WATER, RSK-175, Carbon Dioxide (Burlingt

A9D160107-2

K96H5

K96HX

MW384D

2009-04-15 12:40

WATER, RSK-175, Carbon Dioxide (Burlingt

Please use Client Sample ID for report

Call KEN KUZIOR with questions at 330-497-9396

at the TAL North Canton Laboratory

Need detection limit and analysis date included in report.

Please send a signed copy of this form with the report at completion of analysis.

Date/Time: 4/16/09 1100

PLEASE RETURN ORIGINAL SAMPLE ANALYSIS REQUISITION

Shipping Method:

FEDEX



# Sample Data Summary – RSK-175 CO2

STLOHN SAMPLE NO.

* 1 ** ***		Combine of 20000	MW381D	
Lab Name: TES	TAMERICA BURLINGTON	Contract: 29008		
Lab Code: STI	V Case No.: DTE-M	I SAS No.: SDG	No.: 9D160107	
Matrix: (soil	/water) WATER	Lab Sample ID:	792878	
Sample wt/vol	: (g/mL) M	L Lab File ID:	18AP091113-R031	
Level: (low	/med) LOW	Date Received:	04/17/09	
% Moisture: n	ot dec	Date Analyzed:	: 04/18/09	
GC Column: CT	TR-1 ID: 6.35 (mm)	Dilution Facto	or: 1.0	
Soil Extract	Volume:(uL)	Soil Aliquot V	Volume:(u	L
CAS NO	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/I	•	
124-38	-9Carbon Dioxi	de	9700	

STLOHN SAMPLE NO.

Lab Name: TESTAMERICA BURLINGTON	MW384D
Lab Code: STLV Case No.: DTE-MI	SAS No.: SDG No.: 9D160107
Matrix: (soil/water) WATER	Lab Sample ID: 792879
Sample wt/vol: (g/mL) ML	Lab File ID: 18AP091113-R041
Level: (low/med) LOW	Date Received: 04/17/09
% Moisture: not dec	Date Analyzed: 04/18/09
GC Column: CTR-1 ID: 6.35 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q
124-38-9Carbon Dioxide	9000

CLIENT SAMPLE NO.

					MBLKO	041809	A
Lab Na	me: TESTAMERIO	A BURLINGTON	Contract: 29008		ann de annual de la company de la company de la company de la company de la company de la company de la company		
Lab Co	ode: STLV	Case No.: DTE-MI	SAS No.:	SDG	No.: 9	D16010	7
Matrix	: (soil/water)	WATER	Lab Sam	mple ID:	MBLKC	041809	A
Sample	e wt/vol:	(g/mL) ML	Lab Fil	le ID:	18AP0	91033-	R031
Level:	(low/med)	LOW	Date Re	eceived:	<del>manus manus ma</del> n	<del></del>	
% Mois	sture: not dec.	Address of the Control of the Contro	Date An	nalyzed:	04/18	/09	
GC Col	lumn: CTR-1	ID: 6.35 (mm)	Dilutio	on Facto	r: 1.0	ı	
Soil E	Extract Volume:	(uL)	Soil Al	Liquot V	olume:		(uL
	CAS NO.	COMPOUND	CONCENTRATION (ug/L or ug/F		•	Q	
	124-38-9	Carbon Dioxide	=		1000	ប	

CLIENT SAMPLE NO.

				C041809ALCS	
Lab Name: TESTAMERIC	A BURLINGTON	Contract:	29008		
Lab Code: STLV	Case No.: DTE-MI	SAS No.:	SDG	No.: 9D160107	
Matrix: (soil/water)	WATER		Lab Sample ID:	: C041809ALCS	
Sample wt/vol:	(g/mL) ML		Lab File ID:	18AP091033-R02	1
Level: (low/med)	LOW		Date Received:		
% Moisture: not dec.	Managing and the second		Date Analyzed	: 04/18/09	
GC Column: CTR-1	ID: 6.35 (mm)		Dilution Facto	or: 1.0	
Soil Extract Volume:	(uL)		Soil Aliquot V	Volume:	_(uL)
CAS NO.	COMPOUND		TRATION UNITS or ug/Kg) UG/1		
124-38-9	Carbon Dioxide	<b>=</b>		5100	

### FORM 3 WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9D160107

Matrix Spike - Sample No.: C041809ALCS

,		CONCERNATION	LCS CONCENTRATION	T	QC.
COMPOUND	(ug/L)	(ug/L)	(ug/L)	REC #	REC.
Carbon Dioxide	5000		5100	102	70-130
					<b></b>

- # Column to be used to flag recovery and RPD values with an asterisk
- \* Values outside of QC limits

RPD: 0 out of 0 outside limits Spike Recovery: 0 out of 1 outside limits

COMMENTS:	

### FORM 4 VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MBLKC041809A

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.:

SDG No.: 9D160107

Lab File ID: 18AP091033-R031

Lab Sample ID: MBLKC041809A

Date Analyzed: 04/18/09

Time Analyzed: 1052

GC Column: CTR-1 ID: 6.35 (mm) Heated Purge: (Y/N) N

Instrument ID: 2866\_2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

		LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
	=======================================			
01	C041809ALCS	C041809ALCS	18AP091033-R	1048
02	MW381D	792878	18AP091113-R	1140
	1			1150
03	MW384D	792879	18AP091113-R	1120
04				
05				***************************************
06				
07				
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11				***************************************
12		***************************************		
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30				***************************************
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COMMENTS:	

page 1 of 1

### FORM 6 VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9D160107

Instrument ID: 2866\_2

Calibration Date(s): 03/28/09

03/28/09

Heated Purge: (Y/N) N Calibration Time(s): 1056

1114

GC Column: CTR-1 ID: 6.35 (mm)

	RRF	RRF	RRF	RRF	RRF		
COMPOUND	1000	2500	5000 =====	7500	10000	RRF	RSD
Carbon Dioxide		0.394	0.414				2.9
			di nana da adingkalakangkhana				
				***************************************			
				***************************************			
			, manual				
	**************************************		***************************************	hydridist in the second second			
			***************************************	***************************************			
		-					
				***************************************			
						***************************************	

\* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9D160107

Instrument ID: 2866\_2 Calibration Date: 04/18/09 Time: 1035

Lab File ID: 18AP091033-R01 Init. Calib. Date(s): 03/28/09 03/28/09

Heated Purge: (Y/N) N Init. Calib. Times: 1056 1114

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
Carbon Dioxide	0.403	0.400	======	0.7	30.0

### FORM 7 VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TESTAMERICA BURLINGTON Contract: 29008

Lab Code: STLV Case No.: DTE-MI SAS No.: SDG No.: 9D160107

Instrument ID: 2866\_2 Calibration Date: 04/18/09 Time: 1422

Lab File ID: 18AP091420-R01 Init. Calib. Date(s): 03/28/09 03/28/09

Heated Purge: (Y/N) N Init. Calib. Times: 1056 1114

GC Column: CTR-1 ID: 6.35 (mm)

COMPOUND	RRF	RRF 5000	MIN RRF	%D	MAX %D
		========		=====	====
Carbon Dioxide	0.403	0.415		3.0	30.0

# FORM 8 VOLATILE ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON

Contract: 29008

Lab Code: STLV

Case No.: DTE-MI SAS No.:

SDG No.: 9D160107

GC Column: CTR-1

ID: 6.35 (mm) Init. Calib. Date(s): 03/28/09 03/28/09

Instrument ID: 2866 2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURRO					
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #	RT #
07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29 30	SAMPLE NO.  CAL1 CAL2 CAL3 CAL4 CAL5 CCV C041809ALCS MBLKC041809A MW381D MW384D CCV	SAMPLE ID  CAL1 CAL2 CAL3 CAL4 CAL5 CCV C041809ALCS MBLKC041809A 792878 792879 CCV	ANALYZED  03/28/09 03/28/09 03/28/09 03/28/09 03/28/09 04/18/09 04/18/09 04/18/09 04/18/09	1056 1100 1104 1109 1114 1035 1048 1052 1140 1150 1422	RT #	RT #
31 32						

QC LIMITS

page 1 of 1

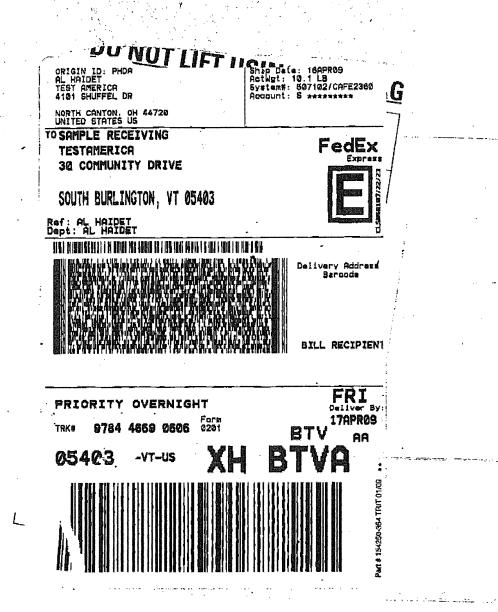
FORM VIII VOA

<sup>#</sup> Column used to flag retention time values with an asterisk.

<sup>\*</sup> Values outside of QC limits.



# Sample Handling



		**************************************			America B			77711			NIII.	
-	•		SAF	MPLE REC								
Client	STUDING	STUDEN Date Received: OL					Ø4	Log in Date: 04/17/09				Z = I
ETR:	131282	_		Time R	eceived:	5175		By: um 1				
SΩG:	9016010						Signet	!re: -	-4	-A A	_	
Project:			# Cools	Coolers Received:		<u> </u>		PM Signature:		1618	12.)	
	ples Delivered By: A Shipping Service o Courier o Hand o Other (specify)				y)	)		Date:		100		
	ill Number(s) or A			The second secon								
									1117			
COOL #5	R SCREEN ;	,4		<del></del>		YES	NO	I NA	1	C	DMMENTS	
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There is no evidence to indicate tampering Custody seals are present and intact							$+\dot{-}$	-	$\dagger$			
							10	<del> </del>	<del> </del> -			
Custody seal numbers are present							<u> </u>	<u></u>	J			·····
ir yes, iisi	t custody seal nur	noers:										
		· V	51		Oli (							
	Preservation Type											
IR Gun II	<del></del>		rrection Facto		<u> </u>			15				
Cooler 1:		•C Co			Cooler 11			Cooler			<u>°C</u>	
Cooler 2:		•C Co		The same of the sa	Cooler 12			Cooler			<u>°C</u>	
Coolar 3:		°C Co		B	Cooler 13			Cooler	-		°C	
Cooler 4:		°C Co	oler 9		Coolar 14			Cooler			·c	
Cooler 5			oler 10		Cooler 15			Cooler :			.c	
Unless of	therwise documer	ited, the	recorded tem	perature readir	ngs ara adjuste	d reading.	s to acco	ount for t	ha CF o	f the IR G	un	
EPA Crite	eria: 0-6°С, ехсер	t for air a	and geo samp	les which shou	ild be at ambie	nt tempera	aturə anı	d tissue	sample s	, which m	ay be frozer	7.
Some clie	ents require therm	al prese	rvation criteria	of 2-4°C or of	her such criter	a. The PN	f mușt n	otify SM	when al	itemate ci	iteria is spe	cified.
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Sample ID / Sample Description						13						
Date of Sample Collection						1×-	<del> </del>					
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	ole container matc					<u>,×</u> .						· //
Appropriate sample containers were received for the tests requested						_خ`ا_						
Samples were received within holding time						1×						
Sufficient amount of sample is provided for requested analyses						<b>X</b>						
VOA vials do not have headspace or a bubble >6mm (1/4" diameter)						入						
Appropriate preservatives were used for the tests requested								入				
H of inorg	ganic samples ch	ecked ar	nd is within me	ethod specifica	tion		•	_X_				
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FSR002:12.19.07:3 TestAmerica Suriington



# END OF REPORT