Jump, Christine

From: Arnold, Doug <Doug.Arnold@alston.com>
Sent: Monday, November 30, 2015 2:06 PM
To: Jump, Christine
Subject: Jefferson Update
Attachments: TestAmerica Analytical Report.pdf

Dear Chris:

I hope that you had a good Thanksgiving.

The November sampling results are attached. In brief, TCE is the only constituent detected at a concentration above the laboratory reporting limits in the groundwater sample collected from MW-66. The only compound detected in the groundwater sample collected from MW-67 above the laboratory reporting limits was chloroform, which Golder believes may be a remnant of the chlorinated water from the public water supply used during well installation.

Once you have had an opportunity to review these results, please let me know if there is a convenient time to schedule a call to discuss next steps.

Regards, Doug

Douglas S. Arnold | Alston & Bird LLP
Partner and Co-Chair,
Environmental, Energy & Natural Resources Practice Group
1201 West Peachtree Street | Atlanta, GA 30309-3424
T: 404-881-7637 | F: 404-881-7777 | E: doug.arnold@alston.com | www.alston.com/doug_arnold/

Atlanta | Brussels | Charlotte | Dallas | Los Angeles | New York | Research Triangle | Silicon Valley | Washington DC
16 Consecutive Years on Fortune® Magazine's "The 100 Best Companies to Work For"™

NOTICE: This e-mail message and all attachments may contain legally privileged and confidential information intended solely for the use of the addressee. If you are not the intended recipient, you are hereby notified that you may not read, copy, distribute or otherwise use this message or its attachments. If you have received this message in error, please notify the sender by email and delete all copies of the message immediately.

RCRA
555450

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-68678-1
TestAmerica Sample Delivery Group: 103-87305
Client Project/Site: Electrolux - Jefferson, IA

For:
Golder Associates Inc.
670 North Commercial Street
Suite 103
Manchester, New Hampshire 03101

Attn: James Peace

Authorized for release by:
11/19/2015 1:49:34 PM

Shawn Hayes, Project Manager II
(319)277-2401
shawn.hayes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Sample Summary 4
Detection Summary 5
Client Sample Results 6
Definitions 14
Surrogate Summary 15
QC Sample Results 16
QC Association 22
Chronicle 23
Certification Summary 24
Method Summary 25
Chain of Custody 26
Receipt Checklists 28

Case Narrative

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Job ID: 310-68678-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-68678-1

Comments
No additional comments.

Receipt
The samples were received on 11/10/2015 5:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

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

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

Sample Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-68678-1	MW-67	Ground Water	11/09/15 15:55	11/11/15 17:45
310-68678-2	MW-66	Ground Water	11/09/15 16:55	11/11/15 17:45
310-68678-3	Dup	Ground Water	11/09/15 00:00	11/11/15 17:45
310-68678-4	Trip Blank	Water	11/09/15 00:00	11/11/15 17:45

Detection Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: MW-67 — Lab Sample ID: 310-68678-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.16		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: MW-66 — Lab Sample ID: 310-68678-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.94		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: Dup — Lab Sample ID: 310-68678-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.05		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-68678-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: MW-67

Date Collected: 11/09/15 15:55
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-1

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/18/15 21:42	1
Benzene	<0.500		0.500		ug/L			11/18/15 21:42	1
Bromobenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Bromochloromethane	<5.00		5.00		ug/L			11/18/15 21:42	1
Bromodichloromethane	<1.00		1.00		ug/L			11/18/15 21:42	1
Bromoform	<5.00		5.00		ug/L			11/18/15 21:42	1
Bromomethane	<4.00		4.00		ug/L			11/18/15 21:42	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/18/15 21:42	1
n-Butylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Carbon disulfide	<1.00		1.00		ug/L			11/18/15 21:42	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/18/15 21:42	1
Chlorobenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/18/15 21:42	1
Chloroethane	<4.00		4.00		ug/L			11/18/15 21:42	1
Chloroform	**2.16**		1.00		ug/L			11/18/15 21:42	1
Chloromethane	<3.00		3.00		ug/L			11/18/15 21:42	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 21:42	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/18/15 21:42	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/18/15 21:42	1
Dibromomethane	<1.00		1.00		ug/L			11/18/15 21:42	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/18/15 21:42	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/18/15 21:42	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/18/15 21:42	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/18/15 21:42	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 21:42	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/18/15 21:42	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/18/15 21:42	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/18/15 21:42	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/18/15 21:42	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 21:42	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 21:42	1
Ethylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/18/15 21:42	1
Hexane	<1.00		1.00		ug/L			11/18/15 21:42	1
Isopropylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/18/15 21:42	1
Methylene Chloride	<5.00		5.00		ug/L			11/18/15 21:42	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/18/15 21:42	1
Naphthalene	<5.00		5.00		ug/L			11/18/15 21:42	1
N-Propylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Styrene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 21:42	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: MW-67

Date Collected: 11/09/15 15:55
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-1

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 21:42	1
Tetrachloroethene	<1.00		1.00		ug/L			11/18/15 21:42	1
Toluene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 21:42	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 21:42	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/18/15 21:42	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/18/15 21:42	1
Trichloroethene	<1.00		1.00		ug/L			11/18/15 21:42	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/18/15 21:42	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/18/15 21:42	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 21:42	1
Vinyl chloride	<1.00		1.00		ug/L			11/18/15 21:42	1
Xylenes, Total	<3.00		3.00		ug/L			11/18/15 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*75 - 120*		*11/18/15 21:42*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 120*		*11/18/15 21:42*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/18/15 21:42*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: MW-66

Date Collected: 11/09/15 16:55
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-2

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/18/15 22:03	1
Benzene	<0.500		0.500		ug/L			11/18/15 22:03	1
Bromobenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Bromochloromethane	<5.00		5.00		ug/L			11/18/15 22:03	1
Bromodichloromethane	<1.00		1.00		ug/L			11/18/15 22:03	1
Bromoform	<5.00		5.00		ug/L			11/18/15 22:03	1
Bromomethane	<4.00		4.00		ug/L			11/18/15 22:03	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/18/15 22:03	1
n-Butylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Carbon disulfide	<1.00		1.00		ug/L			11/18/15 22:03	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/18/15 22:03	1
Chlorobenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/18/15 22:03	1
Chloroethane	<4.00		4.00		ug/L			11/18/15 22:03	1
Chloroform	<1.00		1.00		ug/L			11/18/15 22:03	1
Chloromethane	<3.00		3.00		ug/L			11/18/15 22:03	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 22:03	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/18/15 22:03	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/18/15 22:03	1
Dibromomethane	<1.00		1.00		ug/L			11/18/15 22:03	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/18/15 22:03	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/18/15 22:03	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/18/15 22:03	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/18/15 22:03	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 22:03	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/18/15 22:03	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/18/15 22:03	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/18/15 22:03	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/18/15 22:03	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 22:03	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 22:03	1
Ethylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/18/15 22:03	1
Hexane	<1.00		1.00		ug/L			11/18/15 22:03	1
Isopropylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/18/15 22:03	1
Methylene Chloride	<5.00		5.00		ug/L			11/18/15 22:03	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/18/15 22:03	1
Naphthalene	<5.00		5.00		ug/L			11/18/15 22:03	1
N-Propylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Styrene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 22:03	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: MW-66

Date Collected: 11/09/15 16:55
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-2

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 22:03	1
Tetrachloroethene	<1.00		1.00		ug/L			11/18/15 22:03	1
Toluene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 22:03	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 22:03	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/18/15 22:03	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/18/15 22:03	1
Trichloroethene	**3.94**		1.00		ug/L			11/18/15 22:03	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/18/15 22:03	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/18/15 22:03	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 22:03	1
Vinyl chloride	<1.00		1.00		ug/L			11/18/15 22:03	1
Xylenes, Total	<3.00		3.00		ug/L			11/18/15 22:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*11/18/15 22:03*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 120*		*11/18/15 22:03*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/18/15 22:03*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: Dup

Date Collected: 11/09/15 00:00
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-3
Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/18/15 22:25	1
Benzene	<0.500		0.500		ug/L			11/18/15 22:25	1
Bromobenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Bromochloromethane	<5.00		5.00		ug/L			11/18/15 22:25	1
Bromodichloromethane	<1.00		1.00		ug/L			11/18/15 22:25	1
Bromoform	<5.00		5.00		ug/L			11/18/15 22:25	1
Bromomethane	<4.00		4.00		ug/L			11/18/15 22:25	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/18/15 22:25	1
n-Butylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Carbon disulfide	<1.00		1.00		ug/L			11/18/15 22:25	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/18/15 22:25	1
Chlorobenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/18/15 22:25	1
Chloroethane	<4.00		4.00		ug/L			11/18/15 22:25	1
Chloroform	**2.05**		1.00		ug/L			11/18/15 22:25	1
Chloromethane	<3.00		3.00		ug/L			11/18/15 22:25	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 22:25	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/18/15 22:25	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/18/15 22:25	1
Dibromomethane	<1.00		1.00		ug/L			11/18/15 22:25	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/18/15 22:25	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/18/15 22:25	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/18/15 22:25	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/18/15 22:25	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 22:25	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/18/15 22:25	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/18/15 22:25	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/18/15 22:25	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/18/15 22:25	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 22:25	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 22:25	1
Ethylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/18/15 22:25	1
Hexane	<1.00		1.00		ug/L			11/18/15 22:25	1
Isopropylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/18/15 22:25	1
Methylene Chloride	<5.00		5.00		ug/L			11/18/15 22:25	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/18/15 22:25	1
Naphthalene	<5.00		5.00		ug/L			11/18/15 22:25	1
N-Propylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Styrene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 22:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: Dup

Date Collected: 11/09/15 00:00
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-3

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 22:25	1
Tetrachloroethene	<1.00		1.00		ug/L			11/18/15 22:25	1
Toluene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 22:25	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 22:25	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/18/15 22:25	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/18/15 22:25	1
Trichloroethene	<1.00		1.00		ug/L			11/18/15 22:25	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/18/15 22:25	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/18/15 22:25	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 22:25	1
Vinyl chloride	<1.00		1.00		ug/L			11/18/15 22:25	1
Xylenes, Total	<3.00		3.00		ug/L			11/18/15 22:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*75 - 120*		*11/18/15 22:25*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 120*		*11/18/15 22:25*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/18/15 22:25*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: Trip Blank

Date Collected: 11/09/15 00:00
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/18/15 18:27	1
Benzene	<0.500		0.500		ug/L			11/18/15 18:27	1
Bromobenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Bromochloromethane	<5.00		5.00		ug/L			11/18/15 18:27	1
Bromodichloromethane	<1.00		1.00		ug/L			11/18/15 18:27	1
Bromoform	<5.00		5.00		ug/L			11/18/15 18:27	1
Bromomethane	<4.00		4.00		ug/L			11/18/15 18:27	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/18/15 18:27	1
n-Butylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Carbon disulfide	<1.00		1.00		ug/L			11/18/15 18:27	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/18/15 18:27	1
Chlorobenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/18/15 18:27	1
Chloroethane	<4.00		4.00		ug/L			11/18/15 18:27	1
Chloroform	<1.00		1.00		ug/L			11/18/15 18:27	1
Chloromethane	<3.00		3.00		ug/L			11/18/15 18:27	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 18:27	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/18/15 18:27	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/18/15 18:27	1
Dibromomethane	<1.00		1.00		ug/L			11/18/15 18:27	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/18/15 18:27	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/18/15 18:27	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/18/15 18:27	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/18/15 18:27	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 18:27	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/18/15 18:27	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/18/15 18:27	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/18/15 18:27	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/18/15 18:27	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 18:27	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 18:27	1
Ethylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/18/15 18:27	1
Hexane	<1.00		1.00		ug/L			11/18/15 18:27	1
Isopropylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/18/15 18:27	1
Methylene Chloride	<5.00		5.00		ug/L			11/18/15 18:27	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/18/15 18:27	1
Naphthalene	<5.00		5.00		ug/L			11/18/15 18:27	1
N-Propylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Styrene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 18:27	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: Trip Blank

Date Collected: 11/09/15 00:00
Date Received: 11/11/15 17:45

Lab Sample ID: 310-68678-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 18:27	1
Tetrachloroethene	<1.00		1.00		ug/L			11/18/15 18:27	1
Toluene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 18:27	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 18:27	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/18/15 18:27	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/18/15 18:27	1
Trichloroethene	<1.00		1.00		ug/L			11/18/15 18:27	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/18/15 18:27	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/18/15 18:27	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 18:27	1
Vinyl chloride	<1.00		1.00		ug/L			11/18/15 18:27	1
Xylenes, Total	<3.00		3.00		ug/L			11/18/15 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*75 - 120*		*11/18/15 18:27*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 120*		*11/18/15 18:27*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/18/15 18:27*	*1*

Glossary

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

Surrogate Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Ground Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-120)	(75-120)	(80-120)
310-68678-1	MW-67	103	100	98
310-68678-1 MS	MW-67	100	99	101
310-68678-1 MSD	MW-67	98	100	97
310-68678-2	MW-66	100	96	96
310-68678-3	Dup	106	100	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-120)	(75-120)	(80-120)
310-68678-4	Trip Blank	105	99	100
LCS 310-109142/5	Lab Control Sample	100	101	97
MB 310-109142/7	Method Blank	100	103	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-109142/7
Matrix: Water
Analysis Batch: 109142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/18/15 17:00	1
Benzene	<0.500		0.500		ug/L			11/18/15 17:00	1
Bromobenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Bromochloromethane	<5.00		5.00		ug/L			11/18/15 17:00	1
Bromodichloromethane	<1.00		1.00		ug/L			11/18/15 17:00	1
Bromoform	<5.00		5.00		ug/L			11/18/15 17:00	1
Bromomethane	<4.00		4.00		ug/L			11/18/15 17:00	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/18/15 17:00	1
n-Butylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Carbon disulfide	<1.00		1.00		ug/L			11/18/15 17:00	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/18/15 17:00	1
Chlorobenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/18/15 17:00	1
Chloroethane	<4.00		4.00		ug/L			11/18/15 17:00	1
Chloroform	<1.00		1.00		ug/L			11/18/15 17:00	1
Chloromethane	<3.00		3.00		ug/L			11/18/15 17:00	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 17:00	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/18/15 17:00	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/18/15 17:00	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/18/15 17:00	1
Dibromomethane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/18/15 17:00	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/18/15 17:00	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 17:00	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/18/15 17:00	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/18/15 17:00	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/18/15 17:00	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/18/15 17:00	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 17:00	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/18/15 17:00	1
Ethylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/18/15 17:00	1
Hexane	<1.00		1.00		ug/L			11/18/15 17:00	1
Isopropylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/18/15 17:00	1
Methylene Chloride	<5.00		5.00		ug/L			11/18/15 17:00	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/18/15 17:00	1
Naphthalene	<5.00		5.00		ug/L			11/18/15 17:00	1
N-Propylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Styrene	<1.00		1.00		ug/L			11/18/15 17:00	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109142/7
Matrix: Water
Analysis Batch: 109142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/18/15 17:00	1
Tetrachloroethene	<1.00		1.00		ug/L			11/18/15 17:00	1
Toluene	<1.00		1.00		ug/L			11/18/15 17:00	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 17:00	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/18/15 17:00	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/18/15 17:00	1
Trichloroethene	<1.00		1.00		ug/L			11/18/15 17:00	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/18/15 17:00	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/18/15 17:00	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/18/15 17:00	1
Vinyl chloride	<1.00		1.00		ug/L			11/18/15 17:00	1
Xylenes, Total	<3.00		3.00		ug/L			11/18/15 17:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*11/18/15 17:00*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 120*		*11/18/15 17:00*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/18/15 17:00*	*1*

Lab Sample ID: LCS 310-109142/5
Matrix: Water
Analysis Batch: 109142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	30.66		ug/L		77	60 - 150
Benzene	20.0	19.29		ug/L		96	70 - 130
Bromobenzene	20.0	18.12		ug/L		91	75 - 130
Bromochloromethane	20.0	19.15		ug/L		96	65 - 145
Bromodichloromethane	20.0	15.86		ug/L		79	60 - 130
Bromoform	20.0	13.55		ug/L		68	30 - 125
2-Butanone (MEK)	40.0	36.43		ug/L		91	55 - 140
n-Butylbenzene	20.0	18.41		ug/L		92	55 - 135
sec-Butylbenzene	20.0	18.75		ug/L		94	65 - 135
tert-Butylbenzene	20.0	18.80		ug/L		94	60 - 135
Carbon disulfide	20.0	20.04		ug/L		100	40 - 130
Carbon tetrachloride	20.0	19.26		ug/L		96	55 - 130
Chlorobenzene	20.0	19.07		ug/L		95	75 - 125
Chlorodibromomethane	20.0	15.51		ug/L		78	45 - 125
Chloroform	20.0	19.07		ug/L		95	70 - 125
2-Chlorotoluene	20.0	18.59		ug/L		93	75 - 135
4-Chlorotoluene	20.0	18.00		ug/L		90	70 - 140
1,2-Dibromo-3-Chloropropane	20.0	13.83		ug/L		69	35 - 130
1,2-Dibromoethane (EDB)	20.0	18.28		ug/L		91	70 - 135
Dibromomethane	20.0	17.62		ug/L		88	75 - 130
1,2-Dichlorobenzene	20.0	18.74		ug/L		94	65 - 135
1,3-Dichlorobenzene	20.0	18.09		ug/L		90	70 - 130

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-109142/5
Matrix: Water
Analysis Batch: 109142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	20.0	18.34		ug/L		92	60 - 140
1,1-Dichloroethane	20.0	19.80		ug/L		99	60 - 130
1,2-Dichloroethane	20.0	19.57		ug/L		98	65 - 140
1,1-Dichloroethene	20.0	21.35		ug/L		107	60 - 135
cis-1,2-Dichloroethene	20.0	19.74		ug/L		99	70 - 135
trans-1,2-Dichloroethene	20.0	20.29		ug/L		101	60 - 145
1,2-Dichloropropane	20.0	18.83		ug/L		94	65 - 130
1,3-Dichloropropane	20.0	18.67		ug/L		93	75 - 125
2,2-Dichloropropane	20.0	21.55		ug/L		108	25 - 120
1,1-Dichloropropene	20.0	20.45		ug/L		102	60 - 140
cis-1,3-Dichloropropene	20.0	17.19		ug/L		86	30 - 120
trans-1,3-Dichloropropene	20.0	16.09		ug/L		80	35 - 120
Ethylbenzene	20.0	18.67		ug/L		93	70 - 130
Hexachlorobutadiene	20.0	20.10		ug/L		100	60 - 135
Hexane	20.0	20.94		ug/L		105	40 - 135
Isopropylbenzene	20.0	18.48		ug/L		92	70 - 125
p-Isopropyltoluene	20.0	19.31		ug/L		97	60 - 140
Methylene Chloride	20.0	20.45		ug/L		102	55 - 145
Methyl tert-butyl ether	20.0	18.60		ug/L		93	50 - 135
Naphthalene	20.0	18.41		ug/L		92	40 - 135
N-Propylbenzene	20.0	19.00		ug/L		95	70 - 135
Styrene	20.0	18.38		ug/L		92	70 - 130
1,1,1,2-Tetrachloroethane	20.0	17.22		ug/L		86	65 - 120
1,1,2,2-Tetrachloroethane	20.0	17.14		ug/L		86	65 - 130
Tetrachloroethene	20.0	19.51		ug/L		98	70 - 135
Toluene	20.0	19.87		ug/L		99	70 - 135
1,2,3-Trichlorobenzene	20.0	17.88		ug/L		89	55 - 130
1,2,4-Trichlorobenzene	20.0	18.28		ug/L		91	40 - 135
1,1,1-Trichloroethane	20.0	20.40		ug/L		102	60 - 125
1,1,2-Trichloroethane	20.0	18.12		ug/L		91	75 - 125
Trichloroethene	20.0	19.23		ug/L		96	70 - 130
1,2,3-Trichloropropane	20.0	16.59		ug/L		83	60 - 150
1,2,4-Trimethylbenzene	20.0	18.49		ug/L		92	70 - 140
1,3,5-Trimethylbenzene	20.0	18.37		ug/L		92	70 - 140
Xylenes, Total	40.0	38.02		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*
Dibromofluoromethane (Surr)	*101*		*75 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 310-68678-1 MS
Matrix: Ground Water
Analysis Batch: 109142

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	<10.0		40.0	32.80		ug/L		82	45 - 150
Benzene	<0.500		20.0	20.90		ug/L		105	50 - 130

QC Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-68678-1 MS
Matrix: Ground Water
Analysis Batch: 109142

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	<1.00		20.0	18.12		ug/L		91	60 - 135
Bromochloromethane	<5.00		20.0	23.24		ug/L		116	55 - 145
Bromodichloromethane	<1.00		20.0	17.69		ug/L		88	50 - 130
Bromoform	<5.00		20.0	12.69		ug/L		63	30 - 125
2-Butanone (MEK)	<10.0		40.0	37.45		ug/L		94	45 - 140
n-Butylbenzene	<1.00		20.0	18.14		ug/L		91	40 - 135
sec-Butylbenzene	<1.00		20.0	18.57		ug/L		93	40 - 135
tert-Butylbenzene	<1.00		20.0	18.66		ug/L		93	40 - 135
Carbon disulfide	<1.00		20.0	21.96		ug/L		110	30 - 130
Carbon tetrachloride	<2.00		20.0	19.18		ug/L		96	35 - 130
Chlorobenzene	<1.00		20.0	19.68		ug/L		98	60 - 130
Chlorodibromomethane	<5.00		20.0	16.50		ug/L		82	35 - 130
Chloroform	2.16		20.0	24.10		ug/L		110	55 - 125
2-Chlorotoluene	<1.00		20.0	18.55		ug/L		93	55 - 140
4-Chlorotoluene	<1.00		20.0	18.04		ug/L		90	50 - 140
1,2-Dibromo-3-Chloropropane	<10.0		20.0	15.40		ug/L		77	35 - 130
1,2-Dibromoethane (EDB)	<10.0		20.0	18.15		ug/L		91	55 - 140
Dibromomethane	<1.00		20.0	18.15		ug/L		91	60 - 135
1,2-Dichlorobenzene	<1.00		20.0	19.16		ug/L		96	55 - 140
1,3-Dichlorobenzene	<1.00		20.0	18.30		ug/L		91	55 - 135
1,4-Dichlorobenzene	<1.00		20.0	18.74		ug/L		94	55 - 140
1,1-Dichloroethane	<1.00		20.0	20.13		ug/L		101	50 - 130
1,2-Dichloroethane	<1.00		20.0	20.80		ug/L		104	55 - 140
1,1-Dichloroethene	<2.00		20.0	22.24		ug/L		111	35 - 135
cis-1,2-Dichloroethene	<1.00		20.0	21.09		ug/L		104	45 - 135
trans-1,2-Dichloroethene	<1.00		20.0	21.86		ug/L		109	45 - 145
1,2-Dichloropropane	<1.00		20.0	20.62		ug/L		103	55 - 130
1,3-Dichloropropane	<1.00		20.0	19.49		ug/L		97	60 - 135
2,2-Dichloropropane	<4.00		20.0	21.22		ug/L		106	20 - 120
1,1-Dichloropropene	<1.00		20.0	20.86		ug/L		104	40 - 140
cis-1,3-Dichloropropene	<5.00		20.0	19.57		ug/L		98	25 - 120
trans-1,3-Dichloropropene	<5.00		20.0	17.26		ug/L		86	25 - 120
Ethylbenzene	<1.00		20.0	19.24		ug/L		96	45 - 135
Hexachlorobutadiene	<5.00		20.0	19.80		ug/L		99	40 - 135
Hexane	<1.00		20.0	18.65		ug/L		93	25 - 135
Isopropylbenzene	<1.00		20.0	18.64		ug/L		93	45 - 125
p-Isopropyltoluene	<1.00		20.0	18.62		ug/L		93	40 - 140
Methylene Chloride	<5.00		20.0	20.76		ug/L		104	45 - 145
Methyl tert-butyl ether	<1.00		20.0	18.95		ug/L		95	40 - 135
Naphthalene	<5.00		20.0	18.47		ug/L		92	40 - 135
N-Propylbenzene	<1.00		20.0	18.79		ug/L		94	45 - 140
Styrene	<1.00		20.0	18.75		ug/L		94	40 - 135
1,1,1,2-Tetrachloroethane	<1.00		20.0	17.36		ug/L		87	50 - 130
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.96		ug/L		85	55 - 140
Tetrachloroethene	<1.00		20.0	17.97		ug/L		90	40 - 135
Toluene	<1.00		20.0	20.71		ug/L		104	45 - 135
1,2,3-Trichlorobenzene	<5.00		20.0	19.10		ug/L		95	50 - 140
1,2,4-Trichlorobenzene	<5.00		20.0	18.77		ug/L		94	40 - 135

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-68678-1 MS
Matrix: Ground Water
Analysis Batch: 109142

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	<1.00		20.0	20.78		ug/L		104	40 - 125
1,1,2-Trichloroethane	<1.00		20.0	18.78		ug/L		94	60 - 130
Trichloroethene	<1.00		20.0	20.55		ug/L		103	50 - 130
1,2,3-Trichloropropane	<1.00		20.0	18.04		ug/L		90	55 - 150
1,2,4-Trimethylbenzene	<1.00		20.0	18.11		ug/L		91	45 - 140
1,3,5-Trimethylbenzene	<1.00		20.0	18.71		ug/L		94	45 - 140
Xylenes, Total	<3.00		40.0	38.42		ug/L		96	40 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*
Dibromofluoromethane (Surr)	*99*		*75 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 310-68678-1 MSD
Matrix: Ground Water
Analysis Batch: 109142

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<10.0		40.0	31.50		ug/L		79	45 - 150	4	20
Benzene	<0.500		20.0	19.77		ug/L		99	50 - 130	6	20
Bromobenzene	<1.00		20.0	17.41		ug/L		87	60 - 135	4	20
Bromochloromethane	<5.00		20.0	19.68		ug/L		98	55 - 145	17	20
Bromodichloromethane	<1.00		20.0	17.23		ug/L		86	50 - 130	3	20
Bromoform	<5.00		20.0	13.14		ug/L		66	30 - 125	3	20
2-Butanone (MEK)	<10.0		40.0	34.73		ug/L		87	45 - 140	8	20
n-Butylbenzene	<1.00		20.0	17.23		ug/L		86	40 - 135	5	20
sec-Butylbenzene	<1.00		20.0	17.21		ug/L		86	40 - 135	8	15
tert-Butylbenzene	<1.00		20.0	18.17		ug/L		91	40 - 135	3	15
Carbon disulfide	<1.00		20.0	18.78		ug/L		94	30 - 130	16	20
Carbon tetrachloride	<2.00		20.0	18.42		ug/L		92	35 - 130	4	20
Chlorobenzene	<1.00		20.0	18.26		ug/L		91	60 - 130	7	20
Chlorodibromomethane	<5.00		20.0	15.36		ug/L		77	35 - 130	7	20
Chloroform	2.16		20.0	22.33		ug/L		101	55 - 125	8	20
2-Chlorotoluene	<1.00		20.0	17.81		ug/L		89	55 - 140	4	20
4-Chlorotoluene	<1.00		20.0	17.56		ug/L		88	50 - 140	3	20
1,2-Dibromo-3-Chloropropane	<10.0		20.0	15.86		ug/L		79	35 - 130	3	20
1,2-Dibromoethane (EDB)	<10.0		20.0	18.08		ug/L		90	55 - 140	0	20
Dibromomethane	<1.00		20.0	17.91		ug/L		90	60 - 135	1	20
1,2-Dichlorobenzene	<1.00		20.0	18.56		ug/L		93	55 - 140	3	20
1,3-Dichlorobenzene	<1.00		20.0	17.71		ug/L		89	55 - 135	3	20
1,4-Dichlorobenzene	<1.00		20.0	18.28		ug/L		91	55 - 140	2	20
1,1-Dichloroethane	<1.00		20.0	19.98		ug/L		100	50 - 130	1	20
1,2-Dichloroethane	<1.00		20.0	18.21		ug/L		91	55 - 140	13	20
1,1-Dichloroethene	<2.00		20.0	20.59		ug/L		103	35 - 135	8	20
cis-1,2-Dichloroethene	<1.00		20.0	18.97		ug/L		93	45 - 135	11	20
trans-1,2-Dichloroethene	<1.00		20.0	19.14		ug/L		96	45 - 145	13	20
1,2-Dichloropropane	<1.00		20.0	18.17		ug/L		91	55 - 130	13	20
1,3-Dichloropropane	<1.00		20.0	18.74		ug/L		94	60 - 135	4	20

QC Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-68678-1 MSD
Matrix: Ground Water
Analysis Batch: 109142

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,2-Dichloropropane	<4.00		20.0	19.69		ug/L		98	20 - 120	7	20
1,1-Dichloropropene	<1.00		20.0	18.87		ug/L		94	40 - 140	10	20
cis-1,3-Dichloropropene	<5.00		20.0	16.92		ug/L		85	25 - 120	15	20
trans-1,3-Dichloropropene	<5.00		20.0	15.94		ug/L		80	25 - 120	8	20
Ethylbenzene	<1.00		20.0	18.26		ug/L		91	45 - 135	5	20
Hexachlorobutadiene	<5.00		20.0	17.78		ug/L		89	40 - 135	11	20
Hexane	<1.00		20.0	17.36		ug/L		87	25 - 135	7	20
Isopropylbenzene	<1.00		20.0	17.95		ug/L		90	45 - 125	4	20
p-Isopropyltoluene	<1.00		20.0	18.26		ug/L		91	40 - 140	2	20
Methylene Chloride	<5.00		20.0	20.25		ug/L		101	45 - 145	3	20
Methyl tert-butyl ether	<1.00		20.0	17.86		ug/L		89	40 - 135	6	20
Naphthalene	<5.00		20.0	17.97		ug/L		90	40 - 135	3	20
N-Propylbenzene	<1.00		20.0	18.05		ug/L		90	45 - 140	4	20
Styrene	<1.00		20.0	17.71		ug/L		89	40 - 135	6	20
1,1,1,2-Tetrachloroethane	<1.00		20.0	18.12		ug/L		91	50 - 130	4	20
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.70		ug/L		84	55 - 140	2	20
Tetrachloroethene	<1.00		20.0	17.01		ug/L		85	40 - 135	5	20
Toluene	<1.00		20.0	19.51		ug/L		98	45 - 135	6	20
1,2,3-Trichlorobenzene	<5.00		20.0	19.00		ug/L		95	50 - 140	1	20
1,2,4-Trichlorobenzene	<5.00		20.0	18.92		ug/L		95	40 - 135	1	20
1,1,1-Trichloroethane	<1.00		20.0	19.91		ug/L		100	40 - 125	4	20
1,1,2-Trichloroethane	<1.00		20.0	18.92		ug/L		95	60 - 130	1	20
Trichloroethene	<1.00		20.0	18.87		ug/L		94	50 - 130	8	20
1,2,3-Trichloropropane	<1.00		20.0	17.25		ug/L		86	55 - 150	4	20
1,2,4-Trimethylbenzene	<1.00		20.0	17.98		ug/L		90	45 - 140	1	20
1,3,5-Trimethylbenzene	<1.00		20.0	17.34		ug/L		87	45 - 140	8	20
Xylenes, Total	<3.00		40.0	36.60		ug/L		92	40 - 135	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

QC Association Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

GC/MS VOA

Analysis Batch: 109142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68678-1	MW-67	Total/NA	Ground Water	8260C	
310-68678-1 MS	MW-67	Total/NA	Ground Water	8260C	
310-68678-1 MSD	MW-67	Total/NA	Ground Water	8260C	
310-68678-2	MW-66	Total/NA	Ground Water	8260C	
310-68678-3	Dup	Total/NA	Ground Water	8260C	
310-68678-4	Trip Blank	Total/NA	Water	8260C	
LCS 310-109142/5	Lab Control Sample	Total/NA	Water	8260C	
MB 310-109142/7	Method Blank	Total/NA	Water	8260C	

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Client Sample ID: MW-67

Lab Sample ID: 310-68678-1
Date Collected: 11/09/15 15:55
Matrix: Ground Water
Date Received: 11/11/15 17:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	109142	11/18/15 21:42	SJN	TAL CF

Client Sample ID: MW-66

Lab Sample ID: 310-68678-2
Date Collected: 11/09/15 16:55
Matrix: Ground Water
Date Received: 11/11/15 17:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	109142	11/18/15 22:03	SJN	TAL CF

Client Sample ID: Dup

Lab Sample ID: 310-68678-3
Date Collected: 11/09/15 00:00
Matrix: Ground Water
Date Received: 11/11/15 17:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	109142	11/18/15 22:25	SJN	TAL CF

Client Sample ID: Trip Blank

Lab Sample ID: 310-68678-4
Date Collected: 11/09/15 00:00
Matrix: Water
Date Received: 11/11/15 17:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	109142	11/18/15 18:27	SJN	TAL CF

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

Certification Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Laboratory: TestAmerica Cedar Falls

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

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-16
Illinois	NELAP	5	200024	11-29-15 *
Iowa	State Program	7	007	12-01-15 *
Kansas	NELAP	7	E-10341	01-31-15 *
Minnesota	NELAP	5	019-999-319	12-31-15
Minnesota (Petrofund)	State Program	1	3349	08-22-16
North Dakota	State Program	8	R-186	09-29-16
Oregon	NELAP	10	IA100001	09-29-16
Wisconsin	State Program	5	999917270	08-31-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-68678-1
SDG: 103-87305

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CF

Protocol References:

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

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

310-68672 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information	
Client: Golder Associates	
City/State: Manchester NH	Project:
Receipt Information	
Date/Time Received: 11/10/15 1745	Received By: PC
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____	
Condition of Cooler/Containers	
Sample(s) received in Cooler? ☒ Yes ☐ No	*If yes:* Cooler ID: A-5
Multiple Coolers? ☐ Yes ☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present? ☐ Yes ☒ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present? ☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present? ☐ Yes ☐ No	*If yes:* Which VOA samples are in cooler? ↓
Temperature Record	
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE	
Temperature Blank? ☒ Yes ☐ No	ID & Bottle Type:
NOTE: If yes, use temp blank for measurement.	If no, specify sample ID(s) and bottle type used to take measurement.
Thermometer ID: G	Correction Factor (°C): +0.1
Uncorrected Temp (°C): 3.0	Corrected Temp (°C): 3.1
Exceptions Noted	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No	
a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No	
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) ☐ Yes ☐ No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
Additional Comments	

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone: 319 - 277 - 2401 or 1 - 800 - 750 - 2401
Fax: 319 - 277 - 2425

Company: Golder Associates
Your PO #: 103-87305
Send Report To: James Peace
Invoice To:
Address: 670 North Commercial Street, Suite 103
City/State/Zip Code: Manchester, New Hampshire 03101
Project Name: Electrolux - Jefferson, IA
Telephone Number: 603-668-0880 Fax: 603-668-1199
Project Number: 103-87305
Sampled by: (Print Name) Bobby Abernathy
(Signature)
Email Address: James_Peace@Golder.com

Sample ID	Date Sampled	Time Sampled	# of containers shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO_3 (Red & White Label)	HCl (Blue & White Label)	NaOH (Orange & White Label)	H_2SO_4 Plastic (Yellow & White Label)	H_2SO_4 Glass(Yellow & White Label)	None (Black & White Label)	Other (Specify)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other Specify:Stormwater	Analyze For: 8260 Volatiles	E-mail results	Send QC with report
MW-67	11/9/15	1555	3	X			X								X						X		
MW-66	11/9/15	1655	3	X			X								X						X		
DUP	11/9/15	---	3	X			X								X						X		
Trip Blank			3																				

NOTE: All turn around times are calculated from the time of receipt at TestAmerica.
NOTICE: **Pre-Arrangements must be made *AT LEAST 48 Hours in ADVANCE* to receive results with RUSH turn around time commitments; *additional charges* may be assessed.**
NOTE: There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES:

Relinquished by:	Date	Time	Received by:	Date	Time	Relinquished by:	Date	Time
	11/10/15	1015		11/10/15	1015			
Shipped Via:			Comments:			Shipped Via:		
Received for TestAmerica by:	Date 11/10/15	Time 1745	Temperature Upon Receipt:			Laboratory Comments:		

Login Sample Receipt Checklist

Client: Golder Associates Inc.

Job Number: 310-68678-1
SDG Number: 103-87305

Login Number: 68678
List Number: 1
Creator: Bantz, Brianna L

List Source: TestAmerica Cedar Falls

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