

Weston Solutions, Inc. 1400 Weston Way P.O. Box 2653 West Chester, PA 19380 610-701-3000 WestonSolutions.com

July 10, 2019

Mr. Brian Sadowski New York State Department of Environmental Conservation 270 Michigan Avenue Buffalo, New York 14203-2915

Re: Semiannual Periodic Review Report (February 15, 2019 to June 30, 2019)

3M Tonawanda, New York Facility

Order on Consent # B9-0369-91-04, Site Code #915148

Dear Mr. Sadowski:

In accordance with the referenced Order on Consent (Order) and at 3M's direction, we are submitting the Semiannual Periodic Review Report (PRR) for the 3M Tonawanda, NY facility for the period extending from February 15, 2019 to June 30, 2019.

Should you have any comments or questions, please contact me at 610-701-3677 or Jeannie Martin (3M) at 651-736-3135.

Very truly yours,

WESTON SOLUTIONS INC.

Thomas A. Drew, P.G. Principal Project Manager

Enclosure

cc: Glenn May, NYSDEC

Jeannie Martin, 3M Keith Held, 3M



PERIODIC REVIEW REPORT

Site Name and Location:

3M Facility, Tonawanda, New York

Registry Number:

915148

Order on Consent:

B9-0369-91-04

3M Project Contacts:

Jeannie Martin (3M Corporate) Keith Held (3M Tonawanda)

NYSDEC Project Lead:

Glenn May

Reporting Period:

February 15, 2019 to June 30, 2019

Background

The New York State Department of Environmental Conservation (NYSDEC) issued a Record of Decision (ROD) (Registry No. 915148) for the 3M facility in Tonawanda, New York. This ROD presents the selected remedial action for the Tonawanda facility based on the site's Administrative Record and public input. Following ROD issuance, the NYSDEC reclassified the 3M Tonawanda site from "Class 3 – Does not present a significant threat to the public health or environment – action may be deferred", to "Class 4 – Site properly closed – requires continued management."

3M is implementing the selected ROD remedy, No Further Action with Monitoring, under an Order on Consent (Index # B9-0369-91-04) (Order) according to the NYSDEC-approved Operation and Maintenance Work Plan (O&M Work Plan), which was made part of the Order. The original O&M Work Plan called for:

- Filing a Declaration of Covenants and Restrictions with the property deed at the Erie County Clerk's Office. This was completed and was reported in the initial progress report for the period ending March 31, 2001.
- Performing long-term groundwater monitoring. Involved semiannual sampling of site monitoring wells MW-1, MW-2, MW-3, and MW-4 and annual sampling of the two site lysimeters, LY-1 and LY-2, with groundwater samples analyzed for carbon disulfide (CS₂).
- Inspecting the completed interim remedial measures (IRMs) (includes the CS₂ tank system, and the catch basin and associated swale) and maintaining the integrity of the IRMs.

Semiannual periodic review reports have been submitted by 3M to NYSDEC and these reports summarize project activities that occurred in the previous reporting periods. In



August 2005, the Five-Year Evaluation Report was submitted by 3M to NYSDEC and this report concluded that the selected remedy has been effective in meeting remediation goals outlined in the 1999 ROD and remains protective of human health and the environment. The aforementioned evaluation report also contained a recommended future course of action for the facility, including reductions in groundwater monitoring and reporting under the Order/O&M Plan.

By letter of May 18, 2006, NYSDEC provided comment on the Five-Year Evaluation Report. Based on the presence of CS₂ in the subsurface environment, NYSDEC required continued monitoring at this facility, but required only one site monitoring well (MW-4) and one site lysimeter (LY-2) be monitored for CS₂ on a semiannual basis and annual basis, respectively. According to the May 2006 NYSDEC correspondence, reporting on the maintenance of the drainage swale and associated catch basins would continue under the Order/O&M Plan; however, reporting on the continued operations, maintenance and inspection of the existing CS₂ tank system could be completed by 3M under NYSDEC's Chemical Bulk Storage Program.

This periodic review report reflects the O&M monitoring and reporting modifications agreed upon with NYSDEC. Sampling of the reduced monitoring network under the modified O&M Plan was completed in April 2019. The results from this sampling event are presented herein, along with a description of any maintenance activity conducted in the swale. Also, the analytical results presented in this PRR will be uploaded to NYSDEC's database.

Summary of Activities Performed During the Reporting Period

The following is a summary of activities performed by 3M during the reporting period:

- Groundwater samples for CS₂ analysis were collected from monitoring well MW-4 (primary sample and duplicate sample) and lysimeter LY-02 on April 30, 2019 in accordance with the O&M Plan modifications approved by NYSDEC. Laboratory analytical results from the April 2019 sampling event are provided in this report.
- No maintenance activity was conducted in the subject drainage swale during the reporting period. Vegetation and grading in this swale are in good condition.



Groundwater Monitoring Results

Summary of Carbon Disulfide Water Analytical Results

	Sample ID and Result								
Sampling Date	MW-4 (μg/L)	MW-4 Duplicate (μg/L)	LY-02 (mg/L)						
4/30/2019	< 5	< 5	190						

As noted above, CS₂ was not detected in the groundwater samples (primary and duplicate samples) collected from monitoring well MW-4 in April 2019. CS₂ was detected at a concentration of 190 mg/L in the pore water sample collected from lysimeter LY-02. This finding is consistent with previous sample results. A copy of the analytical data package and completed well purging/sampling form for the April 2019 sampling event is provided in Attachment A.

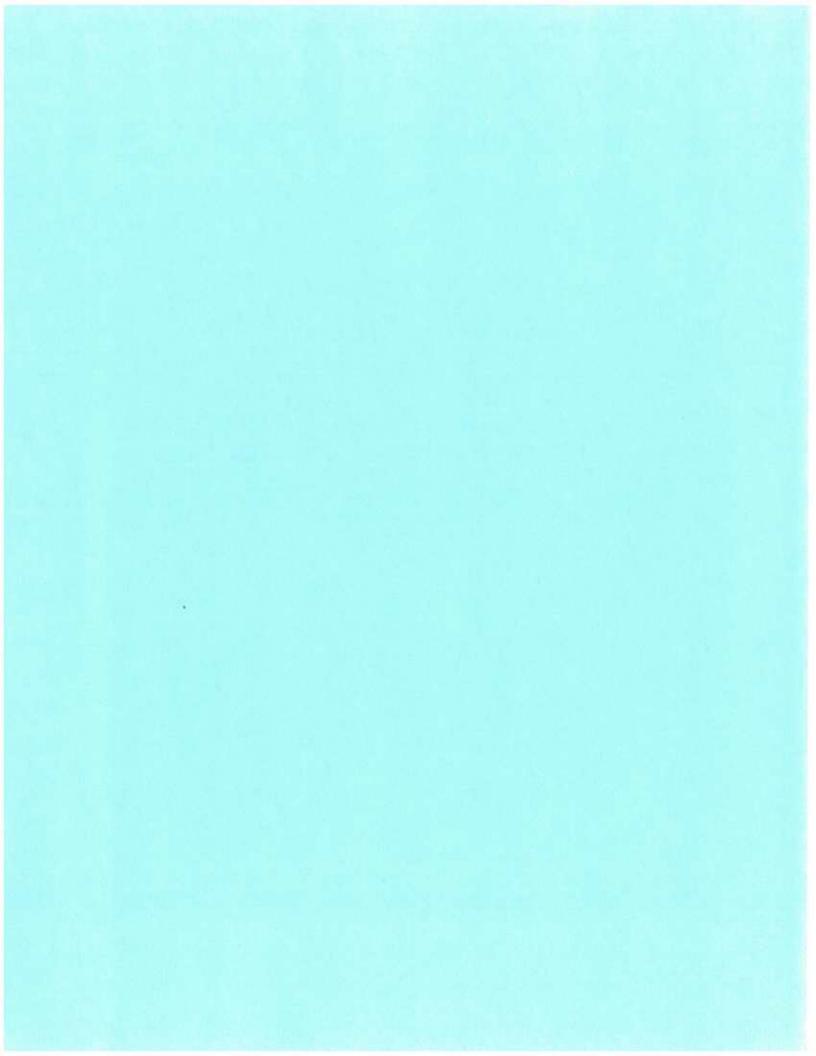


ATTACHMENT A WELL PURGING/SAMPLING FORM AND LABORATORY ANALYTICAL PACKAGE - APRIL 2019 SAMPLING EVENT



Well Evacuation/Sampling Form

SITE INFORMATION TO	ONAWA	NDA		2019 April 30								
Well No.: Mw - 4				Weather	: Sunn Cloud	ly Rain	Temp:_	420				
Sampling Team: Greg Flasinski				Sampler	's Signature:	Hus	40	X				
WELL INFORMATION						/\						
Protective Casing: /Intact //	Damaged			Concrete	e Base:	Marie Contract	Damag	ged				
Locked: YES //	NO			Well Diameter: 2-INCH 4-INCH 6-INCH								
WELL EVACUATION INF	ORMAT	ION										
A. Total Depth (Top of Casing = TO)C):	73	09.6	Well Evacuation Method								
B. Depth to Water (DTW) (TOC):			רווו		BAILER 2-Inch Grur	ndfos			İ			
C. Column of Standing Water (C=A	-B):		1.83	() Peristaltic Pump								
D. Purge Factor			5.16	() Other (Sp	ecity)						
E. One Well Volume:								627.758				
F. Three Well Volumes (gall	. Three Well Volumes (gallons):					TOTAL VOLUME PURGED: 20.1						
INDICATOR PARAMETER	RS				===							
Time	1032	1042	1067)40 7								
Purge Rate (gal. per minute)				1								
Total Gallons Purged												
Temperature (°C):												
	10.7	10.5	10.1	10.2	1			E .				
•	පිරිට	2067	3143	322								
pH: SECONDARY PARAMETERS	9.24	16.74	8.74	8.5	3							
ORP (mV):	_	_	_									
Dissolved Oxygen (mg/L):	-		-	_								
Turbidity:	86.3	174.3	104.4									
NAPL Observed: YES / NO				Well Pumped Dry: YES / NO								
ODOR: YES / NO OdorType: () Solvent () So	ontia ()	Other		Other:								
Odor type: () Survent () St	eptie ()	Omer		,								
SAMPLE COLLECTION II	NFORM	ATION			SAMPLE	DATE						
Sample No.			Time	- I	Sa	mple N	0.		Time			
Media Sample ID: OCO -Gus - Mu	204-0-1	90430	1115		Blank: YES/NC							
Duplicate: VES/NO CO - G	HWAY-1	7B-	1115	Field Bl	ank YES/NO	000-	w-AD	04- 1904	30 (1)			
Parameters: (V) VOC - CS2	()	। ९०५३,	٥						,			
() () ()					Trp Black @ 1000 OCO-W-TB01-190430							
		17	COMM	ENTS								
mw-1 31,12 mw-2 33,70 mw-3 33,70					Well Pumped Volume Purge Well Requires Access Requir	d: Mainten		NO TES /	NO NO			



ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

Laboratory Job ID: 480-152858-1 Client Project/Site: 3M Tonawanda

Revision: 1

For:

Weston Solutions, Inc. 1400 Weston Way PO BOX 2653 West Chester, Pennsylvania 19380

Attn: Mr. Tom Drew

Authorized for release by: 5/15/2019 3:02:08 PM

Judy Stone, Senior Project Manager (484)685-0868

judy.stone@testamericainc.com

..... LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Weston Solutions, Inc. Job ID: 480-152858-1

Project/Site: 3M Tonawanda

Glossary

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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 Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML

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 (Radiochemistry)

RLReporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) TEQ

Case Narrative

Client: Weston Solutions, Inc. Project/Site: 3M Tonawanda

Job ID: 480-152858-1

Job ID: 480-152858-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-152858-1

Revision (1)

The client revised the sample IDs to be unique from previous events and requested a revised report and EDD files.

Receipt

The samples were received on 4/30/2019 11:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

GC/MS VOA

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: OCO-GW-LY02-0-190430 (480-152858-3). Elevated reporting limits (RLs) are provided.

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

VOA Prep

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

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Detection Summary

Project/Site: 3M Tonawanda Client Sample ID: OCO-GW-MW04-0-190430 Lab Sample ID: 480-152858-1 No Detections. Client Sample ID: OCO-GW-MW04-DB-190430 Lab Sample ID: 480-152858-2 No Detections. Client Sample ID: OCO-GW-LY02-0-190430 Lab Sample ID: 480-152858-3 Analyte Result Qualifier RL **MDL** Unit Dil Fac D Method **Prep Type** Carbon disulfide 190000 5000 160 ug/L 1000 8260C Total/NA Client Sample ID: OCO-W-FB01-FB-190430 Lab Sample ID: 480-152858-4 No Detections. Client Sample ID: OCO-W-TB01-TB-190430 Lab Sample ID: 480-152858-5

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Job ID: 480-152858-1

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Client: Weston Solutions, Inc.

No Detections.

Job ID: 480-152858-1

Client Sample ID: OCO-GW-MW04-0-190430

Date Collected: 04/30/19 11:15 Date Received: 04/30/19 11:45 Lab Sample ID: 480-152858-1

Matrix: Water

	Method: 8260C - Volatile	Organic Compounds by GC/MS
ı	Analyto	Pocult Qualifier

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.16	ug/L			05/10/19 10:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		74 - 132					05/10/19 10:47	1
4-Bromofluorobenzene	98		77 - 124					05/10/19 10:47	1
Toluene-d8 (Surr)	102		80 - 120					05/10/19 10:47	1
Dibromofluoromethane (Surr)	100		72 - 131					05/10/19 10:47	1

Client Sample ID: OCO-GW-MW04-DB-190430

Date Collected: 04/30/19 11:15 Date Received: 04/30/19 11:45 Lab Sample ID: 480-152858-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.16	ug/L			05/10/19 11:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		74 - 132					05/10/19 11:10	1
4-Bromofluorobenzene	98		77 - 124					05/10/19 11:10	1
Toluene-d8 (Surr)	100		80 - 120					05/10/19 11:10	1
Dibromofluoromethane (Surr)	99		72 - 131					05/10/19 11:10	1

Client Sample ID: OCO-GW-LY02-0-190430

Date Collected: 04/30/19 11:30 Date Received: 04/30/19 11:45 Lab Sample ID: 480-152858-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	190000		5000	160	ug/L			05/10/19 11:32	1000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132			•		05/10/19 11:32	1000
4-Bromofluorobenzene	99		77 - 124					05/10/19 11:32	1000
Toluene-d8 (Surr)	101		80 - 120					05/10/19 11:32	1000
Dibromofluoromethane (Surr)	97		72 - 131					05/10/19 11:32	1000

Client Sample ID: OCO-W-FB01-FB-190430

Date Collected: 04/30/19 11:10

Date Received: 04/30/19 11:45

Lab Sample ID: 480-152858-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.16	ug/L			05/10/19 10:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		74 - 132					05/10/19 10:03	1
4-Bromofluorobenzene	98		77 - 124					05/10/19 10:03	1
Toluene-d8 (Surr)	100		80 - 120					05/10/19 10:03	1
Dibromofluoromethane (Surr)	99		72 - 131					05/10/19 10:03	1

Client Sample Results

Client: Weston Solutions, Inc. Job ID: 480-152858-1

Project/Site: 3M Tonawanda

Lab Sample ID: 480-152858-5 Client Sample ID: OCO-W-TB01-TB-190430

Date Collected: 04/30/19 10:00 Date Received: 04/30/19 11:45

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.16	ug/L			05/10/19 10:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		74 - 132					05/10/19 10:25	1
4-Bromofluorobenzene	101		77 - 124					05/10/19 10:25	1
Toluene-d8 (Surr)	100		80 - 120					05/10/19 10:25	1
Dibromofluoromethane (Surr)	99		72 - 131					05/10/19 10:25	1

Surrogate Summary

Client: Weston Solutions, Inc. Job ID: 480-152858-1

Project/Site: 3M Tonawanda

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

Matrix: Water Prep Type: Total/NA

				ercent Surro	U
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(74-132)	(77-124)	(80-120)	(72-131)
480-152858-1	OCO-GW-MW04-0-190430	103	98	102	100
480-152858-2	OCO-GW-MW04-DB-190430	103	98	100	99
480-152858-3	OCO-GW-LY02-0-190430	98	99	101	97
480-152858-4	OCO-W-FB01-FB-190430	100	98	100	99
480-152858-5	OCO-W-TB01-TB-190430	101	101	100	99
LCS 460-608963/3	Lab Control Sample	99	104	101	101
LCSD 460-608963/4	Lab Control Sample Dup	100	101	99	101
MB 460-608963/7	Method Blank	101	100	103	100

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Job ID: 480-152858-1

Client: Weston Solutions, Inc. Project/Site: 3M Tonawanda

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

Lab Sample ID: MB 460-608963/7 **Client Sample ID: Method Blank Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 608963

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.16	ug/L			05/10/19 08:33	1

MB MB %Recovery Qualifier Surrogate Limits Prepared Dil Fac Analyzed 1,2-Dichloroethane-d4 (Surr) 101 74 - 132 05/10/19 08:33 4-Bromofluorobenzene 100 77 - 124 05/10/19 08:33 Toluene-d8 (Surr) 103 80 - 120 05/10/19 08:33 Dibromofluoromethane (Surr) 100 72 - 131 05/10/19 08:33

Lab Sample ID: LCS 460-608963/3 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 608963

	Spike	LCS	LCS			%Rec.	
Analyte	Added	Result	Qualifier U	nit D	%Rec	Limits	
Carbon disulfide	20.0	17.5	ug	ı/L	88	69 - 133	

LCS LCS Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 99 74 - 132 4-Bromofluorobenzene 77 - 124 104 Toluene-d8 (Surr) 101 80 - 120 Dibromofluoromethane (Surr) 101 72 - 131

Lab Sample ID: LCSD 460-608963/4 **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 608963

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Carbon disulfide	20.0	18.9		ug/L		95	69 - 133	7	30

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		74 - 132
4-Bromofluorobenzene	101		77 - 124
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	101		72 - 131

QC Association Summary

Client: Weston Solutions, Inc.

Job ID: 480-152858-1

Project/Site: 3M Tonawanda

GC/MS VOA

Analysis Batch: 608963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152858-1	OCO-GW-MW04-0-190430	Total/NA	Water	8260C	
480-152858-2	OCO-GW-MW04-DB-190430	Total/NA	Water	8260C	
480-152858-3	OCO-GW-LY02-0-190430	Total/NA	Water	8260C	
480-152858-4	OCO-W-FB01-FB-190430	Total/NA	Water	8260C	
480-152858-5	OCO-W-TB01-TB-190430	Total/NA	Water	8260C	
MB 460-608963/7	Method Blank	Total/NA	Water	8260C	
LCS 460-608963/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-608963/4	Lab Control Sample Dup	Total/NA	Water	8260C	

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Job ID: 480-152858-1

Client: Weston Solutions, Inc. Project/Site: 3M Tonawanda

Client Sample ID: OCO-GW-MW04-0-190430

Date Collected: 04/30/19 11:15 Date Received: 04/30/19 11:45 Lab Sample ID: 480-152858-1

Lab Sample ID: 480-152858-3

Lab

TAL EDI

Matrix: Water

Matrix: Water

Matrix: Water

Matrix: Water

Matrix: Water

Batch Batch Dilution Batch **Prepared** Method or Analyzed Analyst **Prep Type** Type Run Factor Number Total/NA SZD Analysis 8260C 608963 05/10/19 10:47

Client Sample ID: OCO-GW-MW04-DB-190430 Lab Sample ID: 480-152858-2

Date Collected: 04/30/19 11:15

Date Received: 04/30/19 11:45

Dilution Batch Batch Batch **Prepared Prep Type** Type Method Run **Factor** Number or Analyzed **Analyst** Lab Total/NA Analysis 8260C 608963 05/10/19 11:10 SZD TAL EDI

Client Sample ID: OCO-GW-LY02-0-190430

Date Collected: 04/30/19 11:30

Date Received: 04/30/19 11:45

Batch Batch Dilution **Batch** Prepared Туре Method Factor Number or Analyzed **Prep Type** Run Lab Analyst SZD TAL EDI Total/NA Analysis 8260C 1000 608963 05/10/19 11:32

Date Collected: 04/30/19 11:10

Date Received: 04/30/19 11:45

Batch Batch Dilution Batch Prepared **Prep Type** Type Method Run **Factor** Number or Analyzed **Analyst** Lab Total/NA Analysis 8260C 608963 05/10/19 10:03 SZD TAL EDI

Date Collected: 04/30/19 10:00

Date Received: 04/30/19 11:45

Batch Dilution Batch **Prepared** Batch Туре **Prep Type** Method Run Factor Number or Analyzed Analyst Lab 8260C 608963 05/10/19 10:25 SZD TAL EDI Total/NA Analysis

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Eurofins TestAmerica, Buffalo

Accreditation/Certification Summary

Client: Weston Solutions, Inc. Job ID: 480-152858-1 Project/Site: 3M Tonawanda

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-20

Laboratory: Eurofins TestAmerica, Edison

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11452	04-01-20

Method Summary

Client: Weston Solutions, Inc. Project/Site: 3M Tonawanda

Job ID: 480-152858-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

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

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

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Sample Summary

Client: Weston Solutions, Inc. Project/Site: 3M Tonawanda

Job ID: 480-152858-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-152858-1	OCO-GW-MW04-0-190430	Water	04/30/19 11:15	04/30/19 11:45
480-152858-2	OCO-GW-MW04-DB-190430	Water	04/30/19 11:15	04/30/19 11:45
480-152858-3	OCO-GW-LY02-0-190430	Water	04/30/19 11:30	04/30/19 11:45
480-152858-4	OCO-W-FB01-FB-190430	Water	04/30/19 11:10	04/30/19 11:45
480-152858-5	OCO-W-TB01-TB-190430	Water	04/30/19 10:00	04/30/19 11:45

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Eurofins TestAmerica, Buffalo

10 Hazelwood Drive Amherst, NY 14228-2298

Chain of Custody Record

🔆 eurofins

Environment Testing
TestAmerica

Phone (716) 691-2600 Fax (716) 691-7991																	· TestAmorica
Client Information	Sampler.	25 5219			l PM. Iona, Jud	dy L					Ca	mier Trac	king No(s):		COC No:	844
Greg Flasinski Cempany	Phone:			E-	Mail dy.stone		tamer	icainc.	com		7					480-129168-278 Page: Page 1 of 1	04.1
Weston Solutions, Inc.															_	Job#:	
Address 1400 Weston Way PO BOX 2653	Due Date Reques	ited:	100	GE 77.0	- 8	§	T		Anai	ysis F	<equ< td=""><td>ested</td><td></td><td></td><td>100</td><td>Preservation Cod</td><td>he.</td></equ<>	ested			100	Preservation Cod	he.
City: West Chester	TAT Requested (days):		-	- 1										A - HCL B - NaOH	M - Hexane N - None	
State, Zip: PA, 19380 Phone:							Н		Ť	П					7	C - Zn Acetate D - Nitric Acid E - NaHSO4	O - AsNaO2 P - Na2O4S Q - Na2SO3
610-701-3000(Tei) 610-701-7401(Fax)	PO#: 0055600 WO#:			12	<u> </u>											F - MeOH G - Amchlor H - Ascorbic Acid	R - Na2S2O3 S - H2SO4
greg.flasinski@westonsolutions.com	02181.086.017	7.0001			r or No)			1								I - Ice J - Di Water	T - TSP Dodecahydrate U - Acetone V - MCAA
Project Name 3M Tonawanda Site:	Project #: 48003524 SSOW#:				la (Yes	Carbon Disulfide	Carbon Disulfide							d i	stainera	K - EDTA L - EDA	W - pH 4-5 Z - other (specify)
	33UVV#.				E	T Log	rogu								of contai	Other:	
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Www.ster, 8=solid, O=waste/od, BToTissue, A=A	8) 급 🕹	2-8260	8280C - 8280 Ca								Total Number o	5	
MALA	7	><	Preserva	tion Code:	XX	A	N-		y Vi		74		1 2	177	X	Special in	structions/Note:
MW-4 0co - 500 MW04-0-190430	4/30/19	1115	6	Water		1							1 3				
MW-4 DUPOCO-GW , MWDY - DB - 1904 30		1115		Water		1							23				
14-2 OCO - GW - LYOZ - D - 191430		1130		Water		1									H	F4 11F	
FB-MW-4 OCO - W - FB01 - FB - 190430		1110		Water		./					_				\vdash		
		1		Water		٧		_	-			++				- 10	
Trip Blank CO-W-TBO1-TB-190430		1000	1	Water		J			+	+	-	-			H		
											0.5	++					
											1	++	4	-	\vdash		
					1	П			+	\vdash		╅┵			H		
								_ -	+			++					
					+			+	+			1-	-		$\vdash \vdash$		<u> </u>
Possible Hazard Identification Non-Hazard Flammable Skin Imitant Po	ison B 🗆 Uni		D. W.		Sa	mple	Dispo	osai (A fee	may b	e asse	ssed if	sample	es are re	tain	ed longer than 1	month)
Deliverable Requested: I, II III, IV, Other (specify)	SUIT OTH	inown	Radiologica	II .	Sp	ecial I	eturn Instruc	To Clie	ent QC Re	equiren	Disp	osal By	Lab		Arch	hive For	Months
moty Kit/Reling is ned by	,	Date:			Time:	-						Ittethod	of Shipm				
telinguished by	Date/Ime: 19		10	Company	1	Recei	ved by	7	1. 1).	//					4 . 11	0
refinquisite to	9 30 (9 Date/Time:			Company		Recei	ved by.	Щ/		du	11	hol	Date/	Time Ø4	13	019 1142	TA
elinquished by:	Date/Time:			Company			ved by:	_			_		Date/		/		Company
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No			12 E	and the		Coole	r Temp	erature(s) "Car	nd Other	Remark	(5)	34.4				Сотралу

Eurofins TestAmerica, Buffalo

Phone (716) 691-2600 Fax (716) 691-7991

Amherst, NY 14228-2298

10 Hazelwood Drive

Environment Testing

: eurofins

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Special Instructions/Note: Ver: 01/16/2019 Months COC No: 480-129168-27804.1 Preservation Codes: 480-152858 Chain of Custody A - HCL
B - NaOH
C - Zn Acetate
D - Nitric A - 1 Page: Page 1 of 1 Archive For Total Number of Wold Date/Time Out Date/Time. Method of Shipment Carrier Tracking No(s) Analysis Requested Cooler Temperature(s) °C and Other Remarks. Special Instructions/QC Requirements: Lab PM: Stone, Judy L E-Mail: judy.stone@testamericainc.com eceived by: 3260C - 8260 Carbon Disulfide > 3260C - 8260 Carbon Disulfide Perform MS/MSD (Yes or No) ime G=grab) | BT=Tissue, A=Air) Preservation Code: Matrix Water Water Water Water Water Water Company Radiological Sample (C=comp, Type Sample 011 130 1000 Time Unknown Date WO#: 02181.086.017.0001 TAT Requested (days): Due Date Requested: Sample Date 4/30/19 Project #: 48003524 SSOW#: PO#: Poison B Phone: Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No. 610-701-3000(Tel) 610-701-7401(Fax) greg.flasinski@westonsolutions.com 1400 Weston Way PO BOX 2653 Possible Hazard Identification
Non-Hazard Flammab Empty Kit/Relinguished by Custody Seals Intact: Sample Identification Client Information Company: Weston Solutions, Inc. Project Name: 3M Tonawanda **Greg Flasinski** West Chester State, Zip: PA, 19380 MW-4 DUP Trip Blank FB-MW-4 LY-2

Chain of Custody Record

Eurofins TestAmerica, Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991

Client Information (Sub Contract Lab)	Sampler:			Lab PM: Stone,	Lab PM: Stone, Judy L			<u>3</u>	Carrier Tracking No(s):	ig No(s):		COC No: 480-49459.1	
Client Contact Shipping/Receiving	Phone:			E-Mail judy.s	E-Mail: judy.stone@testamericainc.com	americaino	 	ŏΖ	State of Origin: New York			Page: Page 1 of 1	
Company:					Accreditations	Required (So	se note):					Job #:	
TestAmerica Laboratories, Inc.					NELAP - N	ew York	,					480-152858-1	
Address: 777 New Durham Road, ,	Due Date Requested: 5/10/2019	d:					Analysis	s Requested	ested			Preservation Codes	des: M - Hexane
City: Edison	TAT Requested (days):	ys):									-	B - NaOH C - Zn Acetate	N - None O - AsNaO2
State, Zip. NJ, 08817					9 0				-		<u>-</u>	D - Nitric Acid E - NaHSO4 E - MeOH	P - Na2O4S Q - Na2SO3 P - Na2SO3
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	# Od.											G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
Enail:	.₩O#:				(t-174				<u>-</u>		. \$16	1 - loe J - DI Water	U - Acetone V - MCAA
Project Name: 3M Tonawanda	Project #: 48003524				ശ്രസ							L-EDA	vv - pri 4-5 Z - other (specify)
Site:	:#XOOSS		:		())(a}?!,						oo to	Other:	
১ইন্ট্রেঞ্চ Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)		Field Filtered Printomililish Brenchosoc (I	;				7 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Total Number	Special Ir	Special Instructions/Note:
The state of the s	\setminus	\bigvee	Preservation Code:		X	12			٠,	- 7	X		all the way had a second to the
MW-4 (480-152858-1)	4/30/19	11:15 Eastern		Water	×						m		
MW-4 DUP (480-152858-2)	4/30/19	11:15 Eastern		Water	×						ო.		
LY-2 (480-152858-3)	4/30/19	11:30 Eastern		Water	×						.e		
FB-MW-4 (480-152858-4)	4/30/19	11:10 Eastern		Water	×					·.	3		
TRIP BLANK (480-152858-5)	4/30/19	10:00 Eastern		Water	×						8		
		ı											
		1 10									72		
											- E.		
Note: Since laboratory accreditations are subject to change, Test/merica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. currently maintain accreditation in the State of Origin listed above for analysis/fests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will Laboratories, inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Oustody attesting to said complicance to TestAmerica Laboratories, inc.	aboratories, Inc. places the sis/tests/matrix being analyz current to date, return the si	ownership of m ed, the sample: gned Chain of (ethod, analyte 8 s must be shippe Custody attestin	accreditation ed back to the ' g to said comp	compliance up TestAmerica I licance to Tes	oon out subco aboratory or c tAmenca Lab	ntract labora ther instructi oratories, Inc	ories. This ons will be p	sample ship rovided. Ar	ment is fon ly changes	varded unde to accreditat	r chain-of-custody. If on status should be b	ship of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody, if the laboratory does not samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica chain of Custody attesting to said complicance to TestAmerica Laboratories, inc.
Possible Hazard Identification					Sample	Disposal	(A fee m	ay be as	essed if	samples	are retai	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	1 month)
Unconfirmed]	Return To Client	lient	ïä	Disposal By Lab	Lab]	Archive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable	able Rank: 2	~ 1		Special	Special Instructions/QC Requirements:	s/QC Req	uirement					
Empty Kit Relipquished by:		Date:			Time:	1	/	()	Method	Method of Shipment	//		
Relinquished by M.	Date/Time: -14	η(ann	at the	Rece	M	naela	IMI	<u>[</u> 2	Date/Time:	61/ 8 /9	<i>,</i>	Company
मिelinquished by:	Date/Time:		<u>0</u>	Company	Rec	Received by:	J VÌQ	FEDE	1	Date/Time	L .	00:00	Company Elicol
Relinquished by:	Date/Time:			Company	X.e.	Received by:				Date/Time.	ej.		Company
Custody Seals Intact: Custody Seal No∴ Δ Yes Δ No	CS PRESEN	ENT		,	- TO	Cooler Temperature(s) °C and Other Remarks:	re(s) °C and	Other Rem	ırks:	<u>C8</u>	S	12#9	
													Ver. 01/16/2019

Client: Weston Solutions, Inc.

Job Number: 480-152858-1

Login Number: 152858

List Number: 1

Creator: Wallace, Cameron

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
ls the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Client: Weston Solutions, Inc.

Job Number: 480-152858-1

Login Number: 152858

List Number: 2

Creator: Armbruster, Chris

List Source: Eurofins TestAmerica, Edison List Creation: 05/07/19 02:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
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	2.1°C IR9
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 (excluding tests with immediate HTs)	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	