

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

February 26, 2020

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

# Re: Periodic Review Report (February 14, 2019 to February 14, 2020) and IC/EC Certification 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 Periodic Review Report (PRR) for the 3M Tonawanda, NY facility for the period extending from February 14, 2019 to February 14, 2020.

We also have enclosed the completed Institutional and Engineering Controls Certification Form for this site.

Should you have any comments or questions, please contact me at 610-701-3677.

Very truly yours,

WESTON SOLUTIONS, INC.

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

c: J. Martin, 3M (w/ enclosure) K. Held, 3M (w/ enclosure) G. May, NYSDEC (w/enclosure)



# PERIODIC REVIEW REPORT

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# **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 NYSDECapproved 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 monitor 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 (CS<sub>2</sub>).
- Inspecting the completed interim remedial measures (IRMs) (includes the CS<sub>2</sub> 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  $CS_2$  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  $CS_2$  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  $CS_2$  tank system could be completed by 3M under NYSDEC's Chemical Bulk Storage Program.

This Periodic Review Report (PRR) 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 and November 2019. The results from these sampling events are presented herein, along with a description of any maintenance activity conducted in the swale. Also, all analytical results presented in this (PRR) will be uploaded into NYSDEC's EQUIS system in March 2020.

# 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 CS<sub>2</sub> 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. Photographs of the site groundwater monitoring well and lysimeter taken on November 4, 2019 are provided in Attachment A.
- Groundwater samples for CS<sub>2</sub> analysis were collected from monitoring well MW-4 (primary sample and duplicate sample) on November 19, 2019 pursuant to the O&M Plan modifications. The sampling results from the November 2019 event are provided in this report.
- Groundwater samples for 1,4-dioxane and polyfluoroalkyl substances (PFAS) analysis were collected from monitoring well MW-4 (primary sample and duplicate sample) on November 19, 2019. This sampling was conducted at the request of the NYSDEC to support a Statewide evaluation of the presence of 1,4-dioxane and PFAS in groundwater. The sampling results from the November 2019 event for 1,4-dioxane and PFAS will be provided to the NYSDEC under separate cover.



- No maintenance activity was conducted in the subject drainage swale during the reporting period. Vegetation and grading in this swale are in good condition. Photographs showing the condition of the monitoring well, lysimeter, drainage swale, catch basin and fencing at the time of the site inspection in November 2019 are provided in Attachment A.
- The annual compliance inspection/evaluation was completed on November 4, 2019. No deficiencies were noted during the inspection.

# **Groundwater Monitoring Results**

		Sample ID and Resu	lt
Sampling Date	MW-4 (µg/L)	MW-4 Duplicate (µg/L)	LY-02 (mg/L)
4/30/2019	< 5	< 5	190
11/19/2019	< 5	< 5	NS

# Summary of Carbon Disulfide Water Analytical Results

Notes:

NS: Not sampled per approved plan.

As noted above,  $CS_2$  was not detected in the groundwater samples collected from monitoring well MW-4 in April 2019 and November 2019.  $CS_2$  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 completed well purging/sampling forms and the laboratory data packages for the April 2019 and November 2019 sampling events is provided in Attachment B.



# ATTACHMENT A SITE PHOTOGRAPHS – NOVEMBER 4, 2019



# Groundwater Monitoring Well MW-4



Catch Basin, Swale and Fencing





# Lysimeter LY-2



# Drainage Collection





# ATTACHMENT B WELL PURGING/SAMPLING FORMS AND LABORATORY ANALYTICAL PACKAGES APRIL 2019 AND NOVEMBER 2019 SAMPLING EVENTS



# WELL PURGING/SAMPLING FORMS



# Well Evacuation/Sampling Form

SITE INFORMATION T	ONAWA	NDA			1012	_	2019	April 3	D	
Well No .: MW - 4	Weather	: Sunn Clo	udy Rain	Temp:	420	_				
Sampling Team: Greg Flasinski				Sampler's Signature:						
WELL INFORMATION						1	1	_	$\geq$	
Protective Casing: Intact	Damaged	l		Concret	e Base:	1000	Dama	iged		
Locked: / YES /	NO			Well Di	ameter: 6-I	NCH 4-	INCH 6-IN	ICH		
WELL EVACUATION INF	ORMAT	ION								
A. Total Depth (Top of Casing = TO	DC):	7.	2.90	Well Ev	acuation Met	hod				
B. Depth to Water (DTW) (TOC):			31,17	BAILER						
C. Column of Standing Water (C=A	<b>-B</b> ):		1.83							
D. Purge Factor	D. Purge Factor X (D, 1 )									
E. One Well Volume:								620172		
F. Three Well Volumes (gal	lons):		0,1	тот	AL VO	LUME	PURGE	D:	1.00	
INDICATOR PARAMETE	RS									
Time	1032	1042	1057	T OUS		L				
Purge Rate (gal. per minute)		1	1	1				1		
Total Gallons Purged					-					
Temperature (°C):										
Specific Conductivity (s):	10.7	10.5	10.1	10.2				-		
pH:	860	2067		322						
pri: SECONDARY PARAMETERS	9.24	16.74	8.74	8.5	2			<u> </u>		
		-			_					
ORP (mV):	-	-	-	-						
Dissolved Oxygen (mg/L):	-	-	-	-	_					
Turbidity:	86.3	174.3	107.4							
NAPL Observed: YES / NO					mped Dry:	YES	/ NO			
ODOR: YES / NO		041		Other:						
Odor Type: ( ) Solvent ( ) S	ieptic ()	Other								
SAMPLE COLLECTION I	NFORM	ATION			SAMPL	E DATE	C:			
Sample No.			Time	1. C	S	ample N	0.		Time	
Media Sample ID:000-Gw- Mu	W04-0-1	90430	1115		Blank: YES/N					
Duplicate: ES/NOO CO - Gree-	HWAY-	DB-	1115	Field Bl	ank YES/NO	000	w-AB	04- Ha	430 (1)	
Parameters: ( 1/2) VOC - CS2 ( ) ( ) ( ) ( )	( )	ાલ043	Ø	Tr	Blan Co-W	- TBO	D) 100	00 2043	0	
									~~	
			СОММ	ENTS						
MW-1 31.12 MW-2 32.96					Well Pumpe Volume Pur		YES /	NO		
mw - 3 33,70					Well Requir		ance?	YES /	NO	
mw-4 31.17					Access Requ			YES /	NO	

Purge Factors: 1" (0.04); 2" (0.16); 3" (0.37); 4" (0.65); 6" (1.47); 8" (2.61); 10" (4.08)

WESTON
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# Figure 1 Well Purging/Sampling Form

SITE INFORMATION (	Confiden	tial Ton	awanda.	NY		11	11911	47	
Well No .: MW-4					Sunny C	loudy Rain	f fem	<u>1</u> x 35	
1 h	Flas	UNK		Sampler's Signature: Hu Meo					
WELL INFORMATION						Â			
Protective Casing: Intact		Concrete	Base:	(Inta	nct) / Dan	naged			
Locked: Yes		Well Dia	meter: 2	inch 4-i	nch 6-inc	h			
WELL EVACUATION IN	FORMA	LION							And
A. Total Well Depth from Top of C	Casing (TOC	): <b>ר</b>	12.90	Well Eva	cuation Me	thod			
B. Depth to Water (ft below TOC)	:		30.53		Bailer 2-Inch C	lrundfos			
C. Column of Standing Water (ft)	(C=A-B):		12.37		Peristalti	c Pump Specify)			
D. Purge Factor:			0.16		o Oulei (	specify)			
E. One Well Volume (gallons):			5.78						
F. Five Well Volumes (gatlor	ıs):	3	3,9	Total V	/olume P	urged (ga	llons): <u>J</u>	5,75	-
INDICATOR PARAMETE	RS								
Time:	Ι.			Ī .	,				
	1042	1055	1108	1122	1135	114-1	)		
Purge Rate (gal. per minute):	0,4	0.4	0.4	Q37	0.4	0.4			
Temperature (degrees C):	13.2	17.8	12.7	12.6	12.6	1216			
Specific Cond (mS/cm):	875	820	3820	3970	3953	3967			
pH:	9.92	10.28	8,50	8.08	7.98	7.96			
Turbidity (NTU):	15.2	120	+++	687	326	· ·			
Depth to Water (ft below TOC):	30.53		30,90	30,88	30.81				
NAPL Observed: Yes / No	<u></u>		<u>.</u>	Well Pum		Yes	//No)	<u> </u>	
ODOR: Yes / (No				Other:	·		V,		
SAMPLE COLLECTION I	NFORM	ATION	ï		SAMPL	E DATE	. 11/10	7/19	
Sample No.		ſ	Time		S	ample No		1	Time
Media Sample ID: OCO - Gw-	MWONU	· A . 1911	0 1210	Rinse Blan	k Yes No		FB01-FD	- 191119	1030
Duplicate (Yes/No	04-DB	.191119	1310	Trip Blank	Ors/Nob	0.W-T	301-78	- 19 11 19	900
					· · · · · · · · · · · · · · · · · · ·				
	4-Dioxane								
(V) PFAS			COMME	NTS					
Well# DTW (Fe	et belo	<u>w 10</u>	CAUME	W	ell Require	s Maintena	ince? Y	es No	
MW-1 27,57 MW-2 30 68				f.		res Mainte		/es / (No)	
Nus -									
1W-4 30153									



# LABORATORY ANALYTICAL PACKAGES

# 🛟 eurofins

# Environment Testing TestAmerica

# **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

Judy Stone

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

Judy Stone, Senior Project Manager (484)685-0868 judy.stone@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. Project/Site: 3M Tonawanda

Glossary		3
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	5
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)	8
LOD	Limit of Detection (DoD/DOE)	
LOQ	Limit of Quantitation (DoD/DOE)	9
MDA	Minimum Detectable Activity (Radiochemistry)	
MDC	Minimum Detectable Concentration (Radiochemistry)	
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	4 1
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

# Job ID: 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.

# **Detection Summary**

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

Job ID: 480-152858-1

Client: Weston Solutions, Ir Project/Site: 3M Tonawand			JOD IL	): 480-152858-1			
Client Sample ID: OC	O-GW-MW04-0	Lab Sample ID: 480-152858-1					
No Detections.							
Client Sample ID: OC	O-GW-MW04-D	B-190430	)		Lab Sample ID: 4	180-152858-2	4
No Detections.							5
Client Sample ID: OC	O-GW-LY02-0-	190430			Lab Sample ID: 4	480-152858-3	6
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: OC	O-W-FB01-FB-	190430			Lab Sample ID: 4	180-152858-4	8
No Detections.							Q
Client Sample ID: OC	O-W-TB01-TB-	190430			Lab Sample ID: 4	180-152858-5	
No Detections.	-						

This Detection Summary does not include radiochemical test results.

# Client Sample ID: OCO-GW-MW04-0-190430 Date Collected: 04/30/19 11:15 Date Received: 04/30/19 11:45

Method: 8260C - Volatile Or	ganic Compou	unds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.16	ug/L			05/10/19 10:47	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

# 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

### Method: 8260C - Volatile Organic Compounds by GC/MS Analyte **Result Qualifier** MDL Unit RL 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 1000 05/10/19 11:32 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

# 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

Eurofins TestAmerica, Buffalo

Lab Sample ID: 480-152858-3

Lab Sample ID: 480-152858-4

Matrix: Water

Matrix: Water

Lab Sample ID: 480-152858-2 Matrix: Water

Job ID: 480-152858-1

Matrix: Water

Lab Sample ID: 480-152858-1

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# Client Sample ID: OCO-W-TB01-TB-190430 Date Collected: 04/30/19 10:00 Date Received: 04/30/19 11:45

# Lab Sample ID: 480-152858-5

Matrix: Water

Job ID: 480-152858-1

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)			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

Eurofins TestAmerica, Buffalo

# **Surrogate Summary**

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

			Pe	ercent Surro	ogate Reco
		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

Surrogate Legend

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

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

DBFM = Dibromofluoromethane (Surr)

Job ID: 480-152858-1

# Prep Type: Total/NA

Job ID: 480-152858-1

8

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

### Lab Sample ID: MB 460-608963/7 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 608963 MB MB Analyte **Result Qualifier** RL MDL Unit Prepared Analyzed Dil Fac D Carbon disulfide 5.0 0.16 ug/L 05/10/19 08:33 ND 1 MB MB %Recovery Qualifier Surrogate Limits Dil Fac Prepared Analyzed 1,2-Dichloroethane-d4 (Surr) 101 74 - 132 05/10/19 08:33 1 4-Bromofluorobenzene 100 77 - 124 05/10/19 08:33 1 Toluene-d8 (Surr) 103 80 - 120 05/10/19 08:33 1 Dibromofluoromethane (Surr) 100 72 - 131 05/10/19 08:33 1 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	Unit	D	%Rec	Limits	
Carbon disulfide			20.0	17.5		ug/L		88	69 - 133	
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	99		74 - 132							
4-Bromofluorobenzene	104		77 - 124							
Toluene-d8 (Surr)	101		80 - 120							
Dibromofluoromethane (Surr)	101		72 - 131							

# Lab Sample ID: LCSD 460-608963/4 Matrix: Water Analysis Batch: 608963

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

Analysis Baton. 000000			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								

# **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	

			L	.ab Chro	onicle				
Client: Weston Service of the servic	,							Job	ID: 480-152858-1
Client Sample Date Collected: Date Received:	e ID: OCC 04/30/19 1	O-GW-MW04	4-0-19043(	)			Lab Sa	ample ID:	: 480-152858-1 Matrix: Water
Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C	Run	Dilution Factor 1	Batch Number 608963	Prepared or Analyzed 05/10/19 10:47	Analyst SZD	Lab TAL EDI	
Client Sample Date Collected: Date Received:	04/30/19 1 <sup>-</sup>	1:15	4-DB-1904	30			Lab Sa	ample ID:	: 480-152858-2 Matrix: Water
Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C	Run	Dilution Factor	Batch Number 608963	Prepared or Analyzed 05/10/19 11:10	Analyst SZD	Lab TAL EDI	
Client Sample Date Collected: Date Received:	04/30/19 1	1:30	-0-190430				Lab Sa	ample ID:	: 480-152858-3 Matrix: Water
Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C	Run	Dilution - Factor 1000	Batch Number 608963	Prepared or Analyzed 05/10/19 11:32	Analyst SZD	– Lab TAL EDI	-
Client Sample Date Collected: Date Received:	e ID: OCC 04/30/19 1	1:10	<sup>-</sup> B-190430				Lab Sa		: 480-152858-4 Matrix: Water
Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C	Run	Dilution Factor 1	Batch Number 608963	Prepared or Analyzed 05/10/19 10:03	Analyst SZD	– Lab TAL EDI	-
Client Sample Date Collected: Date Received:	04/30/19 1	0:00	В-190430				Lab Sa	ample ID:	: 480-152858-5 Matrix: Water
Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst SZD	– Lab TAL EDI	

Laboratory References:

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

# Accreditation/Certification Summary

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

5

# Laboratory: Eurofins TestAmerica, Buffalo

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

ſ	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

Eurofins TestAmerica, Buffalo

# **Method Summary**

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

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

5/15/2019 (Rev. 1)

# 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

Eurofins TestAmerica, Buffalo

# Eurofins TestAmerica, Buffalo

10 Hazefwood Drive Amherst, NY 14228-2298

# Chain of Custody Record

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Environment Testing • TestAmorica

5

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

Client Information	Sampter	6	e 5810			PHL ons, Ju	dv I	-				Car	tier Track	ing No(s)	2	_	COC No:	
Crient Contact. Greg Flasinski	Phone:				E-A	Aai?				-	-	-					480-129168-278 Page:	04.1
Company.	_	-			juo	ly stone	@tes	stame	ricainc	.com			-	_	_		Page 1 of 1	
Weston Solutions, Inc. Address	10			_		1		_		Analy	vsis F	Reque	sted				Job #:	
1400 Weston Way PO BOX 2653	Date Date	e Request	ad:				No.		200	T			TT			12	Preservation Cod	es:
City: West Chester	TAT Rec	quested (d	ays):	2 4 1 2	1	-1 1		- 22									A - HCL	M - Hexane
State, Zip:	-															-	B - NaOH C - Zn Acetate	N - None O - AsNaO2
PA, 19380				24		1.8						- I.					D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3
610-701-3000(Tel) 610-701-7401(Fax)	PO#: 005560	00											1				F - MeOH G - Amchlor	R - Na25203 5 - H2504
Email: greg.flasinski@westonsolutions.com	WO#:					-2				1				10		10	H - Ascorbic Acid	T - TSP Dodecahydrat
Project Name	02181. Project #	086.017	.0001			0 0	Đ.	1								2	I - Ice J - Di Water	U - Acetone V - MCAA
3M Tonawanda	480035							Disulfide								ine.	K-EDTA L-EDA	W - pH 4-5 Z - other (specify)
Site:	SSOW#:					E	Carbon Disulfide	Carbon D								l containen	Other:	- const (spoul)
			Sample	Sample Type (C=comp,	Matrix (www.stor, S=solid, D=wasteriod,	Id Filtered	8240C - 8260 Ca	8260C - 8260 Ca			ł					Total Number of	-	
Sample Identification	Samp	le Date	Time		STOTISSUS, ARAS		828	1								Tota	Special In:	structions/Note:
MW-4 OCC AND NUMBER	The	Tin	~	Preserv	ation Code:	XX	A	N	1	1						X		
MW-4 0 co - 0 MW04-0-190430	4/32	19	1115	6	Water	44-	V		_									
104 DUPOCO-GW, MWDY-DB-190430	+		1115		Water		V			1 30								
1-2 0C0 - GW - LY02 - D - 1001130			1130		Water		V										20 B C	
B-MW-4 OCO - W - FB01 - FB - 190430			1110		Water	T	1			1		-				+		
					Water	++	1 V		-1-	-		-	++	+ +		+		
Trip Blank co-w-TB01-TB- 190430		-				╈	-			-								
6 CO-00- 1001-18-190430	-		1000	+	Water	++-	1	┝┤	-	-	_	-	-					
	1					┼┼			-			200	$\vdash$	+		+		
						f†-			-	-	-			+	+	Н		
				0.000											-	$\vdash$		
In the first state of the state						П		-			100	-				$\square$		
Possible Hazard Identification	-	-				Sa	mple	Disp	osal (	A fee	may be	asse:	ssed if :	sample	s are re	tain	ed longer than 1	month
Non-Hazard Flammable Skin Irritant Po Deliverable Requested: I, IJ, II, IV, Other (specify)	ison B	Unk	nown	Radiologic	al	`	R	eturn	To Cli	ent	<u> </u>	Dispo	sal By	Lab		Arci	hive For	Months
						Sp	ecial	Instru	ctions	QC Re	quiren	ents:		1.1				Montha
moty Kit Reing ashed by	1		Date:			Time:				12			Method c	f Shipme	nt:			
elinguished by	Date	2/10			Company	-	Rece	wed by	11	A. Z	1	10	- h	Date/T		<u> </u>	1 0 1/11	Company .
adinquisible by	Date/Time			-	Company		Recei	ived by	<u>un</u>		ou	UI	LOF	Date/T		il3	2119 1144	TR
lelinguished by:	Date/Time	9.			Company		Recei	wed by:				_	-	Date/1		/		company
Custody Seals Intact: Custody Seal No.:		_	-	_					-				-	- Cale/1				Сотралу
Δ Yes Δ No							Coole	er Temp	erature(	s) "Can	d Other	Remarks	E.					

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nerica,
TestAr
Eurofins

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

# **Chain of Custody Record**

Contraction Environment Testing

Phone (716) 691-2600 Fax (716) 691-7991				1-1				1.11		
Client Information	Calibia.			Stone	Stone, Judy L		CONTRACTOR LIGONAL	. (c)on Bu	480-129168-27804.1	4.1
Client Contact: Greg Flasinski	Phone:			E-Mail: judy.s	stone@te	E-Mail: judy.stone@testamericainc.com	E		Page: Page 1 of 1	
Company: Weston Solutions, Inc.						A	Analysis Requested		Job #;	
Address 1400 Weston Way PO BOX 2653	Due Date Requested:	÷							po	
City West Chester	TAT Requested (days)	ys):							B - NaOH C - Zn Acetate	M - None 0 - AsNano
State, Zip: PA, 19380								_		
Phone: 610-701-3000(Tel) 610-701-7401(Fax)	PO#: 0055600				(0)					
Email: greg.flasinski@westonsolutions.com	WO #: 02181.086.017.00	001			(on					
Project Name: 3M Tonawanda	Project #: 48003524				10 59				Core Chain of Custody	
Site:	SSOW#.				r) asi			480-152850	Click	
Samule Identification	Samole Date	Sample Time	Sample Type (C=comp, G=orab)	Matrix (w=water, s=solid, 0=waste/oli, BTETIssue, A=Air)	Field Filtered Perform MS/M 8260C - 8260 C	8260C - 8260 C		Total Number	Special Inst	Special Instructions/Note
	V	X		-	Ŕ	2				
MW-4	4/30/19	1115	9	Water	>					
MW-4 DUP	1 40	1115	-	Water	>					
LY-2		1130		Water	~					
FB-MW-4		1110		Water						
				Water						
Trip Blank	4	000	+	Water	>	_				
Possible Hazard Identification	[	[			Samp	l	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month	f samples are retair	ned longer than 1	month)
Deliverable Requested: 1, 11,411, IV, Other (specify)	Poison B Unkno	nwon	Radiological	al	Speci	Return To Client al Instructions/QC	Return To Client Disposal By Lab Special Instructions/QC Requirements:		Archive For	Months
					_			Mathematics of Chiamant		
Empty Kit/Relinguished by	1 100	Date:			Time:	20	1 / / Metho	d of Shipment		
Keinaushed by	Uate/Ime: U2120/19			Company	ž	MO A DA	I how Cino	Date/lime.	20119114	Ampany
Relinquished by	Date/Time: /			Company	<u>×</u>	Received by:		Date/Time:		Company
Relinquished by	Date/Time:			Company	α.	Received by:		Date/Time:		Company
Custody Seals Intact: Custody Seal No.:					ŏ	ooler Temperature(s	Cooler Temperature(s) °C and Other Remarks:	一年さる	105	
					1					Ver. 01/16/2019

<b>Seurofins</b> Environment Testing TestAmerica	COC No: 480-49459,1	Page: Page 1 of 1	Job #: 480-152858-1		B - NOL M - REXARE B - NAOH N - None C - Zn Acetate O - AsNaO2			1 - Ice J - DI Water	L-EDA W - PH 4-5 L-EDA Z - other (specify)	Other	Special Instructions/Note:								r chain-of-custody. If the laboratory does not	tion status should be brought to TestAmerica	tained longer than 1 month) Archive For Months				14 Edison	Company	12#9	Ver: 01/16/2019	1 2 3 4 5 6
	Carrier Tracking No(s):	State of Origin: New York		Analysis Requested										· · · · · · · · · · · · · · · · · · ·	<u>۳</u>	3	3		ttories. This sample shipment is forwarded unde	tions will be provided. Any changes to accreditatic.	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)		( )   Method of Shipment / /	IMI A Date/Time:	YENEY	,	d Other Remarks:		7 8 9 10 11
/ Record	Lab PM: Stone, Judy L	E-Mail: judy.stone@testamericainc.com	Accreditations Required (See note): NELAP - New York	Analys		60	·	(617)	ശന്ദാ	()(a]=]	85e0C/e030C (W B3E0C/e030C (W Field Filtered : Field Filtered :		er X	er X	er X	er X	er X		Itation compliance upon out subcontract labor	to the TestAmenca laboratory or other instruct I complicance to TestAmenca Laboratories, In	Sample Disposal ( A fee n	Special Instructions/QC Requirements:	Time:	P Received by AN			Cooler Temperature(s) °C and Other Remarks:		12 13 14 15
Chain of Custody Record				sted:	(days):						Sample Matrix Type (wreater Type correction Sample (C=comp, correction)	Preserva	11:15 Water	11:15 Water	11:30 Water	Eastern Eastern	T0:00 Water Eastern	· · ·	the ownership of method, analyte & accred	alyzed, the samples must be shipped back e signed Chain of Custody attesting to saic		Primary Deliverable Rank: 2	Date:	16 M Com		Company	PRESENT		
	Sampler	Phone:		Due Date Requested: 5/10/2019	TAT Requested (days):		i#i Oct	# W	Project #: 48003524	SSOW#:	Sample Date	X	4/30/19	4/30/19	4/30/19	4/30/19	4/30/19		astAmerica Laboratories, Inc. places t	ove for analysis/tests/matrix being and ditations are current to date, return th				Date/Time: Date/Time:		Date/ I me:	CS PRE		
Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991	Client Information (Sub Contract Lab)	Client Contact: Shipping/Receiving	Company: TestAmerica Laboratories, Inc.	Address: 777 New Durham Road,	City: Edison	State, Zip: NJ, 08817	Phone: 732-549-3900(Tel) 732-549-3679(Fax)		Project Name: 3M Tonawanda	Site:	ی میں میں اور		MW-4 (480-152858-1)	MW-4 DUP (480-152858-2)	LY-2 (480-152858-3)	FB-MW-4 (480-152858-4)	TRIP BLANK (480-152858-5)	· · · ·	Note: Since laboratory accreditations are subject to change. Te	currently maintain accreditation in the State of Origin listed above for analysis/rests/matrix being analyzed, the samples must be simped back to the TestAmenca laborations will be provided. Any changes to accreditation status should be brought to TestAmenca Laborationes, inc.	Possible Hazard Identification Unconfirmed	Deliverable Requested: I, II, III, IV, Other (specify)	Empty Kit Relipquished by:	Relinquished by Relinquished by:	Deliverational But	- r	Custody Seals Intact: Custody Seal No.:		

Client: Weston Solutions, Inc.

# Login Number: 152858 List Number: 1 Creator: Wallace, Cameron

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	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (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	

List Source: Eurofins TestAmerica, Buffalo

Client: Weston Solutions, Inc.

### Login Number: 152858 List Number: 2 Creator: Armbruster, Chris

Job Number: 480-152858-1
--------------------------

List Creation: 05/07/19 02:01 PM

List Source: Eurofins TestAmerica, Edison

Creator: Armbruster, Chris		
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	

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# Environment Testing TestAmerica

# **ANALYTICAL REPORT**

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

# Laboratory Job ID: 480-162997-1

Client Project/Site: 3M Tonawanda Revision: 1

# For:

..... Links

Review your project results through

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The

www.testamericainc.com

Visit us at:

Expert

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

Attn: Mr. Tom Drew

Judy Stone

Authorized for release by: 12/3/2019 10:39:23 AM

Judy Stone, Senior Project Manager (484)685-0868 judy.stone@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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3

# Qualifiers

# GC/MS Semi VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.

E	Result exceeded calibration range.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	6
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	7
CFL	Contains Free Liquid	
CNF	Contains No Free Liquid	0
DER	Duplicate Error Ratio (normalized absolute difference)	Ο
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	9
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)	10
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	11
LOQ	Limit of Quantitation (DoD/DOE)	
MDA	Minimum Detectable Activity (Radiochemistry)	12
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	13
ML	Minimum Level (Dioxin)	
NC	Not Calculated	14
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	15
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	16
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

# Job ID: 480-162997-1

# Job ID: 480-162997-1

# Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-162997-1

# **Revision (1)**

The report has been revised to report an undiluted analysis for sample OCO-GW-MW04-DB- 191119 (480-162997-2) as requested by the client. The sample ID for the trip blank was also corrected to remove an extra space.

## Receipt

The samples were received on 11/19/2019 1:20 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.

# **Receipt Exceptions**

The sample ID on the chain of custody was incorrect and has been revised to match the sample ID of the MS/MSD samples as requested by the client: OCO-GW-MW04-0-191119 (480-162997-1).

# GC/MS VOA

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

# GC/MS Semi VOA

Method 8270D SIM ID: The following sample was diluted due to color and appearance: OCO-GW-MW04-DB- 191119 (480-162997-2). Elevated reporting limits (RL) are provided.

Method 8270D SIM ID: The 1,4-Dioxane result reported for samples OCO-GW-MW04-0-191119 (480-162997-1[MS]) and OCO-GW-MW04-0-191119 (480-162997-1[MSD]) have an E flag qualifier indicating the results are over the calibration range on the raw data. The actual amounts are within the calibration range; however, the E flag is generated based upon the bias corrected concentration. The LIMS system calculates a bias correction based on the recovery of the 1,4-Dioxane-d8 isotope.

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

## **Organic Prep**

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

# **Detection Summary**

Job ID: 480-162997-1

Client Sample ID: OCC	D-GW-MW04-0-191		Lab Sample ID: 480-162997-						
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.40		0.20	0.098	ug/L	1	_	8270D SIM ID	Total/NA
Client Sample ID: OCC	D-GW-MW04-DB- 1	91119				Lat	) Sa	ample ID: 4	80-162997-
 Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.42		0.20	0.10	ug/L	1	_	8270D SIM ID	Total/NA
Client Sample ID: OCC	D-W-FB01-FB-1911	19				Lab	o Sa	ample ID: 4	80-162997-
No Detections.									
Client Sample ID: OCC	D-W-TB01-TB-1911	19				Lab	) Sa	ample ID: 4	80-162997-
No Detections.									

This Detection Summary does not include radiochemical test results.

### Client Sample ID: OCO-GW-MW04-0-191119 Date Collected: 11/19/19 12:10

Date Received: 11/19/19 13:20

Method: 8260C - Volatile Orga	nic Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.19	ug/L			11/22/19 16:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 _ 120			-		11/22/19 16:02	1
Toluene-d8 (Surr)	95		80 - 120					11/22/19 16:02	1
4-Bromofluorobenzene (Surr)	95		73 - 120					11/22/19 16:02	1
Dibromofluoromethane (Surr)	97		75_123					11/22/19 16:02	1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)											
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
1,4-Dioxane	0.40		0.20	0.098	ug/L		11/22/19 08:42	11/25/19 15:01	1		
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac		
1,4-Dioxane-d8	31		15 - 110				11/22/19 08:42	11/25/19 15:01	1		

#### Client Sample ID: OCO-GW-MW04-DB- 191119 Date Collected: 11/19/19 12:10 Date Received: 11/19/19 13:20

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

Method. 02000 - Volatile Orga	nic compounds i								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.19	ug/L			11/22/19 16:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120			-		11/22/19 16:26	1
Toluene-d8 (Surr)	92		80 - 120					11/22/19 16:26	1
4-Bromofluorobenzene (Surr)	89		73 - 120					11/22/19 16:26	1
Dibromofluoromethane (Surr)	100		75 - 123					11/22/19 16:26	1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution	۱.

Analyte	-	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.42		0.20	0.10	ug/L		11/22/19 08:42	12/02/19 12:53	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

#### Client Sample ID: OCO-W-FB01-FB-191119 Date Collected: 11/19/19 10:30

Date Received: 11/19/19 13:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.19	ug/L			11/22/19 16:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 _ 120			-		11/22/19 16:51	1
Toluene-d8 (Surr)	91		80 - 120					11/22/19 16:51	1
4-Bromofluorobenzene (Surr)	91		73 _ 120					11/22/19 16:51	1
Dibromofluoromethane (Surr)	103		75 - 123					11/22/19 16:51	1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)											
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
	1,4-Dioxane	ND		0.20	0.10	ug/L		11/22/19 08:42	11/25/19 15:48	1	

Lab Sample ID: 480-162997-1 Matrix: Water

Job ID: 480-162997-1

# Lab Sample ID: 480-162997-3

Lab Sample ID: 480-162997-2

Matrix: Water

Matrix: Water

		Clien	t Sample R	esults	\$				
Client: Weston Solutions, Inc. Project/Site: 3M Tonawanda								Job ID: 480-1	162997-1
Client Sample ID: OCO-W-F	-B01-FB-1911	19					Lab Samp	le ID: 480-16	2997-3
Date Collected: 11/19/19 10:30 Date Received: 11/19/19 13:20								Matri	ix: Water
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	30		15 - 110				11/22/19 08:42	11/25/19 15:48	1
Client Sample ID: OCO-W-7 Date Collected: 11/19/19 09:00 Date Received: 11/19/19 13:20	B01-10-1311	19						le ID: 480-16 Matri	ix: Water
- Method: 8260C - Volatile Orgar Analyte		by GC/MS Qualifier	RL	МП	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0		ug/L			11/22/19 17:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120					11/22/19 17:15	1
Toluene-d8 (Surr)	88		80 - 120					11/22/19 17:15	1
4-Bromofluorobenzene (Surr)	89		73 - 120					11/22/19 17:15	1
Diterrent fluoremethene (Curr)	05							11/22/19 17:15	1
Dibromofluoromethane (Surr)	95		75 - 123						
Dibromofluoromethane (Surr)	95		75 - 123						
Dibromofluoromethane (Surr)	95		75 - 123						
Dibromofluoromethane (Surr)	95		75 - 123						

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

			Percent Surrogate Re					
		DCA	TOL	BFB	DBFM			
Lab Sample ID	Client Sample ID	(77-120)	(80-120)	(73-120)	(75-123)			
480-162997-1	OCO-GW-MW04-0-191119	100	95	95	97			
480-162997-1 MS	OCO-GW-MW04-0-191119	101	92	96	101			
480-162997-1 MSD	OCO-GW-MW04-0-191119	95	92	93	95			
480-162997-2	OCO-GW-MW04-DB- 191119	103	92	89	100			
480-162997-3	OCO-W-FB01-FB-191119	106	91	91	103			
480-162997-4	OCO-W-TB01-TB-191119	98	88	89	95			
LCS 480-506126/5	Lab Control Sample	99	94	100	95			
MB 480-506126/7	Method Blank	103	93	97	110			

Surrogate Legend

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

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

Job ID: 480-162997-1

# Prep Type: Total/NA

## **Isotope Dilution Summary**

Prep Type: Total/NA

5

**8** 9

## Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution) Matrix: Water

			Percent Isotope Dilution Recovery (Acceptance Limits)
		DXE	
Lab Sample ID	Client Sample ID	(15-110)	
480-162997-1	OCO-GW-MW04-0-191119	31	
480-162997-1 MS	OCO-GW-MW04-0-191119	30	
480-162997-1 MSD	OCO-GW-MW04-0-191119	33	
480-162997-2	OCO-GW-MW04-DB- 191119	30	
480-162997-3	OCO-W-FB01-FB-191119	30	
LCS 480-506155/2-A	Lab Control Sample	31	
MB 480-506155/1-A	Method Blank	32	

DXE = 1,4-Dioxane-d8

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

Lab Sample ID: MB 480-506 Matrix: Water	126/7							Client S	Sample ID: Mo Prep Typ	ethod Blan be: Total/N/
Analysis Batch: 506126										
		MB MB								
Analyte	Re	sult Qualifier			MDL Unit		D	Prepared	Analyzed	
Carbon disulfide		ND	5.0		0.19 ug/L				11/22/19 12	:34
		MB MB								
Surrogate	%Reco	very Qualifier	Limits					Prepared	Analyzeo	Dil Fa
1,2-Dichloroethane-d4 (Surr)		103	77 - 120						11/22/19 12	:34
Toluene-d8 (Surr)		93	80 - 120						11/22/19 12	:34
4-Bromofluorobenzene (Surr)		97	73 - 120						11/22/19 12	:34
Dibromofluoromethane (Surr)		110	75 - 123						11/22/19 12	:34
Lab Sample ID: LCS 480-506 Matrix: Water	6126/5						Clier	nt Sample	e ID: Lab Con Prep Typ	trol Sample be: Total/N/
Analysis Batch: 506126										
			Spike		LCS				%Rec.	
Analyte			Added		Qualifier	Unit	D		Limits	
Carbon disulfide			25.0	21.5		ug/L		86	59 - 134	
	LCS	LCS								
Surrogate		Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	99		77 - 120							
Toluene-d8 (Surr)	94		80 - 120							
	100		73 - 120							
4-Bromofluorobenzene (Surr)	100		73 - 120							
4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr)	95		73 - 120 75 - 123							
Dibromofluoromethane (Surr)	95					Clie	ont San	nnle ID: C	)CO-GW-MW	04-0-19111
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997-	95					Clie	ent San	nple ID: C	CO-GW-MW	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water	95					Clie	ent San	nple ID: C		04-0-19111 be: Total/N/
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997-	95	Sample		MS	MS	Clie	ent San	nple ID: C		
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water	95 -1 MS Sample	Sample Qualifier	75 - 123		MS Qualifier	Clie	ent San	-	Prep Typ	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126	95 -1 MS Sample	•	75 - 123 Spike					-	Prep Typ %Rec.	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte	95 -1 MS Sample Result ND	Qualifier	75 - 123 Spike Added	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide	95 -1 MS 	Qualifier	75 - 123 Spike Added 25.0	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate	95 -1 MS Sample Result ND MS %Recovery	Qualifier	75 - 123 Spike Added 25.0 Limits	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr)	95 •1 MS <u>Sample</u> <u>Result</u> ND <u>MS</u> <u>%Recovery</u> 101	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr)	95 •1 MS Sample Result ND MS %Recovery 101 92	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr)	95 •1 MS Sample Result ND MS <u>%Recovery</u> 101 92 96	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120 73 - 120	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate	95 •1 MS Sample Result ND MS %Recovery 101 92	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120	Result		Unit		%Rec	Prep Typ %Rec. Limits	
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr)	95 •1 MS Sample Result ND MS %Recovery 101 92 96 101	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120 73 - 120	Result		Unit ug/L	<u> </u>	%Rec 91	Prep Typ %Rec. Limits	be: Total/N/
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr)	95 •1 MS Sample Result ND MS %Recovery 101 92 96 101	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120 73 - 120	Result		Unit ug/L	<u> </u>	%Rec 91	Prep Typ %Rec. Limits 59 - 134	be: Total/N/
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997-	95 •1 MS Sample Result ND MS %Recovery 101 92 96 101	Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120 73 - 120	Result		Unit ug/L	<u> </u>	%Rec 91	Prep Typ %Rec. Limits 59 - 134	De: Total/N/
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water	95 •1 MS Sample Result ND MS %Recovery 101 92 96 101	Qualifier MS Qualifier	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120 73 - 120	Result 22.7		Unit ug/L	<u> </u>	%Rec 91	Prep Typ %Rec. Limits 59 - 134	De: Total/N/
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126	95 1 MS Sample Result ND MS %Recovery 101 92 96 101 101 101 Sample Result	Qualifier MS Qualifier	75 - 123         Spike         Added         25.0         Limits         77 - 120         80 - 120         73 - 120         75 - 123	Result 22.7 MSD Result	Qualifier	Unit ug/L	<u> </u>	%Rec 91	Prep Typ %Rec. Limits 59 - 134	04-0-191111 06: Total/N/ RPI RPD Lim
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water	95 •1 MS Sample Result ND MS %Recovery 101 92 96 101 •1 MSD Sample	Qualifier MS Qualifier Sample	75 - 123 Spike Added 25.0 Limits 77 - 120 80 - 120 73 - 120 75 - 123 Spike	Result 22.7	Qualifier	Unit ug/L Clie	D	%Rec 91	Prep Typ %Rec. Limits 59 - 134 OCO-GW-MWW Prep Typ %Rec.	04-0-19111 02: Total/N/ RPI
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte	95 •1 MS Sample Result ND MS %Recovery 101 92 96 101 •1 MSD Sample Result ND	Qualifier MS Qualifier Sample Qualifier	75 - 123         Spike         Added         25.0         Limits         77 - 120         80 - 120         73 - 120         75 - 123         Spike         Added	Result 22.7 MSD Result	Qualifier	Unit ug/L Clie	D	%Rec 91	Prep Typ %Rec. Limits 59 - 134 OCO-GW-MW/ Prep Typ %Rec. Limits	04-0-191111 06: Total/N/ RPI RPD Lim
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide	95 1 MS Sample Result ND MS %Recovery 101 92 96 101 101 101 92 96 101 101 Sample Result ND MSD	Qualifier MS Qualifier Sample Qualifier MSD	75 - 123         Spike         Added         25.0         Limits         77 - 120         80 - 120         73 - 120         75 - 123         Spike         Added         25.0	Result 22.7 MSD Result	Qualifier	Unit ug/L Clie	D	%Rec 91	Prep Typ %Rec. Limits 59 - 134 OCO-GW-MW/ Prep Typ %Rec. Limits	04-0-191111 06: Total/N/ RPI RPD Lim
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate	95 1 MS Sample Result ND MS %Recovery 101 92 96 101 101 92 96 101 101 92 96 101 101 92 96 101 8 8 8 8 8 8 8 8 8 8 8 8 8	Qualifier MS Qualifier Sample Qualifier	75 - 123         Spike         Added         25.0         Limits         77 - 120         80 - 120         73 - 120         75 - 123         Spike         Added         25.0	Result 22.7 MSD Result	Qualifier	Unit ug/L Clie	D	%Rec 91	Prep Typ %Rec. Limits 59 - 134 OCO-GW-MW/ Prep Typ %Rec. Limits	04-0-191111 06: Total/N/ RPI RPD Lim
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluoromethane (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr)	95 1 MS Sample Result ND MS %Recovery 101 92 96 101 101 101 92 96 101 101 92 96 101 101 92 96 101 8 8 8 8 8 8 8 8 8 8 8 8 8	Qualifier MS Qualifier Sample Qualifier MSD	75 - 123         Spike         Added         25.0         Limits         77 - 120         80 - 120         73 - 120         75 - 123         Spike         Added         25.0         Limits         77 - 120         Limits         77 - 120	Result 22.7 MSD Result	Qualifier	Unit ug/L Clie	D	%Rec 91	Prep Typ %Rec. Limits 59 - 134 OCO-GW-MW/ Prep Typ %Rec. Limits	04-0-191111 06: Total/N/ RPI RPD Lim
Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Lab Sample ID: 480-162997- Matrix: Water Analysis Batch: 506126 Analyte Carbon disulfide Surrogate	95 1 MS Sample Result ND MS %Recovery 101 92 96 101 101 92 96 101 101 92 96 101 101 92 96 101 8 8 8 8 8 8 8 8 8 8 8 8 8	Qualifier MS Qualifier Sample Qualifier MSD	75 - 123         Spike         Added         25.0         Limits         77 - 120         80 - 120         73 - 120         75 - 123         Spike         Added         25.0	Result 22.7 MSD Result	Qualifier	Unit ug/L Clie	D	%Rec 91	Prep Typ %Rec. Limits 59 - 134 OCO-GW-MW/ Prep Typ %Rec. Limits	04-0-191111 06: Total/N/ RPI RPD Lim

#### Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution) Lab Sample ID: MB 480-506155/1-A **Client Sample ID: Method Blank** Matrix: Water Prep Type: Total/NA Analysis Batch: 506566 Prep Batch: 506155 MB MB MDL Unit Analyte Result Qualifier RL D Prepared Analyzed 11/22/19 08:42 1,4-Dioxane 0.20 11/25/19 13:27 ND 0.10 ug/L MB MB Isotope Dilution %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1,4-Dioxane-d8 32 15\_110 11/22/19 08:42 11/25/19 13:27 Lab Sample ID: LCS 480-506155/2-A **Client Sample ID: Lab Control Sample** Matrix: Water Prep Type: Total/NA Analysis Batch: 506566 Prep Batch: 506155 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 1,4-Dioxane 1.00 1.19 119 40 - 140 ug/L LCS LCS Isotope Dilution %Recovery Qualifier Limits 15 - 110 1,4-Dioxane-d8 31 Lab Sample ID: 480-162997-1 MS Client Sample ID: OCO-GW-MW04-0-191119 Matrix: Water Prep Type: Total/NA Analysis Batch: 506566 Prep Batch: 506155 Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added **Result Qualifier** Unit D %Rec Limits 1,4-Dioxane 1.00 1.56 E 116 40 - 140 0.40 ug/L MS MS Qualifier Isotope Dilution %Recovery Limits 1,4-Dioxane-d8 30 15\_110 Lab Sample ID: 480-162997-1 MSD Client Sample ID: OCO-GW-MW04-0-191119 Matrix: Water Prep Type: Total/NA

Analysis Batch: 506566									Prep	Batch: 5	06155
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	0.40		0.980	1.54	E	ug/L		116	40 - 140	1	20
	MSD	MSD									
Isotope Dilution	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8	33		15 - 110								

## **QC** Association Summary

Prep Batch

506155

## GC/MS VOA

#### Analysis Batch: 506126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-162997-1	OCO-GW-MW04-0-191119	Total/NA	Water	8260C	
480-162997-2	OCO-GW-MW04-DB- 191119	Total/NA	Water	8260C	
480-162997-3	OCO-W-FB01-FB-191119	Total/NA	Water	8260C	
480-162997-4	OCO-W-TB01-TB-191119	Total/NA	Water	8260C	
MB 480-506126/7	Method Blank	Total/NA	Water	8260C	
LCS 480-506126/5	Lab Control Sample	Total/NA	Water	8260C	
480-162997-1 MS	OCO-GW-MW04-0-191119	Total/NA	Water	8260C	
480-162997-1 MSD	OCO-GW-MW04-0-191119	Total/NA	Water	8260C	

## GC/MS Semi VOA Prep Batch: 506155

#### Lab Sample ID **Client Sample ID** Prep Type Matrix Method 480-162997-1 OCO-GW-MW04-0-191119 Total/NA Water 3510C OCO-GW-MW04-DB- 191119 480-162997-2 Total/NA 3510C Water 480-162997-3 OCO-W-FB01-FB-191119 Total/NA Water 3510C MB 480-506155/1-A Method Blank Total/NA Water 3510C LCS 480-506155/2-A Lab Control Sample Total/NA Water 3510C OCO-GW-MW04-0-191119 480-162997-1 MS Total/NA Water 3510C 480-162997-1 MSD OCO-GW-MW04-0-191119 Total/NA Water 3510C

#### Analysis Batch: 506566

480-162997-2

OCO-GW-MW04-DB- 191119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-162997-1	OCO-GW-MW04-0-191119	Total/NA	Water	8270D SIM ID	506155
480-162997-3	OCO-W-FB01-FB-191119	Total/NA	Water	8270D SIM ID	506155
MB 480-506155/1-A	Method Blank	Total/NA	Water	8270D SIM ID	506155
LCS 480-506155/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	506155
480-162997-1 MS	OCO-GW-MW04-0-191119	Total/NA	Water	8270D SIM ID	506155
480-162997-1 MSD	OCO-GW-MW04-0-191119	Total/NA	Water	8270D SIM ID	506155
nalysis Batch: 50762	9				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch

Total/NA

Water

8270D SIM ID

#### Client Sample ID: OCO-GW-MW04-0-191119 Date Collected: 11/19/19 12:10 Date Received: 11/19/19 13:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506126	11/22/19 16:02	S1V	TAL BUF
Total/NA	Prep	3510C			506155	11/22/19 08:42	JMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	506566	11/25/19 15:01	JMM	TAL BUF

#### Client Sample ID: OCO-GW-MW04-DB- 191119 Date Collected: 11/19/19 12:10 Date Received: 11/19/19 13:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506126	11/22/19 16:26	S1V	TAL BUF
Total/NA	Prep	3510C			506155	11/22/19 08:42	JMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	507629	12/02/19 12:53	JMM	TAL BUF

#### Client Sample ID: OCO-W-FB01-FB-191119 Date Collected: 11/19/19 10:30 Date Received: 11/19/19 13:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506126	11/22/19 16:51	S1V	TAL BUF
Total/NA	Prep	3510C			506155	11/22/19 08:42	JMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	506566	11/25/19 15:48	JMM	TAL BUF

#### Client Sample ID: OCO-W-TB01-TB-191119 Date Collected: 11/19/19 09:00 Date Received: 11/19/19 13:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506126	11/22/19 17:15	S1V	TAL BUF

#### Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

## Lab Sample ID: 480-162997-1

Lab Sample ID: 480-162997-2

Lab Sample ID: 480-162997-3

Matrix: Water

Matrix: Water

Matrix: Water

## Lab Sample ID: 480-162997-4

Matrix: Water

## Laboratory: Eurofins TestAmerica, Buffalo

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

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

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

Method	Method Description	Protocol	Laboratory
260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
030C	Purge and Trap	SW846	TAL BUF

#### Protocol References:

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

#### Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

12/3/2019 (Rev. 1)

## Sample Summary

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset I
480-162997-1	OCO-GW-MW04-0-191119	Water	11/19/19 12:10	11/19/19 13:20	
480-162997-2	OCO-GW-MW04-DB- 191119	Water	11/19/19 12:10	11/19/19 13:20	
480-162997-3	OCO-W-FB01-FB-191119	Water	11/19/19 10:30	11/19/19 13:20	
480-162997-4	OCO-W-TB01-TB-191119	Water	11/19/19 09:00	11/19/19 13:20	

Chain of Custody Record

Seurofins Environment Testing

Client Information	Gree Flosins	.×.	Stone,	Judy L		Carrier Tracking No(s)	g No(s):	COC No: 480-137968-31020.1
Client Contact Greg Flasinski		5	E-Mail: judy.sto	ne@testame	E-Mail: judy.stone@testamericainc.com			Page: Page 1 of 1
Company: Weston Solutions, Inc.					Analysis	Analysis Requested		# qop
Address. 1400 Weston Way PO BOX 2653	Due Date Requested:			10.00				0
City. West Chester State Zp:	TAT Requested (days):		1.1	and the for				B - NaCH     A - None     B - NaCH     A - None     C - Zn Acetate     C - Zn Acetate     O - AsNaO2     D - Ninc Acid     P - Na2Co45     E - NaHSO4     O - Na2SO45
	1			1	3.5			
610-701-3000(Tel) 610-701-7401(Fax) Email	0100619 (6/19) W0#		(oN	(But	9.			
greg.flasinski@westonsolutions.com	02181.086.017 0001		3 01	(oN	2 MINU			v - MCAA
Project Name 3M Tonawanda	Project #: 48003524		9Y) 9	10 se				Z - other (specify)
Site:	SSOW#.		qms2	ASD (Y	1 nodie			
			Matrix (Wewater, Serold, Orwasterioli,	N/SM mone 60C - 8260 Ci		480-162997 Chain of Custody	Custody	eja
Sample Identification	Sample Date Time	Preservation Code	3		80 Z			F Special Instructions/Note:
OCO-GW-MW04-191119	0161 21/21/11	0	Water N	~ ~				25
OCO-GW-MW04-DB-191119	11/19/19 1210	9	Water N	1				5
OCO-W-FB01-FB-191119		6	Water N	フン				5
MS 600 cm- MWOY -0 - 191119		9	Water N	VVV				S
MSD 0 CO - CM - MWOH - @ - 191119	0161 91 91 11	_	Water N	Y U V				S
	1 1	-	Water					
OCO-W-TB01-TB-191119	11/19/19 900	9	Water	>				~
Possible Hazard Identification	Poison B Unknown	Radiological		Sample Dis	sposal ( A fee ma n To Client	y be assessed if san	amples are ret	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Months
Deliverable Requested: I, II, II, IV, Other (specify)		0		Special Inst	Special Instructions/QC Requirements	irements:		
Empty Kit Relinquished by	Date:	NASA NASA	T	Time:	indu -	Method of	Method of Shipment	
Reholdstred by	Date/Time	Company	Nesten	Received by	by		Date/Time:	Company
Reinguistred V	Tim	Com	Company	Received by	by.		Date/Time;	Company
Reinquished by	Date/Time.	Com	Company	Received by	ph. 1	0	Dated me	-19 132 0 committee
Custody Seals Intact: Custody Seal No.:		Alable .	28	Cooler Te	Cooler Temperature(s) <sup>o</sup> C and Other Remarks	ther Remarks:	12	2.1 #1

Client: Weston Solutions, Inc.

#### Login Number: 162997 List Number: 1

Creator: Manhardt, Kara M

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	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (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	WESTON
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

List Source: Eurofins TestAmerica, Buffalo

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### Enclosure 2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION Site Management Periodic Review Report Notice Institutional and Engineering Controls Certification Form



Sit	e No.	915148	Site Details		Box 1	
Sit	e Name 3M	O-Cel-O Sponge Plant				
City Co	e Address: 3 y/Town: Tor unty:Erie e Acreage: 7		Zip Code: 14150			
Re	porting Peric	od: February 14, 2019 to	February 14, 2020			
					YES	NO
1.	Is the inforr	mation above correct?			X	
	If NO, inclu	de handwritten above or	on a separate sheet.			
2.		or all of the site property nendment during this Re	been sold, subdivided, merged, or porting Period?	r undergone a		X
3.		been any change of use a RR 375-1.11(d))?	at the site during this Reporting Pe	eriod		X
4.		ederal, state, and/or loca property during this Rej	l permits (e.g., building, discharge porting Period?	) been issued		X
			s 2 thru 4, include documentatio viously submitted with this cert			
5.	Is the site c	currently undergoing dev	elopment?			X
					Box 2	
					YES	NO
6.	Is the curre Industrial	ent site use consistent wi	th the use(s) listed below?		X	
7.	Are all ICs/	ECs in place and functio	ning as designed?		X	
	IF TH		QUESTION 6 OR 7 IS NO, sign ar IE REST OF THIS FORM. Otherwi		Ind	
AC	Corrective M	easures Work Plan mus	t be submitted along with this for	m to address tl	nese iss	ues.
Sia	nature of Ow	ner, Remedial Party or De	esignated Representative	Date		

SITE NO. 915148		Box 3
Description of Institut	ional Controls	
Parcel	<u>Owner</u>	Institutional Control
65.09-6-5	Minnesota Mining & Manufacturing Company	/ Landuse Restriction
		Monitoring Plan
Convenants and Restrictions of the site. The graded area Groundwater monitoring is a	of Decision (ROD) was issued for this site in M s was placed on the property on March 21, 200 surrounding the catch basins are maintained a lso conducted to confirm that site conditions re should it occur. The site is fenced.	1 prohibiting the residential use nd inspected annually.
		20/1
Description of Engine	ering Controls	
<u>Parcel</u> 65.09-6-5	Engineering Control	
	Fencing/Access Control Monitoring Wells	

	Вох	5
	Periodic Review Report (PRR) Certification Statements	
1.	I certify by checking "YES" below that:	
	a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;	
	<ul> <li>b) to the best of my knowledge and belief, the work and conclusions described in this certifica are in accordance with the requirements of the site remedial program, and generally accepted and program provides and the information procented is accurate and compete</li> </ul>	
	engineering practices; and the information presented is accurate and compete. YES NO	
	X	
2.	If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institution or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:	onal
	(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;	
	(b) nothing has occurred that would impair the ability of such Control, to protect public health the environment;	and
	(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;	
	(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and	
	(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.	
	YES NO	
	$X$ $\Box$	
	IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.	
	A Corrective Measures Work Plan must be submitted along with this form to address these issues.	
	Signature of Owner, Remedial Party or Designated Representative Date	

IC CERTIFICATIONS SITE NO. 915148	
	Box 6
SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATED SIGNATED SIGNATED REPRESENTATIVE SIGNATED SI	nderstand that a false
I     THOP     HILGENFELDT     at     305     SALEYER     AVE.       print name     print business address	Town DAWDA, NY, 14150
am certifying as	_(Owner or Remedial Party)
for the Site named in the Site Details Section of this form.	
Arh-	2/24/2020
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification	Date

IC/EC CERTIFICATIONS				
Qualified Environmental Professional Signature	Box 7			
I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.				
WESTON SOLUTIONS, I	ENC.			
I     THOMAS A. DREW     at 1400 WESTON WAM, WEST       print name     print business address	CHESTER, P			
am certifying as a Qualified Environmental Professional for theOUハ丘( (Owner or Remedial				
Momas A. Mu zy	26/2020			
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering CertificationStamp (Required for PE)	Date			