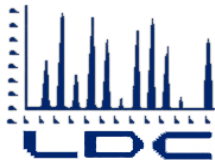


ATTACHMENT 2: DATA VALIDATION REPORTS

This attachment contains the data validation reports performed by an independent subcontractor, Laboratory Data Consultants, Inc. (LDC) of Carlsbad, California.



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Tidewater, Inc.
3761 Attucks Drive
Powell, OH 43065
ATTN: Mr. David Conner
David.Conner@tideh2o.net

December 17, 2020

SUBJECT: NASA JPL, 4Q2020, Data Validation

Dear Mr. Conner,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on November 25, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #49813:

SDG #

Fraction

2031442, 2031578
2031670

Volatiles, Chromium, Wet Chemistry

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review; January 2017
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
pgeng@lab-data.com
Project Manager/Senior Chemist

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 9, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031442

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-1-102620	2031442-01	Water	10/26/20
MW-20-5	2031442-02	Water	10/26/20
MW-20-4	2031442-03	Water	10/26/20
MW-20-3	2031442-04	Water	10/26/20
MW-20-2	2031442-05	Water	10/26/20
DUP-1-4Q20	2031442-06	Water	10/26/20
MW-19-5	2031442-07	Water	10/26/20
MW-19-4	2031442-08	Water	10/26/20
MW-19-3	2031442-09	Water	10/26/20
DUP-2-4Q20	2031442-10	Water	10/26/20
MW-19-2	2031442-11	Water	10/26/20
MW-19-1	2031442-12	Water	10/26/20
EB-1-102620	2031442-13	Water	10/26/20
SB-1-102620	2031442-14	Water	10/26/20
MW-20-5MS	2031442-02MS	Water	10/26/20
MW-20-5MSD	2031442-02MSD	Water	10/26/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/29/20	Methyl iodide	59.4	All samples in SDG 2031442	UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-1-102620 was identified as a trip blank. No contaminants were found.

Sample EB-1-102620 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-1-102620	Acetone Methyl ethyl ketone	92 ug/L 9.4 ug/L

Sample SB-1-102620 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
SB-1-102620	Acetone Methyl ethyl ketone	82 ug/L 9.7 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples MW-20-2 and DUP-1-4Q20 and samples MW-19-3 and DUP-2-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-20-2	DUP-1-4Q20	
Chloroform	0.41	0.15	93
Trichloroethene	0.24	0.19U	Not calculable
Benzene	0.11U	0.84	Not calculable
Ethylbenzene	0.15U	0.23	Not calculable
Methyl-tert-butyl ether	0.14U	1.7	Not calculable
Styrene	0.12U	2.4	Not calculable
Vinyl chloride	0.18U	1.5	Not calculable
Acrylonitrile	1.5U	9.4	Not calculable
o-Xylene	0.13U	0.13	Not calculable

Compound	Concentration (ug/L)		RPD
	MW-19-3	DUP-2-4Q20	
Chloroform	2.3	1.6	36
Tetrachloroethene	0.90	0.58	43
Trichloroethene	0.38	0.25	41

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level III validation.

XIV. System Performance

Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in fourteen samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Volatiles - Data Qualification Summary - SDG 2031442**

Sample	Compound	Flag	A or P	Reason
TB-1-102620 MW-20-5 MW-20-4 MW-20-3 MW-20-2 DUP-1-4Q20 MW-19-5 MW-19-4 MW-19-3 DUP-2-4Q20 MW-19-2 MW-19-1 EB-1-102620 SB-1-102620	Methyl iodide	UJ (all non-detects)	P	Continuing calibration (%D)

**NASA JPL, 4Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2031442**

No Sample Data Qualified in this SDG

LDC #: 49813A1a
 SDG #: 2031442
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 12/3/20
 Page: 1 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 20%. Y = R² ≤ 30%
IV.	Continuing calibration	M	CV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	M	TB = 1. EB = 13. SB = 14
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	ICS
X.	Field duplicates	M	D = 5+6. 9+10
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TB-1-102620	2031442-01	Water	10/26/20
2	MW-20-5	2031442-02	Water	10/26/20
3	MW-20-4	2031442-03	Water	10/26/20
4	MW-20-3	2031442-04	Water	10/26/20
5	MW-20-2	2031442-05	Water	10/26/20
6	DUP-1-4Q20	2031442-06	Water	10/26/20
7	MW-19-5	2031442-07	Water	10/26/20
8	MW-19-4	2031442-08	Water	10/26/20
9	MW-19-3	2031442-09	Water	10/26/20
10	DUP-2-4Q20	2031442-10	Water	10/26/20
11	MW-19-2	2031442-11	Water	10/26/20
12	MW-19-1	2031442-12	Water	10/26/20
13	EB-1-102620	2031442-13	Water	10/26/20
14	SB-1-102620	2031442-14	Water	10/26/20

LDC #: 49813A1a **VALIDATION COMPLETENESS WORKSHEET**
 SDG #: 2031442 Level III
 Laboratory: BC Laboratories, Inc.

Date: 11/8/20
 Page: 2 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

15	MW-20-5MS	2031442-02MS	Water	10/26/20
16	MW-20-5MSD	2031442-02MSD	Water	10/26/20
17				
18				
19				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: GC/MS VOA (EPA Method 524.2)

N N/A Were field blanks identified in this SDG?
 N N/A Were target compounds detected in the field blanks?

Sample: 13 Equipment Blank

Compound	Concentration Units (ug/l)
F	92
NN	9.4

Sample: 14 Source Blank

Compound	Concentration Units (ug/l)
F	82
NN	9.7

Sample: Field Blank / Trip Blank / Rinsate (circle one)

Compound	Concentration Units ()

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	5	6	
K	0.41	0.15	93
S	0.24	0.19U	NC
V	0.11U	0.84	NC
EE	0.15U	0.23	NC
LL	0.14U	1.7	NC
FF	0.12U	2.4	NC
C	0.18U	1.5	NC
GGGG	1.5U	9.4	NC
SSS	0.13U	0.13	NC

Compound	Concentration (ug/L)		RPD
	9	10	
K	2.3	1.6	36
AA	0.90	0.58	43
S	0.38	0.25	41

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Chromium

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031442

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-20-5	2031442-02	Water	10/26/20
MW-20-4	2031442-03	Water	10/26/20
MW-20-3	2031442-04	Water	10/26/20
MW-20-2	2031442-05	Water	10/26/20
DUP-1-4Q20	2031442-06	Water	10/26/20
MW-19-5	2031442-07	Water	10/26/20
MW-19-4	2031442-08	Water	10/26/20
MW-19-3	2031442-09	Water	10/26/20
DUP-2-4Q20	2031442-10	Water	10/26/20
MW-19-2	2031442-11	Water	10/26/20
MW-19-1	2031442-12	Water	10/26/20
EB-1-102620	2031442-13	Water	10/26/20
SB-1-102620	2031442-14	Water	10/26/20
DUP-1-4Q20MS	2031442-06MS	Water	10/26/20
DUP-1-4Q20MSD	2031442-06MSD	Water	10/26/20
DUP-1-4Q20DUP	2031442-06DUP	Water	10/26/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Chromium	0.511 ug/L	MW-20-5 MW-20-4 MW-20-3 MW-20-2
ICB/CCB	Chromium	1.1150 ug/L	MW-20-5 MW-20-4 MW-20-3 MW-20-2

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-20-4	Chromium	0.82 ug/L	0.82U ug/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-20-3	Chromium	0.92 ug/L	0.92U ug/L

VI. Field Blanks

Sample EB-1-102620 was identified as an equipment blank. No contaminants were found with the following exceptions:

Sample SB-1-102620 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
SB-1-102620	Chromium	0.55 ug/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution was not performed for this SDG.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-20-2 and DUP-1-4Q20 and samples MW-19-3 and DUP-2-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	MW-20-2	DUP-1-4Q20	
Chromium	0.5U	1.6	Not calculable

Analyte	Concentration (ug/L)		RPD
	MW-19-3	DUP-2-4Q20	
Chromium	2.7	2.7	0

XII. Internal Standards (ICP-MS)

Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2031442**

No Sample Data Qualified in this SDG

**NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2031442**

Sample	Analyte	Modified Final Concentration	A or P
MW-20-4	Chromium	0.82U ug/L	A
MW-20-3	Chromium	0.92U ug/L	A

LDC #: 49813A4a
 SDG #: 2031442
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level III

Date: 12/11/20
 Page: 1 of 2
 Reviewer: *ATJ*
 2nd Reviewer: *[Signature]*

METHOD: Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=12, SB=13
VII.	Matrix Spike/Matrix Spike Duplicates	A	(14,15), From SDG# 2031578 (MW-14-3 MS/MSD)
VIII.	Duplicate sample analysis	A	16 ↓ (↓ DUP)
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(4,5), (8,9)
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-20-5	2031442-02	Water	10/26/20
2	MW-20-4	2031442-03	Water	10/26/20
3	MW-20-3	2031442-04	Water	10/26/20
4	MW-20-2	2031442-05	Water	10/26/20
5	DUP-1-4Q20	2031442-06	Water	10/26/20
6	MW-19-5	2031442-07	Water	10/26/20
7	MW-19-4	2031442-08	Water	10/26/20
8	MW-19-3	2031442-09	Water	10/26/20
9	DUP-2-4Q20	2031442-10	Water	10/26/20
10	MW-19-2	2031442-11	Water	10/26/20
11	MW-19-1	2031442-12	Water	10/26/20
12	EB-1-102620	2031442-13	Water	10/26/20
13	SB-1-102620	2031442-14	Water	10/26/20
14	DUP-1-4Q20MS	2031442-06MS	Water	10/26/20
15	DUP-1-4Q20MSD	2031442-06MSD	Water	10/26/20

LDC #: 49813A4a **VALIDATION COMPLETENESS WORKSHEET**
SDG #: 2031442 Level III
Laboratory: BC Laboratories, Inc.

Date: 12/11/20
Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Chromium (EPA Method 200.8)

16	DUP-1-4Q20DUP	2031442-06DUP	Water	10/26/20
17				
18				
19				

Notes: _____

**VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES**

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: ug/L

Associated Samples: 1 to 4

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	2	3							
Cr		0.511		2.555	0.82	0.92							
Cr			1.1150	5.575	see above	see above							

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 49813A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: *AJ*

METHOD: Metals (EPA Method 6010/6020/7000/200.7/200.8)

Analyte	Concentration (ug/L)		RPD	
	4	5		
Chromium	0.5U	1.6	105 <i>Te</i>	

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Analyte	Concentration (ug/L)		RPD	
	8	9		
Chromium	2.7	2.7	0	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031442

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-20-5	2031442-02	Water	10/26/20
MW-20-4	2031442-03	Water	10/26/20
MW-20-3	2031442-04	Water	10/26/20
MW-20-2	2031442-05	Water	10/26/20
DUP-1-4Q20	2031442-06	Water	10/26/20
MW-19-5	2031442-07	Water	10/26/20
MW-19-4	2031442-08	Water	10/26/20
MW-19-3	2031442-09	Water	10/26/20
DUP-2-4Q20	2031442-10	Water	10/26/20
MW-19-2	2031442-11	Water	10/26/20
MW-19-1	2031442-12	Water	10/26/20
EB-1-102620	2031442-13	Water	10/26/20
SB-1-102620	2031442-14	Water	10/26/20
MW-20-5MS	2031442-02MS	Water	10/26/20
MW-20-5MSD	2031442-02MSD	Water	10/26/20
MW-20-5DUP	2031442-02DUP	Water	10/26/20
MW-19-1MS	2031442-12MS	Water	10/26/20
MW-19-1MSD	2031442-12MSD	Water	10/26/20
MW-19-1DUP	2031442-12DUP	Water	10/26/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6

Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-19-2 EB-1-102620	Hexavalent chromium	8 days	24 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Hexavalent chromium	0.072 ug/L	MW-20-5 MW-20-4
ICB/CCB	Hexavalent chromium	0.075 ug/L	MW-20-3 MW-20-2 DUP-1-4Q20 MW-19-5 MW-19-4 MW-19-3 DUP-2-4Q20 MW-19-2
ICB/CCB	Hexavalent chromium	0.1090 ug/L	MW-19-1 EB-1-102620 SB-1-102620

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-20-5	Hexavalent chromium	0.00017 mg/L	0.00017U mg/L
MW-20-4	Hexavalent chromium	0.00016 mg/L	0.00016U mg/L
MW-20-3	Hexavalent chromium	0.00021 mg/L	0.00021U mg/L
MW-20-2	Hexavalent chromium	0.000095 mg/L	0.000095U mg/L
DUP-1-4Q20	Hexavalent chromium	0.00011 mg/L	0.00011U mg/L
MW-19-1	Hexavalent chromium	0.000079 mg/L	0.000079U mg/L
EB-1-102620	Hexavalent chromium	0.00018 mg/L	0.00018U mg/L
SB-1-102620	Hexavalent chromium	0.00016 mg/L	0.00016U mg/L

V. Field Blanks

Sample EB-1-102620 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-1-102620	Hexavalent chromium	0.00018 mg/L

Sample SB-1-102620 was identified as a source blank. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples MW-20-2 and DUP-1-4Q20 and samples MW-19-3 and DUP-2-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-20-2	DUP-1-4Q20	
Hexavalent chromium	0.000095 mg/L	0.00011 mg/L	15
Perchlorate	1.6 ug/L	9.8 ug/L	144

Analyte	Concentration		RPD
	MW-19-3	DUP-2-4Q20	
Hexavalent chromium	0.0020 mg/L	0.0022 mg/L	10
Perchlorate	3.6 ug/L	3.8 ug/L	5

X. Sample Result Verification

Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in two samples.

Due to laboratory blank contamination, data were qualified as not detected in eight samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2031442**

Sample	Analyte	Flag	A or P	Reason
MW-19-2 EB-1-102620	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2031442**

Sample	Analyte	Modified Final Concentration	A or P
MW-20-5	Hexavalent chromium	0.00017U mg/L	A
MW-20-4	Hexavalent chromium	0.00016U mg/L	A
MW-20-3	Hexavalent chromium	0.00021U mg/L	A
MW-20-2	Hexavalent chromium	0.000095U mg/L	A
DUP-1-4Q20	Hexavalent chromium	0.00011U mg/L	A
MW-19-1	Hexavalent chromium	0.000079U mg/L	A
EB-1-102620	Hexavalent chromium	0.00018U mg/L	A
SB-1-102620	Hexavalent chromium	0.00016U mg/L	A

LDC #: 49813A6

VALIDATION COMPLETENESS WORKSHEET

Date: 12/11/20

SDG #: 2031442

Level III

Page: 1 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: *ATL*2nd Reviewer: *[Signature]***METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)**

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Laboratory Blanks	SW	
V.	Field blanks	SW	EB=12, SB=13 (MW-25-4M S/MSD)
VI.	Matrix Spike/Matrix Spike Duplicates	A	(14,15), (17,18), From SDG# 2031578 (MW-14-3MS /MSD)
VII.	Duplicate sample analysis	A	16, 19 ↓ (MW-25-4DUP)
VIII.	Laboratory control samples	A	LCS (MW-14-3 DUP)
IX.	Field duplicates	SW	(4,5), (8,9)
X.	Sample result verification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-20-5	2031442-02	Water	10/26/20
2	MW-20-4	2031442-03	Water	10/26/20
3	MW-20-3	2031442-04	Water	10/26/20
4	MW-20-2	2031442-05	Water	10/26/20
5	DUP-1-4Q20	2031442-06	Water	10/26/20
6	MW-19-5	2031442-07	Water	10/26/20
7	MW-19-4	2031442-08	Water	10/26/20
8	MW-19-3	2031442-09	Water	10/26/20
9	DUP-2-4Q20	2031442-10	Water	10/26/20
10	MW-19-2	2031442-11	Water	10/26/20
11	MW-19-1	2031442-12	Water	10/26/20
12	EB-1-102620	2031442-13	Water	10/26/20
13	SB-1-102620	2031442-14	Water	10/26/20
14	MW-20-5MS	2031442-02MS	Water	10/26/20
15	MW-20-5MSD	2031442-02MSD	Water	10/26/20
16	MW-20-5DUP	2031442-02DUP	Water	10/26/20
17	MW-19-1MS	2031442-12MS	Water	10/26/20

LDC #: 49813A6

VALIDATION COMPLETENESS WORKSHEET

Date: 12/11/20

SDG #: 2031442

Level III

Page: 2 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: *ATL*

2nd Reviewer: *[Signature]*

METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)

18	MW-19-1MSD	2031442-12MSD	Water	10/26/20
19	MW-19-1DUP	2031442-12DUP	Water	10/26/20
20				
21				
22				

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Parameter
1-13	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC (Cr6+) (ClO ₄)
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
QC	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
14,15,16	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ (ClO ₄)
17,18,19	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC (Cr6+) ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄

Comments: _____

VALIDATION FINDINGS WORKSHEET Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: 1,2

Analyte	Blank ID	Blank ID	Blank Action Limit												
	PB	ICB/CCB (ug/L)		1	2										
Cr6+		0.072	0.00036	0.00017	0.00016										

Conc. units: mg/L

Associated Samples: 3 to 10

Analyte	Blank ID	Blank ID	Blank Action Limit												
	PB	ICB/CCB (ug/L)		3	4	5									
Cr6+		0.075	0.000375	0.00021	0.000095	0.00011									

Conc. units: mg/L

Associated Samples: 11,12,13

Analyte	Blank ID	Blank ID	Blank Action Limit												
	PB	ICB/CCB (ug/L)		11	12	13									
Cr6+		0.1090	0.000545	0.000079	0.00018	0.00016									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics: Method See Cover

Analyte	Concentration (mg/L)		RPD	
	4	5		
Hexavalent Chromium	0.000095	0.00011	15	
Perchlorate (ug/L)	1.6	9.8	144	

Analyte	Concentration (mg/L)		RPD	
	8	9		
Hexavalent Chromium	0.0020	0.0022	10	
Perchlorate (ug/L)	3.6	3.8	5	

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Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 9, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031578

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-2-102720	2031578-01	Water	10/27/20
MW-14-5	2031578-02	Water	10/27/20
MW-14-4	2031578-03	Water	10/27/20
MW-14-3**	2031578-04**	Water	10/27/20
MW-14-2	2031578-05	Water	10/27/20
MW-25-5	2031578-06	Water	10/27/20
MW-25-4**	2031578-07**	Water	10/27/20
MW-25-3	2031578-08	Water	10/27/20
MW-25-2	2031578-09	Water	10/27/20
MW-25-1	2031578-10	Water	10/27/20
EB-2-102720	2031578-11	Water	10/27/20
MW-14-3MS	2031578-04MS	Water	10/27/20
MW-14-3MSD	2031578-04MSD	Water	10/27/20
MW-25-4MS	2031578-07MS	Water	10/27/20
MW-25-4MSD	2031578-07MSD	Water	10/27/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/30/20	Bromomethane Methyl iodide	39.2 46.3	All samples in SDG 2031578	UJ (all non-detects) UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-2-102720 was identified as a trip blank. No contaminants were found.

Sample EB-2-102720 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-2-102720	Acetone Methyl ethyl ketone	82 ug/L 9.2 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in eleven samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020
Volatiles - Data Qualification Summary - SDG 2031578

Sample	Compound	Flag	A or P	Reason
TB-2-102720 MW-14-5 MW-14-4 MW-14-3** MW-14-2 MW-25-5 MW-25-4** MW-25-3 MW-25-2 MW-25-1 EB-2-102720	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2031578

No Sample Data Qualified in this SDG

LDC #: 49813B1a
 SDG #: 2031578
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

Date: 12/8/20
 Page: 1 of 1
 Reviewer: J
 2nd Reviewer: P

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	AIA	RSD ≤ 20%. Y ² 12V ≤ 30%
IV.	Continuing calibration	M	CV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	M	TB=1. EB=11
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level III validation.
XIII.	Target compound identification	A	Not reviewed for Level III validation.
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	TB-2-102720	2031578-01	Water	10/27/20
2	MW-14-5	2031578-02	Water	10/27/20
3	MW-14-4	2031578-03	Water	10/27/20
4	MW-14-3**	2031578-04**	Water	10/27/20
5	MW-14-2	2031578-05	Water	10/27/20
6	MW-25-5	2031578-06	Water	10/27/20
7	² MW-25-4**	2031578-07**	Water	10/27/20
8	MW-25-3	2031578-08	Water	10/27/20
9	MW-25-2	2031578-09	Water	10/27/20
10	MW-25-1	2031578-10	Water	10/27/20
11	EB-2-102720	2031578-11	Water	10/27/20
12	MW-14-3MS	2031578-04MS	Water	10/27/20
13	MW-14-3MSD	2031578-04MSD	Water	10/27/20
14	MW-25-4MS	2031578-07MS	Water	10/27/20

LDC #: 49813B1a **VALIDATION COMPLETENESS WORKSHEET**
SDG #: 2031578 Level III/IV
Laboratory: BC Laboratories, Inc.

Date: 11/3/20
Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

15	MW-25-4MSD	2031578-07MSD	Water	10/27/20
16				
17				
18				

Notes:

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was cooler temperature criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. GC/MS Instrument performance check				
Was a tune check performed prior to establishing and/or re-establishing an initial calibration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the BFB performance results reviewed and found to be within the specified criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Initial calibration				
Did the laboratory perform at least 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) \leq 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IIIa. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) \leq 30%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at the beginning of each analysis batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) of continuing calibration \leq 30%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a laboratory blank analyzed with each analysis batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the laboratory blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Field blanks				
Were field blanks identified in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were target compounds detected in the field blanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VII. Surrogate spikes				
Were all surrogate %R within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) within 70-130%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		/		
Were target compounds detected in the field duplicates?			/	
XI. Internal standards				
Were internal standard area counts within +/-30% of the area of the most recent continuing calibration standard and +/-50% of the average peak area in the initial calibration?	/			
Were retention times within +/-30 seconds of the associated calibration standard?	/			
XII. Compound quantitation/CRQLs				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?			/	
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) or regression equations used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A
 Y N N/A

Were field blanks identified in this SDG?

Were target compounds detected in the field blanks?

Sample: 11 Equipment Blank

Compound	Concentration Units (ug/l)
F	82
NN	9.2

Sample: _____ Field Blank / Trip Blank / Rinsate (circle one)

Compound	Concentration Units ()

Sample: _____ Field Blank / Trip Blank / Rinsate (circle one)

Compound	Concentration Units ()

VALIDATION FINDINGS WORKSHEET Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs

X = Mean of the RRFs

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (10 std)	RRF (10 std)	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	1CAZ	10/15/20	K (1st Internal Standard)	0.7900812	0.7900812	0.7626009	0.7626009	3.961388	3.961
			S (2nd Internal Standard)	0.3650587	0.3650587	0.361829	0.361829	6.26999	6.270
			EE (3rd Internal Standard)	1.793694	1.793694	1.729447	1.729447	8.279058	8.279
2			(1st Internal Standard)						
			(2nd Internal Standard)						
			(3rd Internal Standard)						
3			(1st Internal Standard)						
			(2nd Internal Standard)						
			(3rd Internal Standard)						
4			(1st Internal Standard)						
			(2nd Internal Standard)						
			(3rd Internal Standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound, A_{is} = Area of associated internal standard
 C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported	Recalculated	Reported	Recalculated
					RRF (CC)	RRF (CC)	%D	%D
1	300CT02	10/30/20	K (1st Internal Standard)	0.762609	0.7549693	0.7549693	1.0	1.0
			S (2nd Internal Standard)	0.361829	0.3469489	0.3469489	4.1	4.1
			EE (3rd Internal Standard)	1.79944	1.673276	1.673276	3.2	3.2
2			(1st Internal Standard)					
			(2nd Internal Standard)					
			(3rd Internal Standard)					
3			(1st Internal Standard)					
			(2nd Internal Standard)					
			(3rd Internal Standard)					
4			(1st Internal Standard)					
			(2nd Internal Standard)					
			(3rd Internal Standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: T

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4	10.0	9.61	96.1	96.1	
Toluene-d8	↓	9.76	97.6	97.6	
Bromofluorobenzene		9.69	96.9	96.9	
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = |MSC - MSC| * 2 / (MSC + MSC)

MSC = Matrix spike concentration

MSC = Matrix spike duplicate concentration

MS/MSD sample: 12/13

Compound	Spike Added		Sample Concentration	Spiked Sample Concentration		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	26.680	25.010	107	107	100	100	6.46	6.46
Trichloroethene	↓	↓	0.7800	25.810	24.410	100	100	94.5	94.5	5.58	5.58
Benzene	↓	↓	ND	25.920	24.110	104	104	96.4	96.4	7.24	7.24
Toluene	↓	↓	↓	25.620	23.820	102	102	95.3	95.3	7.28	7.28
Chlorobenzene	↓	↓	↓	25.450	23.860	102	102	95.4	95.4	6.45	6.45

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B091337-PS1

Compound	Spike Added (<u>ML</u>)		Spiked Sample Concentration (<u>ML</u>)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	<u>25.0</u>	<u>NA</u>	<u>25.970</u>	<u>NA</u>	<u>104</u>	<u>104</u>				
Trichloroethene	↓	↓	<u>24.790</u>	↓	<u>99.2</u>	<u>99.2</u>				
Benzene	↓	↓	<u>24.570</u>	↓	<u>98.3</u>	<u>98.3</u>				
Toluene	↓	↓	<u>23.980</u>	↓	<u>95.9</u>	<u>95.9</u>				
Chlorobenzene	↓	↓	<u>23.810</u>	↓	<u>95.2</u>	<u>95.2</u>				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Chromium

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031578

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-14-5	2031578-02	Water	10/27/20
MW-14-4	2031578-03	Water	10/27/20
MW-14-3**	2031578-04**	Water	10/27/20
MW-14-2	2031578-05	Water	10/27/20
MW-25-5	2031578-06	Water	10/27/20
MW-25-4**	2031578-07**	Water	10/27/20
MW-25-3	2031578-08	Water	10/27/20
MW-25-2	2031578-09	Water	10/27/20
MW-25-1	2031578-10	Water	10/27/20
EB-2-102720	2031578-11	Water	10/27/20
MW-14-3MS	2031578-04MS	Water	10/27/20
MW-14-3MSD	2031578-04MSD	Water	10/27/20
MW-14-3DUP	2031578-04DUP	Water	10/27/20
MW-25-4MS	2031578-07MS	Water	10/27/20
MW-25-4MSD	2031578-07MSD	Water	10/27/20
MW-25-4DUP	2031578-07DUP	Water	10/27/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-2-102720 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-2-102720	Chromium	0.98 ug/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

No field duplicates were identified in this SDG.

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

**NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2031578**

No Sample Data Qualified in this SDG

**NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2031578**

No Sample Data Qualified in this SDG

LDC #: 49813B4a
 SDG #: 2031578
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 12/14/20
 Page: 1 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	SW	EB = 10
VII.	Matrix Spike/Matrix Spike Duplicates	A	(11, 12), (14, 15)
VIII.	Duplicate sample analysis	A	13, 16
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	reviewed for level IV only.
XIII.	Sample Result Verification	A	Not reviewed for Level III validation.
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-14-5	2031578-02	Water	10/27/20
2	MW-14-4	2031578-03	Water	10/27/20
3	MW-14-3**	2031578-04**	Water	10/27/20
4	MW-14-2	2031578-05	Water	10/27/20
5	MW-25-5	2031578-06	Water	10/27/20
6	MW-25-4**	2031578-07**	Water	10/27/20
7	MW-25-3	2031578-08	Water	10/27/20
8	MW-25-2	2031578-09	Water	10/27/20
9	MW-25-1	2031578-10	Water	10/27/20
10	EB-2-102720	2031578-11	Water	10/27/20
11	MW-14-3MS	2031578-04MS	Water	10/27/20
12	MW-14-3MSD	2031578-04MSD	Water	10/27/20
13	MW-14-3DUP	2031578-04DUP	Water	10/27/20
14	MW-25-4MS	2031578-07MS	Water	10/27/20
15	MW-25-4MSD	2031578-07MSD	Water	10/27/20

LDC #: 49813B4a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 2031578

Level III/IV

Laboratory: BC Laboratories, Inc.

Date: 12/14/20

Page: 2 of 2

Reviewer: ATD

2nd Reviewer: ATD

METHOD: Chromium (EPA Method 200.8)

16	MW-25-4DUP	2031578-07DUP	Water	10/27/20
17				
18				
19				
13				

Notes: _____

Method: Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%			✓	<i>not reported</i>
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?			✓	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?			✓	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	✓			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET

Initial and Continuing Calibration Calculation Verification

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Low Level calibration)						
	ICP/MS (Low Level calibration)						
	ICP (Initial calibration)						
ICV	ICP/MS (Initial calibration)	Cr	51.476	50.000	103	103	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV E	ICP/MS (Continuing calibration)	Cr	39.345	40.000	98.4	98.4	Y
	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
	Mass Axis	7.016	6.978	± 0.1 AMU	NA	Y
	%RSD	24	14917.7	≤ 5% RSD	1.4	Y

Comments:

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$\%RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$
 Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	mg/L Found / S / I (units)	mg/L True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
	ICP interference check						
LCS	Laboratory control sample (B0911466)	Cr	40.350	40.000	101	101	Y
11	Matrix spike	Cr	(SSR-SR) 38.888	40.000	97.2	97.2	Y
11/12	Duplicate	Cr	38.551	38.888	0.870	0.870	Y
6	Post digestion spike	Cr	37.592	40.000	94.0	94.1	Y
6	ICP serial dilution	Cr	1.820	1.424	N.C	N.C	Y

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031578

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-14-5	2031578-02	Water	10/27/20
MW-14-4	2031578-03	Water	10/27/20
MW-14-3**	2031578-04**	Water	10/27/20
MW-14-2	2031578-05	Water	10/27/20
MW-25-5	2031578-06	Water	10/27/20
MW-25-4**	2031578-07**	Water	10/27/20
MW-25-3	2031578-08	Water	10/27/20
MW-25-2	2031578-09	Water	10/27/20
MW-25-1	2031578-10	Water	10/27/20
EB-2-102720	2031578-11	Water	10/27/20
MW-14-3MS	2031578-04MS	Water	10/27/20
MW-14-3MSD	2031578-04MSD	Water	10/27/20
MW-14-3DUP	2031578-04DUP	Water	10/27/20
MW-25-4MS	2031578-07MS	Water	10/27/20
MW-25-4MSD	2031578-07MSD	Water	10/27/20
MW-25-4DUP	2031578-07DUP	Water	10/27/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-14-3** MW-14-2 MW-25-4** MW-25-3	Hexavalent chromium	7 days	24 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.082 ug/L	MW-14-5 MW-14-4 MW-14-3** MW-14-2 MW-25-5
ICB/CCB	Hexavalent chromium	0.072 ug/L	MW-25-4** MW-25-3 MW-25-2 MW-25-1 EB-2-102720

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-14-5	Hexavalent chromium	0.00031 mg/L	0.00031U mg/L
MW-14-3**	Hexavalent chromium	0.00041 mg/L	0.00041U mg/L
MW-25-5	Hexavalent chromium	0.00012 mg/L	0.00012U mg/L
EB-2-102720	Hexavalent chromium	0.00015 mg/L	0.00015U mg/L

V. Field Blanks

Sample EB-2-102720 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-2-102720	Hexavalent chromium	0.00015 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in four samples.

Due to laboratory blank contamination, data were qualified as not detected in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2031578**

Sample	Analyte	Flag	A or P	Reason
MW-14-3** MW-14-2 MW-25-4** MW-25-3	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2031578**

Sample	Analyte	Modified Final Concentration	A or P
MW-14-5	Hexavalent chromium	0.00031U mg/L	A
MW-14-3**	Hexavalent chromium	0.00041U mg/L	A
MW-25-5	Hexavalent chromium	0.00012U mg/L	A
EB-2-102720	Hexavalent chromium	0.00015U mg/L	A

LDC #: 49813B6
 SDG #: 2031578
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

Date: 12/14/20
 Page: 1 of 1
 Reviewer: ATB
 2nd Reviewer: _____

METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	SW	EB=10
VI.	Matrix Spike/Matrix Spike Duplicates	A	(11,12), (14,15)
VII.	Duplicate sample analysis	A	13, 16
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	A	Not reviewed for Level III validation
XI	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-14-5	2031578-02	Water	10/27/20
2	MW-14-4	2031578-03	Water	10/27/20
3	MW-14-3**	2031578-04**	Water	10/27/20
4	MW-14-2	2031578-05	Water	10/27/20
5	MW-25-5	2031578-06	Water	10/27/20
6	MW-25-4**	2031578-07**	Water	10/27/20
7	MW-25-3	2031578-08	Water	10/27/20
8	MW-25-2	2031578-09	Water	10/27/20
9	MW-25-1	2031578-10	Water	10/27/20
10	EB-2-102720	2031578-11	Water	10/27/20
11	MW-14-3MS	2031578-04MS	Water	10/27/20
12	MW-14-3MSD	2031578-04MSD	Water	10/27/20
13	MW-14-3DUP	2031578-04DUP	Water	10/27/20
14	MW-25-4MS	2031578-07MS	Water	10/27/20
15	MW-25-4MSD	2031578-07MSD	Water	10/27/20
16	MW-25-4DUP	2031578-07DUP	Water	10/27/20
17				

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
II. Calibration				
Were all instruments calibrated daily, each set-up time?		✓		
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995 ?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\leq \text{CRDL}$ ($\leq 2\text{X CRDL}$ for soil) was used for samples that were $\leq 5\text{X}$ the CRDL, including when only one of the duplicate sample values were $\leq 5\text{X}$ the CRDL.	✓			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: 1 to 5

Analyte	Blank ID	Blank ID	Blank Action Limit													
	PB	ICB/CCB (ug/L)		1	3	5										
Cr6+		0.082	0.00041	0.00031	0.00041	0.00012										

Conc. units: mg/L

Associated Samples: 6 to 10

Analyte	Blank ID	Blank ID	Blank Action Limit													
	PB	ICB/CCB (ug/L)		10												
Cr6+		0.072	0.00036	0.00015												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Cr6+ was recalculated. Calibration date: 11/02/20

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	FOUND Standard	TRUE Conc. (ug/L)	Area	Recalculated	Reported	Acceptable (Y/N)
					r or r ²	r or r ²	
Initial calibration	Cr6+	s1	0.0	0	0.99995	0.99982	Y
		s2	0.2	0.021			
		s3	2	0.212			
		s4	10	1.073			
		s5	25	2.783			
		s6	50	5.571			
CCV ₃ Calibration verification	Cr6+	24.966	25.000		99.9	99.8	Y
CCV ₄ Calibration verification	ClO ₄ ⁻	9.091	10.000		90.9	88.7	Y
CCV ₅ Calibration verification	ClO ₄ ⁻	9.091	10.000		90.9	88.4	Y

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 49813B6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

 Page: 1 of 1
 Reviewer: ATL
METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
 D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	(mg/L) Found / S (units)	(mg/L) True / D (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample B092031	ClO4 ⁻	9.091 ^{mg/L}	10.000 ^{mg/L}	90.9	94.9	Y
11	Matrix spike sample	Cr6+	(SSR-SR) 0.0195589	0.020202	96.8	96.8	Y
11/12	Duplicate sample	Cr6+	0.0207599	0.0199668	3.89	3.87	Y

 Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031670

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-3-102820	2031670-01	Water	10/28/20
MW-22-5	2031670-02	Water	10/28/20
MW-22-4	2031670-03	Water	10/28/20
MW-22-3**	2031670-04**	Water	10/28/20
MW-22-2	2031670-05	Water	10/28/20
MW-22-1	2031670-06	Water	10/28/20
MW-24-4	2031670-07	Water	10/28/20
MW-24-5	2031670-08	Water	10/28/20
MW-24-3	2031670-09	Water	10/28/20
DUP-3-4Q20	2031670-10	Water	10/28/20
MW-24-2	2031670-11	Water	10/28/20
SB-2-102820	2031670-12	Water	10/28/20
MW-24-1	2031670-13	Water	10/28/20
EB-3-102820	2031670-14	Water	10/28/20
MW-22-3MS	2031670-04MS	Water	10/28/20
MW-22-3MSD	2031670-04MSD	Water	10/28/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/04/20	Bromomethane Methyl iodide	44.2 37.2	All samples in SDG 2031670	UJ (all non-detects) UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-3-102820 was identified as a trip blank. No contaminants were found.

Sample EB-3-102820 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-3-102820	Methylene chloride	2.6 ug/L

Sample SB-2-102820 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
SB-2-102820	Methylene chloride	2.7 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples MW-24-3 and DUP-3-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-24-3	DUP-3-4Q20	
1,1-Dichloroethane	0.29	0.27	7

Compound	Concentration (ug/L)		RPD
	MW-24-3	DUP-3-4Q20	
Tetrachloroethene	0.23	0.37	47

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in fourteen samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020

Volatiles - Data Qualification Summary - SDG 2031670

Sample	Compound	Flag	A or P	Reason
TB-3-102820 MW-22-5 MW-22-4 MW-22-3** MW-22-2 MW-22-1 MW-24-4 MW-24-5 MW-24-3 DUP-3-4Q20 MW-24-2 SB-2-102820 MW-24-1 EB-3-102820	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020

Volatiles - Laboratory Blank Data Qualification Summary - SDG 2031670

No Sample Data Qualified in this SDG

LDC #: 49813C1a
 SDG #: 2031670
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

Date: 1/8/20
 Page: 1 of 3
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	$RSD \leq 20\%$, r^2 $ICV \leq 30\%$
IV.	Continuing calibration	SW	$CCV \leq 30\%$
V.	Laboratory Blanks	A, A	
VI.	Field blanks	SW	TB=1, SB=12, EB=14
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=9+10
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level III validation.
XIII.	Target compound identification	A	Not reviewed for Level III validation.
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	TB-3-102820	2031670-01	Water	10/28/20
2	MW-22-5	2031670-02	Water	10/28/20
3	MW-22-4	2031670-03	Water	10/28/20
4	MW-22-3**	2031670-04**	Water	10/28/20
5	MW-22-2	2031670-05	Water	10/28/20
6	MW-22-1	2031670-06	Water	10/28/20
7	MW-24-4	2031670-07	Water	10/28/20
8	MW-24-5	2031670-08	Water	10/28/20
9	MW-24-3	2031670-09	Water	10/28/20
10	DUP-3-4Q20	2031670-10	Water	10/28/20
11	MW-24-2	2031670-11	Water	10/28/20
12	SB-2-102820	2031670-12	Water	10/28/20
13	MW-24-1	2031670-13	Water	10/28/20
14	EB-3-102820	2031670-14	Water	10/28/20

LDC #: 49813C1a **VALIDATION COMPLETENESS WORKSHEET**
 SDG #: 2031670 Level III/IV
 Laboratory: BC Laboratories, Inc.

Date: 12/8/20
 Page: 2 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

15	MW-22-3MS	2031670-04MS	Water	10/28/20
16	MW-22-3MSD	2031670-04MSD	Water	10/28/20
17				
18				
19				

Notes:

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was cooler temperature criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. GC/MS Instrument performance check				
Was a tune check performed prior to establishing and/or re-establishing an initial calibration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the BFB performance results reviewed and found to be within the specified criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Initial calibration				
Did the laboratory perform at least 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) < 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IIIa. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) < 30%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at the beginning of each analysis batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) of continuing calibration < 30%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a laboratory blank analyzed with each analysis batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the laboratory blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Field blanks				
Were field blanks identified in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were target compounds detected in the field blanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VII. Surrogate spikes				
Were all surrogate %R within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) within 70-130%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were target compounds detected in the field duplicates?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XI. Internal standards				
Were internal standard area counts within +/-30% of the area of the most recent continuing calibration standard and +/-50% of the average peak area in the initial calibration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were retention times within +/-30 seconds of the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XII. Compound quantitation/CRQLs				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) or regression equations used to quantitate the compound?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIV. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target compounds detected in the field blanks?

Sample: 14 Equipment Blank

Compound	Concentration Units (ug/l)
E	2.6

Sample: 12 Source Blank

Compound	Concentration Units (ug/l)
E	2.7

Sample: Field Blank / Trip Blank / Rinsate (circle one)

Compound	Concentration Units ()

LDC# 49813C19

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	9	10	
I	0.29	0.27	7
AA	0.23	0.37	47

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2020\49813C1_JPL.wpd

VALIDATION FINDINGS WORKSHEET Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs

X = Mean of the RRFs

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (10 std)	RRF (10 std)	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	ICAL (MS-V5)	10/12/20	K (1st internal standard)	0.7900812	0.7900812	0.7626009	0.7626009	3.961388	3.961
			S (2nd internal standard)	0.3650587	0.3650587	0.361829	0.361829	6.269943	6.270
			EE (3rd internal standard)	1.793694	1.793694	1.729447	1.729447	8.279058	8.279
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET

Continuing Calibration Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound,
 C_x = Concentration of compound,
 A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported	Recalculated	Reported	Recalculated
					RRF (CC)	RRF (CC)	%D	%D
1	04NOV02	11/4/00	K (1st Internal Standard)	0.7626009	0.6875175	0.6875175	9.8	9.8
			S (2nd Internal Standard)	0.361829	0.2988216	0.2988216	17.4	17.4
			EE (3rd Internal Standard)	1.729447	1.496346	1.496346	13.5	13.5
2			(1st Internal Standard)					
			(2nd Internal Standard)					
			(3rd Internal Standard)					
3			(1st Internal Standard)					
			(2nd Internal Standard)					
			(3rd Internal Standard)					
4			(1st Internal Standard)					
			(2nd Internal Standard)					
			(3rd Internal Standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: 4

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4	10.0	9.86	98.6	98.6	
Toluene-d8	↓	9.72	97.2	97.2	
Bromofluorobenzene	↓	9.94	99.4	99.4	
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B091636-361

Compound	Spike Added (<u>µg</u>)		Spiked Sample Concentration (<u>µg</u>)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	<u>25.0</u>	<u>NA</u>	<u>26.310</u>	<u>NA</u>	<u>105</u>	<u>105</u>				
Trichloroethene			<u>24.570</u>		<u>98.3</u>	<u>98.3</u>				
Benzene			<u>24.530</u>		<u>98.1</u>	<u>98.1</u>				
Toluene			<u>24.280</u>		<u>97.1</u>	<u>97.1</u>				
Chlorobenzene			<u>23.570</u>		<u>94.3</u>	<u>94.3</u>				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Chromium

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031670

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-5	2031670-02	Water	10/28/20
MW-22-4	2031670-03	Water	10/28/20
MW-22-3**	2031670-04**	Water	10/28/20
MW-22-2	2031670-05	Water	10/28/20
MW-22-1	2031670-06	Water	10/28/20
MW-24-4	2031670-07	Water	10/28/20
MW-24-5	2031670-08	Water	10/28/20
MW-24-3	2031670-09	Water	10/28/20
DUP-3-4Q20	2031670-10	Water	10/28/20
MW-24-2	2031670-11	Water	10/28/20
SB-2-102820	2031670-12	Water	10/28/20
MW-24-1	2031670-13	Water	10/28/20
EB-3-102820	2031670-14	Water	10/28/20
MW-22-3MS	2031670-04MS	Water	10/28/20
MW-22-3MSD	2031670-04MSD	Water	10/28/20
MW-22-3DUP	2031670-04DUP	Water	10/28/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-3-102820 was identified as an equipment blank. No contaminants were found.

Sample SB-2-102820 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-24-3 and DUP-3-4Q20 were identified as field duplicates. No results were detected in any of the samples.

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2031670

No Sample Data Qualified in this SDG

NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2031670

No Sample Data Qualified in this SDG

LDC #: 49813C4a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/14/20

SDG #: 2031670

Level III/IV

Page: 1 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: *Ally*2nd Reviewer: *Ally***METHOD:** Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	ND	SB=11, EB=13
VII.	Matrix Spike/Matrix Spike Duplicates	A	(14,15)
VIII.	Duplicate sample analysis	A	16
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	ND	(8,9)
XII.	Internal Standard (ICP-MS)	A	reviewed for level IV only.
XIII.	Sample Result Verification	A	Not reviewed for Level III validation.
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-22-5	2031670-02	Water	10/28/20
2	MW-22-4	2031670-03	Water	10/28/20
3	MW-22-3**	2031670-04**	Water	10/28/20
4	MW-22-2	2031670-05	Water	10/28/20
5	MW-22-1	2031670-06	Water	10/28/20
6	MW-24-4	2031670-07	Water	10/28/20
7	MW-24-5	2031670-08	Water	10/28/20
8	MW-24-3	2031670-09	Water	10/28/20
9	DUP-3-4Q20	2031670-10	Water	10/28/20
10	MW-24-2	2031670-11	Water	10/28/20
11	SB-2-102820	2031670-12	Water	10/28/20
12	MW-24-1	2031670-13	Water	10/28/20
13	EB-3-102820	2031670-14	Water	10/28/20
14	MW-22-3MS	2031670-04MS	Water	10/28/20
15	MW-22-3MSD	2031670-04MSD	Water	10/28/20

LDC #: 49813C4a **VALIDATION COMPLETENESS WORKSHEET**
SDG #: 2031670 Level III/IV
Laboratory: BC Laboratories, Inc.

Date: 12/14/20
Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Chromium (EPA Method 200.8)

16	MW-22-3DUP	2031670-04DUP	Water	10/28/20
17				
18				
19				

Notes: _____

Method:Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%			✓	not reported.
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?			✓	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?			✓	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm 2X$ RL for soil was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	✓			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.		✓		
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

Initial and Continuing Calibration Calculation Verification

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Low Level calibration)						
	ICP/MS (Low Level calibration)						
	ICP (Initial calibration)						
ICV	ICP/MS (Initial calibration)	Cr	51.447	50.000	103	103	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV5	ICP/MS (Continuing calibration)	Cr	39.976	40.000	99.9	99.9	Y
	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
	Mass Axis	114.904	114.875	± 0.1 AMU	NA	Y
	%RSD	24.0	20455.6	≤ 5% RSD	0.5	Y

Comments:

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$
 Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	$\mu\text{g/L}$ Found / S / I (units)	$\mu\text{g/L}$ True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
	ICP interference check						
LCS	Laboratory control sample	CR	41.936	40.000	105	105	Y
14	Matrix spike	CR	(SSR-SR) 39.881	40.000	99.7	99.7	Y
14/15	Duplicate	CR	40.949	41.329	0.924	0.924	Y
3	Post digestion spike	CR	42.063	40.000	105	105	Y
3	ICP serial dilution	CR	1.495	1.448	N.C	N.C	Y

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 15, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031670

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-5	2031670-02	Water	10/28/20
MW-22-4	2031670-03	Water	10/28/20
MW-22-3**	2031670-04**	Water	10/28/20
MW-22-2	2031670-05	Water	10/28/20
MW-22-1	2031670-06	Water	10/28/20
MW-24-4	2031670-07	Water	10/28/20
MW-24-5	2031670-08	Water	10/28/20
MW-24-3	2031670-09	Water	10/28/20
DUP-3-4Q20	2031670-10	Water	10/28/20
MW-24-2	2031670-11	Water	10/28/20
SB-2-102820	2031670-12	Water	10/28/20
MW-24-1	2031670-13	Water	10/28/20
EB-3-102820	2031670-14	Water	10/28/20
MW-22-3MS	2031670-04MS	Water	10/28/20
MW-22-3MSD	2031670-04MSD	Water	10/28/20
MW-22-3DUP	2031670-04DUP	Water	10/28/20
MW-24-1MS	2031670-13MS	Water	10/28/20
MW-24-1MSD	2031670-13MSD	Water	10/28/20
MW-24-1DUP	2031670-13DUP	Water	10/28/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-24-4 MW-24-3 SB-2-102820	Hexavalent chromium	6 days	24 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.057 ug/L	MW-22-5 MW-22-4 MW-22-3** MW-22-2 MW-22-1 MW-24-4 MW-24-5 MW-24-3 DUP-3-4Q20 MW-24-2 MW-24-1
ICB/CCB	Hexavalent chromium	0.065 ug/L	SB-2-102820 EB-3-102820

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-22-5	Hexavalent chromium	0.00017 mg/L	0.00017U mg/L
MW-24-4	Hexavalent chromium	0.00010 mg/L	0.00010U mg/L
MW-24-3	Hexavalent chromium	0.000087 mg/L	0.000087U mg/L
DUP-3-4Q20	Hexavalent chromium	0.00010 mg/L	0.00010U mg/L
MW-24-1	Hexavalent chromium	0.00024 mg/L	0.00024U mg/L
SB-2-102820	Hexavalent chromium	0.00013 mg/L	0.00013U mg/L
EB-3-102820	Hexavalent chromium	0.00010 mg/L	0.00010U mg/L

V. Field Blanks

Sample EB-3-102820 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-3-102820	Hexavalent chromium	0.00010 mg/L

Sample SB-2-102820 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
SB-2-102820	Hexavalent chromium	0.00013 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples MW-24-3 and DUP-3-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-24-3	DUP-3-4Q20	
Hexavalent chromium	0.000087 mg/L	0.00010 mg/L	14
Perchlorate	0.81U ug/L	1.5 ug/L	60

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in three samples.

Due to laboratory blank contamination, data were qualified as not detected in seven samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2031670**

Sample	Analyte	Flag	A or P	Reason
MW-24-4 MW-24-3 SB-2-102820	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2031670**

Sample	Analyte	Modified Final Concentration	A or P
MW-22-5	Hexavalent chromium	0.00017U mg/L	A
MW-24-4	Hexavalent chromium	0.00010U mg/L	A
MW-24-3	Hexavalent chromium	0.000087U mg/L	A
DUP-3-4Q20	Hexavalent chromium	0.00010U mg/L	A
MW-24-1	Hexavalent chromium	0.00024U mg/L	A
SB-2-102820	Hexavalent chromium	0.00013U mg/L	A
EB-3-102820	Hexavalent chromium	0.00010U mg/L	A

LDC #: 49813C6

VALIDATION COMPLETENESS WORKSHEET

SDG #: 2031670

Level III/IV

Laboratory: BC Laboratories, Inc.

Date: 12/14/20

Page: 1 of 2

Reviewer: *AJC*2nd Reviewer: *AJC***METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)**

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Laboratory Blanks	SW	
V.	Field blanks	SW	SB=11, EB=13
VI.	Matrix Spike/Matrix Spike Duplicates	A	(14,15), (17,18)
VII.	Duplicate sample analysis	A	16, 19
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(8,9)
X.	Sample result verification	A	Not reviewed for Level III validation
XI.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-22-5	2031670-02	Water	10/28/20
2	MW-22-4	2031670-03	Water	10/28/20
3	MW-22-3**	2031670-04**	Water	10/28/20
4	MW-22-2	2031670-05	Water	10/28/20
5	MW-22-1	2031670-06	Water	10/28/20
6	MW-24-4	2031670-07	Water	10/28/20
7	MW-24-5	2031670-08	Water	10/28/20
8	MW-24-3	2031670-09	Water	10/28/20
9	DUP-3-4Q20	2031670-10	Water	10/28/20
10	MW-24-2	2031670-11	Water	10/28/20
11	SB-2-102820	2031670-12	Water	10/28/20
12	MW-24-1	2031670-13	Water	10/28/20
13	EB-3-102820	2031670-14	Water	10/28/20
14	MW-22-3MS	2031670-04MS	Water	10/28/20
15	MW-22-3MSD	2031670-04MSD	Water	10/28/20
16	MW-22-3DUP	2031670-04DUP	Water	10/28/20
17	MW-24-1MS	2031670-13MS	Water	10/28/20

LDC #: 49813C6

VALIDATION COMPLETENESS WORKSHEET

SDG #: 2031670

Level III/IV

Laboratory: BC Laboratories, Inc.

Date: 12/14/20

Page: 2 of 2

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)

18	MW-24-1MSD	2031670-13MSD	Water	10/28/20
19	MW-24-1DUP	2031670-13DUP	Water	10/28/20
20				
21				
22				

Notes: _____

Method: Inorganics (EPA Method *see cover*)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995 ?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\leq \text{CRDL}$ ($\leq 2\text{X CRDL}$ for soil) was used for samples that were $\leq 5\text{X}$ the CRDL, including when only one of the duplicate sample values were $\leq 5\text{X}$ the CRDL.	✓			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: 1 to 10, 12

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (ug/L)		1	6	8	9	12						
Cr6+		0.057	0.000285	0.00017	0.00010	0.000087	0.00010	0.00024						

Conc. units: mg/L

Associated Samples: 11,13

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (ug/L)		11	13									
Cr6+		0.065	0.000325	0.00013	0.00010									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates**Inorganics:** Method See Cover

Analyte	Concentration (mg/L)		RPD	
	8	9		
Hexavalent Chromium	0.000087	0.00010	14	
Perchlorate (ug/L)	0.81U	1.5	60	

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\49813C6.wpd

LDC #: 49813 CG

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: ATL

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of ClO4⁻ was recalculated. Calibration date: 11/10/20

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated	Reported	Acceptable (Y/N)
					r or r ²	r or r ²	
Initial calibration	ClO4 ⁻	s1	2	0.0022	0.9958	0.9968	Y
		s2	4	0.0041			
		s3	7.5	0.0068			
		s4	10	0.0098			
		s5	20	0.0208			
CCV ₁ Calibration verification	ClO4 ⁻	FOUND 10.60	TRUE 10.000		106	106	Y
CCV ₁ Calibration verification	Cr6+	25.688	25.000		103	103	Y
CCV ₂ Calibration verification	Cr6+	26.130	25.000		105	104	Y

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

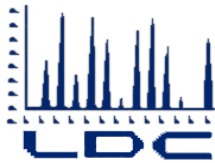
$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	(mg/L) Found / S (units)	(mg/L) True / D (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample	Cr6+	0.02184	0.0200	109	108	Y
14	Matrix spike sample	ClO4 ⁻	(SSR-SR) 10.470 mg/L	10.101 mg/L	104	105	Y
14 15	Duplicate sample	ClO4 ⁻	13.93 mg/L	14.16 mg/L	1.64	1.61	Y

Comments: _____



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Tidewater, Inc.
3761 Attucks Drive
Powell, OH 43065
ATTN: Mr. David Conner
David.Conner@tideh2o.net

December 29, 2020

SUBJECT: NASA JPL, 4Q2020, Data Validation

Dear Mr. Conner,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on December 3, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #49887:

<u>SDG #</u>	<u>Fraction</u>
2031816, 2031921 2032069	Volatiles, Chromium, Wet Chemistry

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review; January 2017
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
pgeng@lab-data.com
Project Manager/Senior Chemist

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031816

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-4	2031816-01	Water	10/29/20
MW-18-5	2031816-02	Water	10/29/20
MW-18-4	2031816-03	Water	10/29/20
MW-18-3**	2031816-04**	Water	10/29/20
MW-18-2	2031816-05	Water	10/29/20
MW-17-5**	2031816-06**	Water	10/29/20
MW-17-4	2031816-07	Water	10/29/20
MW-17-3	2031816-08	Water	10/29/20
MW-17-2	2031816-09	Water	10/29/20
EB-4	2031816-10	Water	10/29/20
MW-18-3MS	2031816-04MS	Water	10/29/20
MW-18-3MSD	2031816-04MSD	Water	10/29/20
MW-17-5MS	2031816-06MS	Water	10/29/20
MW-17-5MSD	2031816-06MSD	Water	10/29/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/05/20	Bromomethane Methyl iodide	32.2 54.9	All samples in SDG 2031816	UJ (all non-detects) UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-4 was identified as a trip blank. No contaminants were found.

Sample MW-18-3** was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
MW-18-3**	Methylene chloride	2.6 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in ten samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020
Volatiles - Data Qualification Summary - SDG 2031816

Sample	Compound	Flag	A or P	Reason
TB-4 MW-18-5 MW-18-4 MW-18-3** MW-18-2 MW-17-5** MW-17-4 MW-17-3 MW-17-2 EB-4	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2031816

No Sample Data Qualified in this SDG

LDC #: 49887A1a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 2031816

Level III/IV

Laboratory: BC Laboratories, Inc.

Date: 11/1/20

Page: 1 of 2

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	ISO = 20%. Y ² CV = 30%
IV.	Continuing calibration	M	CCV = 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	M	TB = 1. SB = A
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level III validation
XIII.	Target compound identification	A	Not reviewed for Level III validation
XIV.	System performance	A	Not reviewed for Level III validation
XV.	Overall assessment of data	A	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	TB-4	2031816-01	Water	10/29/20
2	MW-18-5	2031816-02	Water	10/29/20
3	MW-18-4	2031816-03	Water	10/29/20
4	MW-18-3**	2031816-04**	Water	10/29/20
5	MW-18-2	2031816-05	Water	10/29/20
6	MW-17-5**	2031816-06**	Water	10/29/20
7	MW-17-4	2031816-07	Water	10/29/20
8	MW-17-3	2031816-08	Water	10/29/20
9	MW-17-2	2031816-09	Water	10/29/20
10	EB-4	2031816-10	Water	10/29/20
11	MW-18-3MS	2031816-04MS	Water	10/29/20
12	MW-18-3MSD	2031816-04MSD	Water	10/29/20
13	MW-17-5MS	2031816-06MS	Water	10/29/20

LDC #: 49887A1a
SDG #: 2031816
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 10/29/20
Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

	Client ID	Lab ID	Matrix	Date
14	MW-17-5MSD	2031816-06MSD	Water	10/29/20
15				
16				
17				

Notes:

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was cooler temperature criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. GC/MS Instrument performance check				
Was a tune check performed prior to establishing and/or re-establishing an initial calibration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the BFB performance results reviewed and found to be within the specified criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Initial calibration				
Did the laboratory perform at least 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) < 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IIIa. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) < 30%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at the beginning of each analysis batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) of continuing calibration < 30%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a laboratory blank analyzed with each analysis batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the laboratory blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Field blanks				
Were field blanks identified in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were target compounds detected in the field blanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VII. Surrogate spikes				
Were all surrogate %R within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) within 70-130%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		/		
Were target compounds detected in the field duplicates?			/	
XI. Internal standards				
Were internal standard area counts within +/-30% of the area of the most recent continuing calibration standard and +/-50% of the average peak area in the initial calibration?	/			
Were retention times within +/-30 seconds of the associated calibration standard?	/			
XII. Compound quantitation/CRQLs				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?			/	
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) or regression equations used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?
X N N/A Were target compounds detected in the field blanks?

Sample: 10 Field Blank / Trip Blank / Rinsate / Other EB (circle one)

Compound	Concentration Units (<u>N/A</u>)
<u>←</u>	<u>2.6</u>

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

VALIDATION FINDINGS WORKSHEET Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs

X = Mean of the RRFs

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (10 std)	RRF (10 std)	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	ICAL (MS-V5)	10/12/20	K (1st internal standard)	0.7900812	0.7900812	0.7626009	0.7626009	3.961388	3.961
			S (2nd internal standard)	0.3650587	0.3650587	0.361829	0.361829	6.269943	6.270
			EE (3rd internal standard)	1.793694	1.793694	1.729447	1.729447	8.279058	8.279
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound,
 C_x = Concentration of compound,
 A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	05NOV02	11/5/20	K (1st internal standard)	0.7626009	0.788703	0.788703	3.4	33.4
			S (2nd internal standard)	0.361829	0.3734394	0.3734393	3.2	3.2
			EE (3rd internal standard)	1.729447	1.692876	1.692876	2.1	2.1
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 4

	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4	10.0	9.44	94.4	94.4	
Toluene-d8	↓	9.92	99.2	99.2	
Bromofluorobenzene	↓	9.93	99.3	99.3	
1,2-Dichlorobenzene-d4	↓				

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = |MSC - MSC| * 2 / (MSC + MSC)

MSC = Matrix spike concentration

MSC = Matrix spike duplicate concentration

MS/MSD sample: 11/12

Compound	Spike Added (µg/L)		Sample Concentration (µg/L)	Spiked Sample Concentration (µg/L)		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.00	25.00	ND	27.040	26.73	108	108	107	107	1.15	1.15
Trichloroethene	↓	↓	↓	25.07	24.73	100	100	98.9	98.9	1.37	1.37
Benzene	↓	↓	↓	25.89	26.42	104	104	106	106	2.03	2.03
Toluene	↓	↓	↓	26.09	25.930	104	104	104	104	0.615	0.615
Chlorobenzene	↓	↓	↓	24.48	25.02	97.9	97.9	100	100	2.18	2.18

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B091776-B51

Compound	Spike Added		Spiked Sample Concentration		LCS		LCSD		LCS/LCSD	
	(144)		(144)		Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	25.44	NA	102	102				
Trichloroethene	↓	↓	25.72	↓	103	103				
Benzene	↓	↓	24.39	↓	976	976				
Toluene	↓	↓	24.99	↓	100	100				
Chlorobenzene	↓	↓	23.63	↓	945	945				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Chromium

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031816

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-5	2031816-02	Water	10/29/20
MW-18-4	2031816-03	Water	10/29/20
MW-18-3**	2031816-04**	Water	10/29/20
MW-18-2	2031816-05	Water	10/29/20
MW-17-5**	2031816-06**	Water	10/29/20
MW-17-4	2031816-07	Water	10/29/20
MW-17-3	2031816-08	Water	10/29/20
MW-17-2	2031816-09	Water	10/29/20
EB-4	2031816-10	Water	10/29/20
MW-18-3MS	2031816-04MS	Water	10/29/20
MW-18-3MSD	2031816-04MSD	Water	10/29/20
MW-17-5MS	2031816-06MS	Water	10/29/20
MW-17-5MSD	2031816-06MSD	Water	10/29/20
MW-17-5DUP	2031816-06DUP	Water	10/29/20
MW-18-3DUP	2031816-04DUP	Water	10/29/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-4 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

No field duplicates were identified in this SDG.

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2031816

No Sample Data Qualified in this SDG

NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2031816

No Sample Data Qualified in this SDG

LDC #: 49887A4a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/24/20

SDG #: 2031816

Level III/IV

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: ATV2nd Reviewer: Q**METHOD:** Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	ND	EB=9
VII.	Matrix Spike/Matrix Spike Duplicates	A	(10,11), (12,13)
VIII.	Duplicate sample analysis	A	14,15
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	reviewed for level IV only
XIII.	Sample Result Verification	A	Not reviewed for Level III validation
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-18-5	2031816-02	Water	10/29/20
2	MW-18-4	2031816-03	Water	10/29/20
3	MW-18-3**	2031816-04**	Water	10/29/20
4	MW-18-2	2031816-05	Water	10/29/20
5	MW-17-5**	2031816-06**	Water	10/29/20
6	MW-17-4	2031816-07	Water	10/29/20
7	MW-17-3	2031816-08	Water	10/29/20
8	MW-17-2	2031816-09	Water	10/29/20
9	EB-4	2031816-10	Water	10/29/20
10	MW-18-3MS	2031816-04MS	Water	10/29/20
11	MW-18-3MSD	2031816-04MSD	Water	10/29/20
12	MW-17-5MS	2031816-06MS	Water	10/29/20
13	MW-17-5MSD	2031816-06MSD	Water	10/29/20
14	MW-17-5DUP	2031816-06DUP	Water	10/29/20
15	MW-18-3DUP	2031816-04DUP	Water	10/29/20

Method: Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%			✓	<i>not reported</i>
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?			✓	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?			✓	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of +/- RL (+/-2X RL for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	✓			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

Initial and Continuing Calibration Calculation Verification

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Low Level calibration)						
	ICP/MS (Low Level calibration)						
	ICP (Initial calibration)						
ICV	ICP/MS (Initial calibration) <u>11/06 c 10:15</u>	Cr	50.860	50.000	102	102	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV	ICP/MS (Continuing calibration) <u>11/9 c 22:22</u>	Cr	40.082	40.000	100	100	Y
	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
11/06	Mass Axis	23.985	23.978	± 0.1 AMU	NA	Y
11/9	%RSD	24.0	14254.6	≤ 5% RSD	1.5	Y

Comments:

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$
 Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Mg/L Found / S / I (units)	Mg/L True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
	ICP interference check						
LCS	Laboratory control sample B091692	Cr	42.804	40.000	107	107	Y
12	Matrix spike	Cr	(SSR-SR) 40.399	40.000	101	101	Y
12/13	Duplicate	Cr	42.544	43.466	2.14	2.14	Y
3	Post digestion spike	Cr	40.656	40.000	102	102	Y
5	ICP serial dilution	Cr	3.145	3.067	N.C	N.C	Y

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031816

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-5	2031816-02	Water	10/29/20
MW-18-4	2031816-03	Water	10/29/20
MW-18-3**	2031816-04**	Water	10/29/20
MW-18-2	2031816-05	Water	10/29/20
MW-17-5**	2031816-06**	Water	10/29/20
MW-17-4	2031816-07	Water	10/29/20
MW-17-3	2031816-08	Water	10/29/20
MW-17-2	2031816-09	Water	10/29/20
EB-4	2031816-10	Water	10/29/20
MW-18-3MS	2031816-04MS	Water	10/29/20
MW-18-3MSD	2031816-04MSD	Water	10/29/20
MW-18-3DUP	2031816-04DUP	Water	10/29/20
MW-17-5MS	2031816-06MS	Water	10/29/20
MW-17-5MSD	2031816-06MSD	Water	10/29/20
MW-17-5DUP	2031816-06DUP	Water	10/29/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-17-3	Hexavalent chromium	14 days	1 day	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.000083 mg/L	All samples in SDG 2031816

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-18-5	Hexavalent chromium	0.00012 mg/L	0.00012U mg/L
MW-18-2	Hexavalent chromium	0.000097 mg/L	0.000097U mg/L
MW-17-3	Hexavalent chromium	0.00014 mg/L	0.00014U mg/L
MW-17-2	Hexavalent chromium	0.000059 mg/L	0.000059U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB-4	Hexavalent chromium	0.000079 mg/L	0.000079U mg/L

V. Field Blanks

Sample EB-4 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-4	Hexavalent chromium	0.000079 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in one sample.

Due to laboratory blank contamination, data were qualified as not detected in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2031816**

Sample	Analyte	Flag	A or P	Reason
MW-17-3	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2031816**

Sample	Analyte	Modified Final Concentration	A or P
MW-18-5	Hexavalent chromium	0.00012U mg/L	A
MW-18-2	Hexavalent chromium	0.000097U mg/L	A
MW-17-3	Hexavalent chromium	0.00014U mg/L	A
MW-17-2	Hexavalent chromium	0.000059U mg/L	A
EB-4	Hexavalent chromium	0.000079U mg/L	A

LDC #: 49887A6

VALIDATION COMPLETENESS WORKSHEET

Date: 12/24/20

SDG #: 2031816

Level III/IV

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: ATJ2nd Reviewer: [Signature]**METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)**

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	SW	EB=9
VI.	Matrix Spike/Matrix Spike Duplicates	A	(10,11), (13,14)
VII.	Duplicate sample analysis	A	12,15
VIII.	Laboratory control samples	A	
IX.	Field duplicates	N	
X.	Sample result verification	A	Not reviewed for Level III validation
XI	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-18-5	2031816-02	Water	10/29/20
2	MW-18-4	2031816-03	Water	10/29/20
3	MW-18-3**	2031816-04**	Water	10/29/20
4	MW-18-2	2031816-05	Water	10/29/20
5	MW-17-5**	2031816-06**	Water	10/29/20
6	MW-17-4	2031816-07	Water	10/29/20
7	MW-17-3	2031816-08	Water	10/29/20
8	MW-17-2	2031816-09	Water	10/29/20
9	EB-4	2031816-10	Water	10/29/20
10	MW-18-3MS	2031816-04MS	Water	10/29/20
11	MW-18-3MSD	2031816-04MSD	Water	10/29/20
12	MW-18-3DUP	2031816-04DUP	Water	10/29/20
13	MW-17-5MS	2031816-06MS	Water	10/29/20
14	MW-17-5MSD	2031816-06MSD	Water	10/29/20
15	MW-17-5DUP	2031816-06DUP	Water	10/29/20
16				
17				

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
II. Calibration				
Were all instruments calibrated daily, each set-up time?		✓		
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: All

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		1	4	7	8	9						
Cr6+		0.000083	0.000415	0.00012	0.000097	0.00014	0.000059	0.000079						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

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Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: ATL

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Cr6+ was recalculated. Calibration date: 11/11/20

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated	Reported	Acceptable (Y/N)
					r or r ²	r or r ²	
Initial calibration	Cr6+	s1	0.2	0.019	0.9999	0.9999	Y
		s2	2	0.197			
		s3	10	1.001			
		s4	25	2.477			
		s5	50	4.893			
CCV ₁ Calibration verification	Cr6+	FOUND 24.773	TRUE 25.000		99.1	99.1	Y
CCV ₃ Calibration verification	ClO ₄ ⁻	10.00	10.000		100	96.6	Y
CCV ₄ Calibration verification	ClO ₄	10.00	10.000		100	99.4	Y

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

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VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: ATL

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample <u>B092536</u>	<u>Cr6+</u>	<u>0.02150 mg/L</u>	<u>0.0200 mg/L</u>	<u>108</u>	<u>108</u>	<u>Y</u>
<u>10</u>	Matrix spike sample	<u>ClO4-</u>	(SSR-SR) <u>10.2506 μg/L</u>	<u>10.101 μg/L</u>	<u>101</u>	<u>101</u>	<u>Y</u>
<u>10/11</u>	Duplicate sample	<u>ClO4-</u>	<u>11.444 μg/L</u>	<u>11.475 μg/L</u>	<u>0.271</u>	<u>0.283</u>	<u>Y</u>

Comments: _____

NASA JPL, 4Q2020 - LDC# 49887A

SDG: 2031816

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-5	2031816-02	Total Recoverable Chromium	11/9/2020	0.74	Y	y	v j		3.0	0.50	ug/L
MW-18-4	2031816-03	Total Recoverable Chromium	11/9/2020	3	Y	y	v		3.0	0.50	ug/L
MW-18-3	2031816-04	Total Recoverable Chromium	11/9/2020	1.7	Y	y	v j		3.0	0.50	ug/L
MW-18-2	2031816-05	Total Recoverable Chromium	11/9/2020	0.57	Y	y	v j		3.0	0.50	ug/L
MW-17-5	2031816-06	Total Recoverable Chromium	11/6/2020	3.1	Y	y	v		3.0	0.50	ug/L
MW-17-4	2031816-07	Total Recoverable Chromium	11/9/2020	1.9	Y	y	v j		3.0	0.50	ug/L
MW-17-3	2031816-08	Total Recoverable Chromium	11/9/2020	1.1	Y	y	v j		3.0	0.50	ug/L
MW-17-2	2031816-09	Total Recoverable Chromium	11/9/2020	0.72	Y	y	v j		3.0	0.50	ug/L
EB-4	2031816-10	Total Recoverable Chromium	11/9/2020	3	Y	n	u		3.0	0.50	ug/L

Analytical Method EPA-218.6

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-5	2031816-02	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-18-4	2031816-03	Hexavalent Chromium	11/12/2020	0.0029	Y	y	v		0.0002	0.0000	mg/L
MW-18-3	2031816-04	Hexavalent Chromium	11/12/2020	0.0018	Y	y	v		0.0002	0.0000	mg/L
MW-18-2	2031816-05	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-17-5	2031816-06	Hexavalent Chromium	11/12/2020	0.0019	Y	y	v		0.0002	0.0000	mg/L
MW-17-4	2031816-07	Hexavalent Chromium	11/12/2020	0.0019	Y	y	v		0.0002	0.0000	mg/L
MW-17-3	2031816-08	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	UJ	0.0002	0.0000	mg/L
MW-17-2	2031816-09	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
EB-4	2031816-10	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-5	2031816-02	Perchlorate	11/10/2020	4	Y	n	u		4.0	0.81	ug/L

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Analytical Method		EPA-314.0									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2031816-03	Perchlorate	11/10/2020	16	Y	y	v		4.0	0.81	ug/L
MW-18-3	2031816-04	Perchlorate	11/10/2020	1.2	Y	y	v j		4.0	0.81	ug/L
MW-18-2	2031816-05	Perchlorate	11/10/2020	4	Y	n	u		4.0	0.81	ug/L
MW-17-5	2031816-06	Perchlorate	11/10/2020	5.2	Y	y	v		4.0	0.81	ug/L
MW-17-4	2031816-07	Perchlorate	11/10/2020	5.4	Y	y	v		4.0	0.81	ug/L
MW-17-3	2031816-08	Perchlorate	11/10/2020	3.9	Y	y	v j		4.0	0.81	ug/L
MW-17-2	2031816-09	Perchlorate	11/10/2020	4	Y	n	u		4.0	0.81	ug/L
EB-4	2031816-10	Perchlorate	11/10/2020	4	Y	n	u		4.0	0.81	ug/L

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-4	2031816-01	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
TB-4	2031816-01	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
TB-4	2031816-01	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
TB-4	2031816-01	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-4	2031816-01	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
TB-4	2031816-01	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
TB-4	2031816-01	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-4	2031816-01	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
TB-4	2031816-01	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
TB-4	2031816-01	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4	2031816-01	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
TB-4	2031816-01	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-4	2031816-01	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L

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Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-4	2031816-01	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
TB-4	2031816-01	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
TB-4	2031816-01	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-4	2031816-01	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
TB-4	2031816-01	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
TB-4	2031816-01	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
TB-4	2031816-01	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
TB-4	2031816-01	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
TB-4	2031816-01	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
TB-4	2031816-01	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4	2031816-01	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-4	2031816-01	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
TB-4	2031816-01	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
TB-4	2031816-01	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
TB-4	2031816-01	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
TB-4	2031816-01	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
TB-4	2031816-01	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-4	2031816-01	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-4	2031816-01	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-4	2031816-01	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L

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Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-4	2031816-01	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4	2031816-01	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-4	2031816-01	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-4	2031816-01	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
TB-4	2031816-01	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-4	2031816-01	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4	2031816-01	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
TB-4	2031816-01	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-4	2031816-01	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4	2031816-01	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-4	2031816-01	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-4	2031816-01	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-4	2031816-01	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-4	2031816-01	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-4	2031816-01	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L

SDG: 2031816

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-4	2031816-01	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4	2031816-01	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4	2031816-01	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4	2031816-01	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4	2031816-01	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-4	2031816-01	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4	2031816-01	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4	2031816-01	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-4	2031816-01	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-4	2031816-01	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4	2031816-01	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4	2031816-01	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-4	2031816-01	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4	2031816-01	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4	2031816-01	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-4	2031816-01	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-4	2031816-01	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4	2031816-01	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4	2031816-01	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-5	2031816-02	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L

SDG: 2031816

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-5	2031816-02	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-5	2031816-02	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-18-5	2031816-02	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-18-5	2031816-02	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-18-5	2031816-02	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-18-5	2031816-02	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2031816-02	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-5	2031816-02	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-5	2031816-02	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-18-5	2031816-02	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-18-5	2031816-02	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-18-5	2031816-02	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-5	2031816-02	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-18-5	2031816-02	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2031816-02	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-18-5	2031816-02	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-18-5	2031816-02	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-18-5	2031816-02	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-18-5	2031816-02	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-18-5	2031816-02	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-5	2031816-02	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-18-5	2031816-02	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-5	2031816-02	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-5	2031816-02	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-5	2031816-02	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-18-5	2031816-02	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-5	2031816-02	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-18-5	2031816-02	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2031816-02	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-5	2031816-02	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2031816-02	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-5	2031816-02	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-5	2031816-02	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-5	2031816-02	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-5	2031816-02	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-5	2031816-02	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-5	2031816-02	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-5	2031816-02	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-5	2031816-02	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L

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MW-18-5	2031816-02	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-5	2031816-02	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-5	2031816-02	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-5	2031816-02	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-5	2031816-02	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-5	2031816-02	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-5	2031816-02	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-5	2031816-02	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2031816-02	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2031816-02	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2031816-02	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2031816-02	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-5	2031816-02	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2031816-02	Styrene	11/5/2020	0.12	Y	y	v j		0.50	0.12	ug/L
MW-18-5	2031816-02	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-5	2031816-02	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-5	2031816-02	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-5	2031816-02	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-18-5	2031816-02	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-5	2031816-02	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2031816-02	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2031816-02	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2031816-02	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2031816-02	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2031816-02	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2031816-02	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2031816-03	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2031816-03	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-18-4	2031816-03	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-18-4	2031816-03	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-18-4	2031816-03	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-4	2031816-03	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-4	2031816-03	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-4	2031816-03	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-18-4	2031816-03	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-4	2031816-03	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-18-4	2031816-03	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-4	2031816-03	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2031816-03	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2031816-03	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-4	2031816-03	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-18-4	2031816-03	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2031816-03	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-18-4	2031816-03	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2031816-03	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-18-4	2031816-03	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-18-4	2031816-03	Trichloroethene	11/5/2020	2.3	Y	y	v		0.50	0.19	ug/L
MW-18-4	2031816-03	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-18-4	2031816-03	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-18-4	2031816-03	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-18-4	2031816-03	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-4	2031816-03	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-18-4	2031816-03	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-18-4	2031816-03	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-4	2031816-03	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-4	2031816-03	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-18-4	2031816-03	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-4	2031816-03	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-18-4	2031816-03	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-18-4	2031816-03	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2031816-03	Chloroform	11/5/2020	1.4	Y	y	v		0.50	0.14	ug/L
MW-18-4	2031816-03	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2031816-03	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-4	2031816-03	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2031816-03	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-4	2031816-03	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-4	2031816-03	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-4	2031816-03	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-4	2031816-03	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-4	2031816-03	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2031816-03	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-4	2031816-03	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-4	2031816-03	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2031816-03	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-4	2031816-03	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-4	2031816-03	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-4	2031816-03	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2031816-03	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-4	2031816-03	Carbon tetrachloride	11/5/2020	4.5	Y	y	v		0.50	0.17	ug/L
MW-18-4	2031816-03	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2031816-03	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2031816-03	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-4	2031816-03	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-4	2031816-03	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2031816-03	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2031816-03	Tetrachloroethene	11/5/2020	1.7	Y	y	v		0.50	0.23	ug/L
MW-18-4	2031816-03	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2031816-03	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2031816-03	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-4	2031816-03	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-4	2031816-03	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2031816-03	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-4	2031816-03	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2031816-03	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2031816-03	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-4	2031816-03	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2031816-03	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2031816-03	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2031816-03	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-4	2031816-03	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2031816-03	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-18-3	2031816-04	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-18-3	2031816-04	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-3	2031816-04	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-3	2031816-04	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-3	2031816-04	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-18-3	2031816-04	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-3	2031816-04	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2031816-04	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2031816-04	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-3	2031816-04	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-18-3	2031816-04	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2031816-04	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2031816-04	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2031816-04	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2031816-04	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-18-3	2031816-04	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-18-3	2031816-04	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2031816-04	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-18-3	2031816-04	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-18-3	2031816-04	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-18-3	2031816-04	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-18-3	2031816-04	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-18-3	2031816-04	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-3	2031816-04	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-3	2031816-04	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-3	2031816-04	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-3	2031816-04	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-3	2031816-04	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-18-3	2031816-04	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-18-3	2031816-04	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-18-3	2031816-04	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-3	2031816-04	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-3	2031816-04	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-18-3	2031816-04	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-3	2031816-04	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2031816-04	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-3	2031816-04	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-3	2031816-04	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-3	2031816-04	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-3	2031816-04	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-3	2031816-04	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-3	2031816-04	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-3	2031816-04	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-3	2031816-04	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2031816-04	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-3	2031816-04	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-3	2031816-04	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-3	2031816-04	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-3	2031816-04	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-3	2031816-04	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2031816-04	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2031816-04	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-3	2031816-04	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-3	2031816-04	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-3	2031816-04	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-3	2031816-04	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-3	2031816-04	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-3	2031816-04	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2031816-04	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-3	2031816-04	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2031816-04	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-3	2031816-04	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2031816-04	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2031816-04	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2031816-04	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2031816-04	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2031816-05	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-2	2031816-05	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-18-2	2031816-05	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-2	2031816-05	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2031816-05	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-18-2	2031816-05	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-18-2	2031816-05	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-18-2	2031816-05	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2031816-05	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-18-2	2031816-05	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-2	2031816-05	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2031816-05	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-2	2031816-05	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-2	2031816-05	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2031816-05	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2031816-05	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-18-2	2031816-05	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-18-2	2031816-05	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-2	2031816-05	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2031816-05	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-18-2	2031816-05	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-18-2	2031816-05	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-18-2	2031816-05	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-18-2	2031816-05	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-2	2031816-05	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-18-2	2031816-05	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-2	2031816-05	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-2	2031816-05	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-2	2031816-05	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-18-2	2031816-05	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-2	2031816-05	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-18-2	2031816-05	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-18-2	2031816-05	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-18-2	2031816-05	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-2	2031816-05	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-2	2031816-05	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-18-2	2031816-05	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-2	2031816-05	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-2	2031816-05	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-2	2031816-05	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-2	2031816-05	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-2	2031816-05	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2031816-05	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-2	2031816-05	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-2	2031816-05	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2031816-05	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-2	2031816-05	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-2	2031816-05	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-2	2031816-05	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2031816-05	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-2	2031816-05	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2031816-05	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-2	2031816-05	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-2	2031816-05	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-2	2031816-05	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-2	2031816-05	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2031816-05	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-2	2031816-05	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-2	2031816-05	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2031816-05	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2031816-05	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-2	2031816-05	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2031816-05	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2031816-05	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2031816-05	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2031816-05	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2031816-05	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-5	2031816-06	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-17-5	2031816-06	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-17-5	2031816-06	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-5	2031816-06	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-5	2031816-06	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-17-5	2031816-06	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-17-5	2031816-06	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-17-5	2031816-06	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-5	2031816-06	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-5	2031816-06	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-5	2031816-06	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	Trichloroethene	11/5/2020	0.63	Y	y	v		0.50	0.19	ug/L
MW-17-5	2031816-06	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-5	2031816-06	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-5	2031816-06	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-5	2031816-06	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	Tetrachloroethene	11/5/2020	0.28	Y	y	v j		0.50	0.23	ug/L
MW-17-5	2031816-06	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-17-5	2031816-06	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-5	2031816-06	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-17-5	2031816-06	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-17-5	2031816-06	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-17-5	2031816-06	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-5	2031816-06	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-17-5	2031816-06	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-17-5	2031816-06	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-17-5	2031816-06	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-17-5	2031816-06	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-17-5	2031816-06	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-17-5	2031816-06	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-17-5	2031816-06	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-17-5	2031816-06	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-17-5	2031816-06	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-17-5	2031816-06	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-17-5	2031816-06	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-17-5	2031816-06	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-17-5	2031816-06	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-17-5	2031816-06	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-5	2031816-06	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-5	2031816-06	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-5	2031816-06	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-17-5	2031816-06	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-5	2031816-06	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-17-5	2031816-06	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-17-5	2031816-06	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-17-5	2031816-06	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-5	2031816-06	Chloroform	11/5/2020	0.47	Y	y	v j		0.50	0.14	ug/L
MW-17-5	2031816-06	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-5	2031816-06	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-5	2031816-06	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-5	2031816-06	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-17-5	2031816-06	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-5	2031816-06	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-17-5	2031816-06	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-5	2031816-06	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-5	2031816-06	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-5	2031816-06	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-5	2031816-06	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-5	2031816-06	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-5	2031816-06	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-5	2031816-06	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-5	2031816-06	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-5	2031816-06	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-5	2031816-06	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-5	2031816-06	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-5	2031816-06	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-5	2031816-06	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-5	2031816-06	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-5	2031816-06	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-5	2031816-06	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-17-4	2031816-07	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-4	2031816-07	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-4	2031816-07	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-17-4	2031816-07	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-17-4	2031816-07	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-17-4	2031816-07	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-4	2031816-07	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-17-4	2031816-07	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-4	2031816-07	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-4	2031816-07	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-17-4	2031816-07	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-4	2031816-07	Trichloroethene	11/5/2020	1.9	Y	y	v		0.50	0.19	ug/L
MW-17-4	2031816-07	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-4	2031816-07	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	Tetrachloroethene	11/5/2020	1	Y	y	v		0.50	0.23	ug/L

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MW-17-4	2031816-07	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-4	2031816-07	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-17-4	2031816-07	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-17-4	2031816-07	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-4	2031816-07	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-4	2031816-07	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-17-4	2031816-07	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-17-4	2031816-07	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-17-4	2031816-07	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-17-4	2031816-07	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-17-4	2031816-07	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-4	2031816-07	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-17-4	2031816-07	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-17-4	2031816-07	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-17-4	2031816-07	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-17-4	2031816-07	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-17-4	2031816-07	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-17-4	2031816-07	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-17-4	2031816-07	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-17-4	2031816-07	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-17-4	2031816-07	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-17-4	2031816-07	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-4	2031816-07	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-17-4	2031816-07	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-4	2031816-07	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-17-4	2031816-07	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-4	2031816-07	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-17-4	2031816-07	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-4	2031816-07	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-17-4	2031816-07	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-4	2031816-07	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-17-4	2031816-07	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-4	2031816-07	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-4	2031816-07	Carbon tetrachloride	11/5/2020	0.21	Y	y	v j		0.50	0.17	ug/L
MW-17-4	2031816-07	Chloroform	11/5/2020	1.1	Y	y	v		0.50	0.14	ug/L
MW-17-4	2031816-07	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-4	2031816-07	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-17-4	2031816-07	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-17-4	2031816-07	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-4	2031816-07	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-4	2031816-07	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-4	2031816-07	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-4	2031816-07	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-4	2031816-07	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-4	2031816-07	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-4	2031816-07	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-4	2031816-07	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-4	2031816-07	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-4	2031816-07	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-4	2031816-07	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-4	2031816-07	1,1-Dichloroethane	11/5/2020	0.17	Y	y	v j		0.50	0.15	ug/L
MW-17-4	2031816-07	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-4	2031816-07	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-4	2031816-07	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-4	2031816-07	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-4	2031816-07	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-4	2031816-07	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-4	2031816-07	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-4	2031816-07	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-4	2031816-07	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-3	2031816-08	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-3	2031816-08	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-3	2031816-08	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-17-3	2031816-08	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-3	2031816-08	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L

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MW-17-3	2031816-08	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-17-3	2031816-08	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-17-3	2031816-08	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-3	2031816-08	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-17-3	2031816-08	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-3	2031816-08	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-17-3	2031816-08	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	Trichloroethene	11/5/2020	4.1	Y	y	v		0.50	0.19	ug/L
MW-17-3	2031816-08	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-3	2031816-08	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-17-3	2031816-08	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-3	2031816-08	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-3	2031816-08	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-3	2031816-08	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-3	2031816-08	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-17-3	2031816-08	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-3	2031816-08	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-17-3	2031816-08	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-17-3	2031816-08	1,1-Dichloropropane	11/5/2020	0	Y	y	v				ug/L
MW-17-3	2031816-08	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-17-3	2031816-08	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-17-3	2031816-08	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-3	2031816-08	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-17-3	2031816-08	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L

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MW-17-3	2031816-08	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-17-3	2031816-08	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-17-3	2031816-08	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-17-3	2031816-08	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-17-3	2031816-08	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-17-3	2031816-08	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-17-3	2031816-08	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-17-3	2031816-08	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-17-3	2031816-08	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-3	2031816-08	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-17-3	2031816-08	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-17-3	2031816-08	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-17-3	2031816-08	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-3	2031816-08	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-17-3	2031816-08	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-3	2031816-08	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-17-3	2031816-08	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-3	2031816-08	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-17-3	2031816-08	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-3	2031816-08	Chloroform	11/5/2020	0.53	Y	y	v		0.50	0.14	ug/L
MW-17-3	2031816-08	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-3	2031816-08	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-3	2031816-08	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-3	2031816-08	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-17-3	2031816-08	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-3	2031816-08	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-3	2031816-08	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-17-3	2031816-08	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-17-3	2031816-08	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-3	2031816-08	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-3	2031816-08	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-3	2031816-08	Tetrachloroethene	11/5/2020	0.78	Y	y	v		0.50	0.23	ug/L
MW-17-3	2031816-08	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-3	2031816-08	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-3	2031816-08	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-3	2031816-08	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-3	2031816-08	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-3	2031816-08	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-3	2031816-08	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-3	2031816-08	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-3	2031816-08	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-3	2031816-08	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-3	2031816-08	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-3	2031816-08	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-3	2031816-08	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-17-3	2031816-08	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-3	2031816-08	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-3	2031816-08	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-3	2031816-08	1,1-Dichloroethane	11/5/2020	0.21	Y	y	v j		0.50	0.15	ug/L
MW-17-3	2031816-08	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-3	2031816-08	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-3	2031816-08	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-2	2031816-09	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-2	2031816-09	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-17-2	2031816-09	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-17-2	2031816-09	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-17-2	2031816-09	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-17-2	2031816-09	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-2	2031816-09	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-2	2031816-09	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-17-2	2031816-09	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-2	2031816-09	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-2	2031816-09	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-2	2031816-09	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-2	2031816-09	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-17-2	2031816-09	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L

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MW-17-2	2031816-09	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-2	2031816-09	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-2	2031816-09	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-17-2	2031816-09	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-17-2	2031816-09	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-2	2031816-09	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-17-2	2031816-09	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-17-2	2031816-09	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-17-2	2031816-09	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-17-2	2031816-09	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-17-2	2031816-09	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-2	2031816-09	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-17-2	2031816-09	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-17-2	2031816-09	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-17-2	2031816-09	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-17-2	2031816-09	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-17-2	2031816-09	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-17-2	2031816-09	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-17-2	2031816-09	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-17-2	2031816-09	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-17-2	2031816-09	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-2	2031816-09	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-17-2	2031816-09	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-17-2	2031816-09	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-17-2	2031816-09	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L

SDG: 2031816

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-2	2031816-09	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-17-2	2031816-09	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-2	2031816-09	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-17-2	2031816-09	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-17-2	2031816-09	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-17-2	2031816-09	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-2	2031816-09	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-17-2	2031816-09	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-2	2031816-09	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-2	2031816-09	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-17-2	2031816-09	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-2	2031816-09	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-17-2	2031816-09	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-17-2	2031816-09	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-2	2031816-09	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-2	2031816-09	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-17-2	2031816-09	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-2	2031816-09	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-17-2	2031816-09	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-17-2	2031816-09	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L

SDG: 2031816

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-17-2	2031816-09	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-17-2	2031816-09	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-17-2	2031816-09	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-2	2031816-09	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-17-2	2031816-09	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-17-2	2031816-09	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-2	2031816-09	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-2	2031816-09	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-17-2	2031816-09	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-17-2	2031816-09	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-17-2	2031816-09	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-17-2	2031816-09	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-4	2031816-10	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
EB-4	2031816-10	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
EB-4	2031816-10	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4	2031816-10	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
EB-4	2031816-10	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L

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Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4	2031816-10	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
EB-4	2031816-10	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-4	2031816-10	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
EB-4	2031816-10	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4	2031816-10	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
EB-4	2031816-10	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4	2031816-10	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4	2031816-10	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4	2031816-10	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4	2031816-10	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4	2031816-10	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-4	2031816-10	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
EB-4	2031816-10	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-4	2031816-10	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
EB-4	2031816-10	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
EB-4	2031816-10	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
EB-4	2031816-10	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
EB-4	2031816-10	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
EB-4	2031816-10	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4	2031816-10	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-4	2031816-10	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L

SDG: 2031816

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4	2031816-10	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
EB-4	2031816-10	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
EB-4	2031816-10	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
EB-4	2031816-10	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
EB-4	2031816-10	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-4	2031816-10	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
EB-4	2031816-10	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
EB-4	2031816-10	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
EB-4	2031816-10	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-4	2031816-10	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-4	2031816-10	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
EB-4	2031816-10	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
EB-4	2031816-10	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4	2031816-10	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-4	2031816-10	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
EB-4	2031816-10	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-4	2031816-10	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-4	2031816-10	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-4	2031816-10	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4	2031816-10	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4	2031816-10	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L

SDG: 2031816

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4	2031816-10	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4	2031816-10	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4	2031816-10	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-4	2031816-10	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-4	2031816-10	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-4	2031816-10	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-4	2031816-10	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4	2031816-10	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-4	2031816-10	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-4	2031816-10	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-4	2031816-10	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-4	2031816-10	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Methylene chloride	11/5/2020	2.6	Y	y	v		0.50	0.21	ug/L
EB-4	2031816-10	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4	2031816-10	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-4	2031816-10	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-4	2031816-10	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4	2031816-10	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4	2031816-10	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4	2031816-10	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-4	2031816-10	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4	2031816-10	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

SDG: 2031816

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4	2031816-10	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-4	2031816-10	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-4	2031816-10	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4	2031816-10	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4	2031816-10	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031921

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-5-103020	2031921-01	Water	10/30/20
MW-23-5	2031921-02	Water	10/30/20
MW-23-4**	2031921-03**	Water	10/30/20
MW-23-3	2031921-04	Water	10/30/20
MW-23-2	2031921-05	Water	10/30/20
DUP-4-4Q20	2031921-06	Water	10/30/20
MW-23-1	2031921-07	Water	10/30/20
MW-26-2**	2031921-08**	Water	10/30/20
EB-5-103020	2031921-09	Water	10/30/20
MW-26-1	2031921-10	Water	10/30/20
MW-23-4MS	2031921-03MS	Water	10/30/20
MW-23-4MSD	2031921-03MSD	Water	10/30/20
MW-26-2MS	2031921-08MS	Water	10/30/20
MW-26-2MSD	2031921-08MSD	Water	10/30/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/06/20	Bromomethane Methyl iodide	51.1 39.8	All samples in SDG 2031921	UJ (all non-detects) UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-5-103020 was identified as a trip blank. No contaminants were found.

Sample EB-5-103020 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-5-103020	Methylene chloride	2.5 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples MW-23-2 and DUP-4-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-23-2	DUP-4-4Q20	
Chloroform	0.73	0.80	9
1,1-Dichloroethane	0.30	0.31	3
Tetrachloroethene	0.70	0.73	4
Trichloroethene	2.4	2.4	0

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in ten samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020
Volatiles - Data Qualification Summary - SDG 2031921

Sample	Compound	Flag	A or P	Reason
TB-5-103020 MW-23-5 MW-23-4** MW-23-3 MW-23-2 DUP-4-4Q20 MW-23-1 MW-26-2** EB-5-103020 MW-26-1	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2031921

No Sample Data Qualified in this SDG

LDC #: 49887B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 10/20/20

SDG #: 2031921

Level III/IV

Page: 1 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD = 20%. χ^2 10V = 370
IV.	Continuing calibration	M	COV = 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	M	TB = 1. EB = 9
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	D	LCS
X.	Field duplicates	M	D = 5 + 6
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level III validation
XIII.	Target compound identification	A	Not reviewed for Level III validation
XIV.	System performance	A	Not reviewed for Level III validation
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB = Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	TB-5-103020	2031921-01	Water	10/30/20
2	MW-23-5	2031921-02	Water	10/30/20
3	MW-23-4**	2031921-03**	Water	10/30/20
4	MW-23-3	2031921-04	Water	10/30/20
5	MW-23-2	2031921-05	Water	10/30/20
6	DUP-4-4Q20	2031921-06	Water	10/30/20
7	MW-23-1	2031921-07	Water	10/30/20
8	MW-26-2**	2031921-08**	Water	10/30/20
9	EB-5-103020	2031921-09	Water	10/30/20
10	MW-26-1	2031921-10	Water	10/30/20
11	MW-23-4MS	2031921-03MS	Water	10/30/20
12	MW-23-4MSD	2031921-03MSD	Water	10/30/20
13	MW-26-2MS	2031921-08MS	Water	10/30/20

LDC #: 49887B1a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 2031921

Level III/IV

Laboratory: BC Laboratories, Inc.

Date: 12/21/20

Page: 2 of 2

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

14	MW-26-2MSD	2031921-08MSD	Water	10/30/20
15				
16				
17				

Notes:

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	/			
Was cooler temperature criteria met?	/			
II. GC/MS Instrument performance check				
Was a tune check performed prior to establishing and/or re-establishing an initial calibration?	/			
Were the BFB performance results reviewed and found to be within the specified criteria?	/			
III. Initial calibration				
Did the laboratory perform at least 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) \leq 20%?	/			
IIIa. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	/			
Were all percent differences (%D) \leq 30%?	/			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at the beginning of each analysis batch?	/			
Were all percent differences (%D) of continuing calibration \leq 30%?		/		
V. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	/			
Was a laboratory blank analyzed with each analysis batch?	/			
Was there contamination in the laboratory blanks?		/		
VI. Field blanks				
Were field blanks identified in this SDG?	/			
Were target compounds detected in the field blanks?	/			
VII. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?		/		
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	/			
Were the LCS percent recoveries (%R) within 70-130%?	/			

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	/			
Were target compounds detected in the field duplicates?	/			
XI. Internal standards				
Were internal standard area counts within +/-30% of the area of the most recent continuing calibration standard and +/-50% of the average peak area in the initial calibration?	/			
Were retention times within +/-30 seconds of the associated calibration standard?	/			
XII. Compound quantitation/CRQLs				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?			/	
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) or regression equations used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethane	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethane, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target compounds detected in the field blanks?

Sample: 9 Field Blank / Trip Blank / Rinsate / Other ZB (circle one)

Compound	Concentration Units (<u>ug/L</u>)
<u>←</u>	<u>2.5</u>

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

LDC# 49887B1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: 9

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	5	6	
K	0.73	0.80	9
I	0.30	0.31	3
AA	0.70	0.73	4
S	2.4	2.4	0

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2020\49887B1_JPL.wpd

VALIDATION FINDINGS WORKSHEET Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs

X = Mean of the RRFs

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (10 std)	RRF (10 std)	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	ICAL (MS-V5)	10/12/20	K (1st internal standard)	0.7900812	0.7900812	0.7626009	0.7626009	3.961388	3.961
			S (2nd internal standard)	0.3650587	0.3650587	0.361829	0.361829	6.269943	6.270
			EE (3rd internal standard)	1.793694	1.793694	1.729447	1.729447	8.279058	8.279
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound, A_{is} = Area of associated internal standard
 C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	06NOV02	11/6/20	K (1st internal standard)	0.7626009	0.7217466	0.7217466	5.4	5.4
			S (2nd internal standard)	0.361829	0.3412906	0.3412906	5.7	5.7
			EE (3rd internal standard)	1.729447	1.629378	1.629378	5.8	5.8
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: B

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4	10.0	9.36	93.6	93.6	
Toluene-d8	↓	99.0	99.0	99.0	
Bromofluorobenzene	↓	99.1	99.1	99.1	
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					
1,2-Dichlorobenzene-d4					

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = | MSC - MSC | * 2/(MSC + MSDC)

MSC = Matrix spike concentration

MSDC = Matrix spike duplicate concentration

MS/MSD sample: 11/12

Compound	Spike Added		Sample Concentration	Spiked Sample Concentration		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.00	25.00	ND	25.13	25.08	101	101	100	100	0.199	0.199
Trichloroethene	↓	↓	↓	23.50	23.74	94.0	94.0	95.0	95.0	1.02	1.02
Benzene	↓	↓	↓	24.17	24.47	96.7	96.7	97.9	97.9	1.23	1.23
Toluene	↓	↓	↓	24.54	24.75	98.2	98.2	99.0	99.0	0.852	0.852
Chlorobenzene	↓	↓	↓	23.44	24.37	93.8	93.8	97.5	97.5	3.89	3.89

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 192719

VALIDATION FINDINGS WORKSHEET Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: [Signature]

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 3091868-BS1

Compound	Spike Added (<u>100</u>)		Spiked Sample Concentration (<u>100</u>)		LCS		LCSD		LCS/LCSD	
					Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	<u>25.00</u>	<u>NA</u>	<u>23.99</u>	<u>NA</u>	<u>96.0</u>	<u>96.0</u>				
Trichloroethene	↓	↓	<u>24.68</u>	↓	<u>98.7</u>	<u>98.7</u>				
Benzene	↓	↓	<u>23.72</u>	↓	<u>94.9</u>	<u>94.9</u>				
Toluene	↓	↓	<u>23.91</u>	↓	<u>95.6</u>	<u>95.6</u>				
Chlorobenzene	↓	↓	<u>23.66</u>	↓	<u>94.6</u>	<u>94.6</u>				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Chromium

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031921

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-23-5	2031921-02	Water	10/30/20
MW-23-4**	2031921-03**	Water	10/30/20
MW-23-3	2031921-04	Water	10/30/20
MW-23-2	2031921-05	Water	10/30/20
DUP-4-4Q20	2031921-06	Water	10/30/20
MW-23-1	2031921-07	Water	10/30/20
MW-26-2**	2031921-08**	Water	10/30/20
EB-5-103020	2031921-09	Water	10/30/20
MW-26-1	2031921-10	Water	10/30/20
MW-23-4MS	2031921-03MS	Water	10/30/20
MW-23-4MSD	2031921-03MSD	Water	10/30/20
MW-23-4DUP	2031921-03DUP	Water	10/30/20
MW-26-2MS	2031921-08MS	Water	10/30/20
MW-26-2MSD	2031921-08MSD	Water	10/30/20
MW-26-2DUP	2031921-08DUP	Water	10/30/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-5-103020 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-5-103020	Chromium	0.67 ug/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-23-2 and DUP-4-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	MW-23-2	DUP-4-4Q20	
Chromium	1.3	1.5	14

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2031921

No Sample Data Qualified in this SDG

NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2031921

No Sample Data Qualified in this SDG

LDC #: 49887B4a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/24/20

SDG #: 2031921

Level III/IV

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: *ATG*2nd Reviewer: *CF***METHOD:** Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	SW	EB=8
VII.	Matrix Spike/Matrix Spike Duplicates	A	(10,11), (13,14)
VIII.	Duplicate sample analysis	A	12, 15
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	lcs
XI.	Field Duplicates	SW	(4,5)
XII.	Internal Standard (ICP-MS)	A	reviewed for level IV only
XIII.	Sample Result Verification	A	Not reviewed for Level III validation
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-23-5	2031921-02	Water	10/30/20
2	MW-23-4**	2031921-03**	Water	10/30/20
3	MW-23-3	2031921-04	Water	10/30/20
4	MW-23-2	2031921-05	Water	10/30/20
5	DUP-4-4Q20	2031921-06	Water	10/30/20
6	MW-23-1	2031921-07	Water	10/30/20
7	MW-26-2**	2031921-08**	Water	10/30/20
8	EB-5-103020	2031921-09	Water	10/30/20
9	MW-26-1	2031921-10	Water	10/30/20
10	MW-23-4MS	2031921-03MS	Water	10/30/20
11	MW-23-4MSD	2031921-03MSD	Water	10/30/20
12	MW-23-4DUP	2031921-03DUP	Water	10/30/20
13	MW-26-2MS	2031921-08MS	Water	10/30/20
14	MW-26-2MSD	2031921-08MSD	Water	10/30/20
15	MW-26-2DUP	2031921-08DUP	Water	10/30/20

Method:Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%			✓	not reported
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?			✓	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?			✓	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm 2X$ RL ($\pm 2X$ RL for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	✓			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL (ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC#: 49887B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: ATL

METHOD: Metals (EPA Method 6010/6020/7000/200.7/200.8)

Analyte	Concentration (ug/L)		RPD	
	4	5		
Chromium	1.3	1.5	14	

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\49887B4a.wpd

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Low Level calibration)						
	ICP/MS (Low Level calibration)						
	ICP (Initial calibration)						
ICV	ICP/MS (Initial calibration) 11/09 @ 14:01	Cr	51.223	50.000	102	102	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCVH	ICP/MS (Continuing calibration) 11/06 @ 15:55	Cr	40.746	40.000	102	102	Y
	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
11/9	Mass Axis	23.985	24.028	± 0.1 AMU	NA	Y
11/6	%RSD	114.9	104885.4	≤ 5% RSD	0.5	Y

Comments:

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$
 Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	mg/L Found / S / I (units)	mg/L True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
	ICP interference check						
LCS	Laboratory control sample 2019820 (B091864)	CR	44.687	40.000	112	112	Y
B	Matrix spike	CR	(SSR-SR) 38.941	40.000	97.4	97.4	Y
13/14	Duplicate	CR	41.144	41.297	0.371	0.371	Y
7	Post digestion spike	CR	40.369	40.000	101	101	Y
2	ICP serial dilution	CR	2.440	3.127	N.C	N.C	Y

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2031921

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-23-5	2031921-02	Water	10/30/20
MW-23-4**	2031921-03**	Water	10/30/20
MW-23-3	2031921-04	Water	10/30/20
MW-23-2	2031921-05	Water	10/30/20
DUP-4-4Q20	2031921-06	Water	10/30/20
MW-23-1	2031921-07	Water	10/30/20
MW-26-2**	2031921-08**	Water	10/30/20
EB-5-103020	2031921-09	Water	10/30/20
MW-26-1	2031921-10	Water	10/30/20
MW-23-4MS	2031921-03MS	Water	10/30/20
MW-23-4MSD	2031921-03MSD	Water	10/30/20
MW-23-4DUP	2031921-03DUP	Water	10/30/20
MW-26-2MS	2031921-08MS	Water	10/30/20
MW-26-2MSD	2031921-08MSD	Water	10/30/20
MW-26-2DUP	2031921-08DUP	Water	10/30/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-23-4** MW-23-2 DUP-4-4Q20 EB-5-103020 MW-26-1	Hexavalent chromium	13 days	1 day	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.000083 mg/L	MW-23-5
ICB/CCB	Hexavalent chromium	0.000073 mg/L	MW-23-4** MW-23-3 MW-23-2 DUP-4-4Q20 MW-23-1 MW-26-2** EB-5-103020 MW-26-1

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-23-5	Hexavalent chromium	0.00014 mg/L	0.00014U mg/L
EB-5-103020	Hexavalent chromium	0.000069 mg/L	0.000069U mg/L

V. Field Blanks

Sample EB-5-103020 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-5-103020	Hexavalent chromium	0.000069 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples MW-23-2 and DUP-4-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-23-2	DUP-4-4Q20	
Hexavalent chromium	0.0011 mg/L	0.0013 mg/L	17
Perchlorate	4.5 ug/L	4.8 ug/L	6

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in five samples.

Due to laboratory blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2031921

Sample	Analyte	Flag	A or P	Reason
MW-23-4** MW-23-2 DUP-4-4Q20 EB-5-103020 MW-26-1	Hexavalent chromium	J (all detects)	P	Technical holding times

NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2031921

Sample	Analyte	Modified Final Concentration	A or P
MW-23-5	Hexavalent chromium	0.00014U mg/L	A
EB-5-103020	Hexavalent chromium	0.000069U mg/L	A

LDC #: 49887B6
 SDG #: 2031921
 Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 12/24/20
 Page: 1 of 1
 Reviewer: AB
 2nd Reviewer: CF

METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	SW	EB=8
VI.	Matrix Spike/Matrix Spike Duplicates	A	From SDG # 2031816 (MW-17-5 MS/MSD), (10,11), (13,14)
VII.	Duplicate sample analysis	A	↓ (↓ DUP), 12, 15
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(4,5)
X.	Sample result verification	A	Not reviewed for Level III validation
XI	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-23-5	2031921-02	Water	10/30/20
2	MW-23-4**	2031921-03**	Water	10/30/20
3	MW-23-3	2031921-04	Water	10/30/20
4	MW-23-2	2031921-05	Water	10/30/20
5	DUP-4-4Q20	2031921-06	Water	10/30/20
6	MW-23-1	2031921-07	Water	10/30/20
7	MW-26-2**	2031921-08**	Water	10/30/20
8	EB-5-103020	2031921-09	Water	10/30/20
9	MW-26-1	2031921-10	Water	10/30/20
10	MW-23-4MS	2031921-03MS	Water	10/30/20
11	MW-23-4MSD	2031921-03MSD	Water	10/30/20
12	MW-23-4DUP	2031921-03DUP	Water	10/30/20
13	MW-26-2MS	2031921-08MS	Water	10/30/20
14	MW-26-2MSD	2031921-08MSD	Water	10/30/20
15	MW-26-2DUP	2031921-08DUP	Water	10/30/20
16				
17				

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
II. Calibration				
Were all instruments calibrated daily, each set-up time?		✓		
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995 ?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of \leq CRDL ($\leq 2X$ CRDL for soil) was used for samples that were $\leq 5X$ the CRDL, including when only one of the duplicate sample values were $\leq 5X$ the CRDL.	✓			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: 1

Analyte	Blank ID	Blank ID	Blank Action Limit														
	PB	ICB/CCB (mg/L)		1													
Cr6+		0.000083	0.000415	0.00014													

Conc. units: mg/L

Associated Samples: 2 to 9

Analyte	Blank ID	Blank ID	Blank Action Limit														
	PB	ICB/CCB (mg/L)		8													
Cr6+		0.000073	0.000365	0.000069													

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates**Inorganics:** Method See Cover

Analyte	Concentration (mg/L)		RPD	
	4	5		
Hexavalent Chromium	0.0011	0.0013	17	
Perchlorate (ug/L)	4.5	4.8	6	

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LDC #: 49887BG

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: ATL

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of ClO4⁻ was recalculated. Calibration date: 11/10/20

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated	Reported	Acceptable (Y/N)
					r or r ²	r or r ²	
Initial calibration	ClO4 ⁻	s1	2	0.0022	0.9981	0.9968	Y
		s2	4	0.0041			
		s3	7	0.0068			
		s4	10	0.0098			
		s5	20	0.0208			
CCV1 Calibration verification	ClO4 ⁻	FOUND 9.341	TRUE 10.000		93.4	95.1	Y
CCV2 Calibration verification	Cr6+	25.412	25.000		102	102	Y
CCV3 Calibration verification	Cr6+	26.021	25.000		104	104	Y

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Inorganics, Method see cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{\text{Found}}{\text{True}} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample	ClO_4^-	10.323 mg/L	10.000 mg/L	103.2	105	Y
10	Matrix spike sample	Cr6+	(SSR-SR) 0.0192578 mg/L	0.020202 mg/L	95.3	95.3	Y
10/11	Duplicate sample	Cr6+	0.023936 mg/L	0.022808 mg/L	4.83	4.84	Y

Comments: _____

NASA JPL, 4Q2020 - LDC# 49887B

SDG: 2031921

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	Total Recoverable Chromium	11/6/2020	2.3	Y	y	v j		3.0	0.50	ug/L
MW-23-4	2031921-03	Total Recoverable Chromium	11/6/2020	3.1	Y	y	v		3.0	0.50	ug/L
MW-23-3	2031921-04	Total Recoverable Chromium	11/6/2020	2.7	Y	y	v j		3.0	0.50	ug/L
MW-23-2	2031921-05	Total Recoverable Chromium	11/6/2020	1.3	Y	y	v j		3.0	0.50	ug/L
DUP-4-4Q20	2031921-06	Total Recoverable Chromium	11/6/2020	1.5	Y	y	v j		3.0	0.50	ug/L
MW-23-1	2031921-07	Total Recoverable Chromium	11/6/2020	1.3	Y	y	v j		3.0	0.50	ug/L
MW-26-2	2031921-08	Total Recoverable Chromium	11/9/2020	2.4	Y	y	v j		3.0	0.50	ug/L
EB-5-103020	2031921-09	Total Recoverable Chromium	11/6/2020	0.67	Y	y	v j		3.0	0.50	ug/L
MW-26-1	2031921-10	Total Recoverable Chromium	11/6/2020	0.52	Y	y	v j		3.0	0.50	ug/L

Analytical Method EPA-218.6

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-23-4	2031921-03	Hexavalent Chromium	11/12/2020	0.0036	Y	y	v	J	0.0002	0.0000	mg/L
MW-23-3	2031921-04	Hexavalent Chromium	11/12/2020	0.0028	Y	y	v		0.0002	0.0000	mg/L
MW-23-2	2031921-05	Hexavalent Chromium	11/12/2020	0.0011	Y	y	v	J	0.0002	0.0000	mg/L
DUP-4-4Q20	2031921-06	Hexavalent Chromium	11/12/2020	0.0013	Y	y	v	J	0.0002	0.0000	mg/L
MW-23-1	2031921-07	Hexavalent Chromium	11/12/2020	0.0013	Y	y	v		0.0002	0.0000	mg/L
MW-26-2	2031921-08	Hexavalent Chromium	11/12/2020	#####	Y	y	v		0.0002	0.0000	mg/L
EB-5-103020	2031921-09	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	UJ	0.0002	0.0000	mg/L
MW-26-1	2031921-10	Hexavalent Chromium	11/12/2020	#####	Y	y	v	J	0.0002	0.0000	mg/L

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	Perchlorate	11/12/2020	4	Y	n	u		4.0	0.81	ug/L

SDG: 2031921

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-4	2031921-03	Perchlorate	11/11/2020	2.3	Y	y	v j		4.0	0.81	ug/L
MW-23-3	2031921-04	Perchlorate	11/12/2020	3.4	Y	y	v j		4.0	0.81	ug/L
MW-23-2	2031921-05	Perchlorate	11/12/2020	4.5	Y	y	v		4.0	0.81	ug/L
DUP-4-4Q20	2031921-06	Perchlorate	11/12/2020	4.8	Y	y	v		4.0	0.81	ug/L
MW-23-1	2031921-07	Perchlorate	11/12/2020	14	Y	y	v		4.0	0.81	ug/L
MW-26-2	2031921-08	Perchlorate	11/12/2020	3.1	Y	y	v j		4.0	0.81	ug/L
EB-5-103020	2031921-09	Perchlorate	11/12/2020	4	Y	n	u		4.0	0.81	ug/L
MW-26-1	2031921-10	Perchlorate	11/12/2020	2.2	Y	y	v j		4.0	0.81	ug/L

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-5-103020	2031921-01	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-5-103020	2031921-01	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-5-103020	2031921-01	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
TB-5-103020	2031921-01	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
TB-5-103020	2031921-01	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
TB-5-103020	2031921-01	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
TB-5-103020	2031921-01	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
TB-5-103020	2031921-01	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
TB-5-103020	2031921-01	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
TB-5-103020	2031921-01	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
TB-5-103020	2031921-01	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-5-103020	2031921-01	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-5-103020	2031921-01	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-5-103020	2031921-01	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-5-103020	2031921-01	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-5-103020	2031921-01	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
TB-5-103020	2031921-01	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
TB-5-103020	2031921-01	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
TB-5-103020	2031921-01	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
TB-5-103020	2031921-01	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
TB-5-103020	2031921-01	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
TB-5-103020	2031921-01	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
TB-5-103020	2031921-01	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
TB-5-103020	2031921-01	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
TB-5-103020	2031921-01	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-5-103020	2031921-01	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
TB-5-103020	2031921-01	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
TB-5-103020	2031921-01	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
TB-5-103020	2031921-01	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-5-103020	2031921-01	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
TB-5-103020	2031921-01	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
TB-5-103020	2031921-01	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
TB-5-103020	2031921-01	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-5-103020	2031921-01	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-5-103020	2031921-01	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-5-103020	2031921-01	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-5-103020	2031921-01	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-5-103020	2031921-01	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-5-103020	2031921-01	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-5-103020	2031921-01	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
TB-5-103020	2031921-01	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-5-103020	2031921-01	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-5-103020	2031921-01	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-5-103020	2031921-01	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-5-103020	2031921-01	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-5-103020	2031921-01	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-5-103020	2031921-01	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-5-103020	2031921-01	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-5-103020	2031921-01	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-5-103020	2031921-01	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-5-103020	2031921-01	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-5-103020	2031921-01	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-5-103020	2031921-01	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-5-103020	2031921-01	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-5-103020	2031921-01	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-5-103020	2031921-01	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-5-103020	2031921-01	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-5-103020	2031921-01	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-5-103020	2031921-01	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-5-103020	2031921-01	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-5-103020	2031921-01	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-5-103020	2031921-01	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-5-103020	2031921-01	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-5-103020	2031921-01	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-5-103020	2031921-01	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-5-103020	2031921-01	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-5-103020	2031921-01	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-5	2031921-02	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-5	2031921-02	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-5	2031921-02	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-23-5	2031921-02	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-5	2031921-02	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-5	2031921-02	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-5	2031921-02	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-5	2031921-02	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-5	2031921-02	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-23-5	2031921-02	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-5	2031921-02	Styrene	11/6/2020	0.4	Y	y	v j		0.50	0.12	ug/L
MW-23-5	2031921-02	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-5	2031921-02	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-23-5	2031921-02	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-5	2031921-02	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-5	2031921-02	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-23-5	2031921-02	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-23-5	2031921-02	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-23-5	2031921-02	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-23-5	2031921-02	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-23-5	2031921-02	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-5	2031921-02	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-5	2031921-02	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-23-5	2031921-02	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-5	2031921-02	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-23-5	2031921-02	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-23-5	2031921-02	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-23-5	2031921-02	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-23-5	2031921-02	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-23-5	2031921-02	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-5	2031921-02	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-5	2031921-02	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-5	2031921-02	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-23-5	2031921-02	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-23-5	2031921-02	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-5	2031921-02	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-5	2031921-02	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-23-5	2031921-02	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-23-5	2031921-02	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-5	2031921-02	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-23-5	2031921-02	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-5	2031921-02	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-23-5	2031921-02	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-23-5	2031921-02	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-23-5	2031921-02	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-5	2031921-02	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-23-5	2031921-02	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-23-5	2031921-02	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-23-5	2031921-02	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-5	2031921-02	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-5	2031921-02	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-5	2031921-02	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-23-5	2031921-02	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-23-5	2031921-02	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-5	2031921-02	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-5	2031921-02	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-5	2031921-02	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-5	2031921-02	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-5	2031921-02	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-5	2031921-02	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-23-5	2031921-02	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-5	2031921-02	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-5	2031921-02	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-5	2031921-02	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-5	2031921-02	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-5	2031921-02	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-5	2031921-02	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-5	2031921-02	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-5	2031921-02	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-4	2031921-03	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-23-4	2031921-03	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-23-4	2031921-03	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-23-4	2031921-03	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-23-4	2031921-03	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-23-4	2031921-03	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-23-4	2031921-03	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-23-4	2031921-03	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-4	2031921-03	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-23-4	2031921-03	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-23-4	2031921-03	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-4	2031921-03	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-23-4	2031921-03	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-4	2031921-03	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-23-4	2031921-03	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-23-4	2031921-03	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-23-4	2031921-03	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-4	2031921-03	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-23-4	2031921-03	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-23-4	2031921-03	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-23-4	2031921-03	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-23-4	2031921-03	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-23-4	2031921-03	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-4	2031921-03	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-23-4	2031921-03	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-23-4	2031921-03	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-23-4	2031921-03	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-23-4	2031921-03	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-23-4	2031921-03	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-23-4	2031921-03	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-23-4	2031921-03	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-23-4	2031921-03	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-23-4	2031921-03	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-4	2031921-03	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-4	2031921-03	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-4	2031921-03	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-4	2031921-03	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-4	2031921-03	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-4	2031921-03	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-4	2031921-03	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-4	2031921-03	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-4	2031921-03	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-4	2031921-03	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-23-4	2031921-03	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-23-4	2031921-03	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-4	2031921-03	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-4	2031921-03	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-4	2031921-03	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-4	2031921-03	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-23-4	2031921-03	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-23-4	2031921-03	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-4	2031921-03	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-4	2031921-03	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-4	2031921-03	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-4	2031921-03	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-4	2031921-03	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-4	2031921-03	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-4	2031921-03	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-4	2031921-03	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-4	2031921-03	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-23-4	2031921-03	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-4	2031921-03	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-4	2031921-03	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-4	2031921-03	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-4	2031921-03	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-4	2031921-03	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-4	2031921-03	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-3	2031921-04	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-23-3	2031921-04	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-3	2031921-04	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L

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MW-23-3	2031921-04	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-23-3	2031921-04	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-3	2031921-04	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-3	2031921-04	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-3	2031921-04	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-3	2031921-04	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-3	2031921-04	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-3	2031921-04	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-3	2031921-04	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-23-3	2031921-04	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-23-3	2031921-04	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-3	2031921-04	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-3	2031921-04	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-3	2031921-04	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-23-3	2031921-04	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-23-3	2031921-04	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-3	2031921-04	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-23-3	2031921-04	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-23-3	2031921-04	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-23-3	2031921-04	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-3	2031921-04	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-23-3	2031921-04	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-23-3	2031921-04	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-23-3	2031921-04	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-23-3	2031921-04	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-23-3	2031921-04	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-23-3	2031921-04	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-23-3	2031921-04	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-23-3	2031921-04	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-23-3	2031921-04	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-23-3	2031921-04	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-3	2031921-04	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-23-3	2031921-04	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-23-3	2031921-04	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-23-3	2031921-04	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-23-3	2031921-04	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-3	2031921-04	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-3	2031921-04	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-23-3	2031921-04	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-3	2031921-04	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-23-3	2031921-04	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-3	2031921-04	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-3	2031921-04	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-3	2031921-04	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-3	2031921-04	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-23-3	2031921-04	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-23-3	2031921-04	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-3	2031921-04	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-3	2031921-04	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-3	2031921-04	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-23-3	2031921-04	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-3	2031921-04	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-3	2031921-04	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-3	2031921-04	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-3	2031921-04	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-3	2031921-04	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-3	2031921-04	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-3	2031921-04	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-3	2031921-04	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-3	2031921-04	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-3	2031921-04	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-3	2031921-04	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-3	2031921-04	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-3	2031921-04	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-3	2031921-04	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-2	2031921-05	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-23-2	2031921-05	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-23-2	2031921-05	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-23-2	2031921-05	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-2	2031921-05	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-2	2031921-05	Tetrachloroethene	11/6/2020	0.7	Y	y	v		0.50	0.23	ug/L
MW-23-2	2031921-05	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-2	2031921-05	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-2	2031921-05	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-2	2031921-05	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-2	2031921-05	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-2	2031921-05	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-23-2	2031921-05	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-23-2	2031921-05	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-23-2	2031921-05	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-2	2031921-05	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-2	2031921-05	Chloroform	11/6/2020	0.73	Y	y	v		0.50	0.14	ug/L
MW-23-2	2031921-05	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-23-2	2031921-05	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-2	2031921-05	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-23-2	2031921-05	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-23-2	2031921-05	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-23-2	2031921-05	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-23-2	2031921-05	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-23-2	2031921-05	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-23-2	2031921-05	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-2	2031921-05	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-2	2031921-05	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-23-2	2031921-05	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-23-2	2031921-05	Trichloroethene	11/6/2020	2.4	Y	y	v		0.50	0.19	ug/L
MW-23-2	2031921-05	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-23-2	2031921-05	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-23-2	2031921-05	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-23-2	2031921-05	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-23-2	2031921-05	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-23-2	2031921-05	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-2	2031921-05	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-2	2031921-05	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-23-2	2031921-05	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-23-2	2031921-05	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-2	2031921-05	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-23-2	2031921-05	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-23-2	2031921-05	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-2	2031921-05	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-2	2031921-05	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-2	2031921-05	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-2	2031921-05	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-2	2031921-05	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-2	2031921-05	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-23-2	2031921-05	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-23-2	2031921-05	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-23-2	2031921-05	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-2	2031921-05	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-23-2	2031921-05	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-2	2031921-05	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-23-2	2031921-05	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-2	2031921-05	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-2	2031921-05	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-2	2031921-05	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-2	2031921-05	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-2	2031921-05	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-2	2031921-05	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-2	2031921-05	1,1-Dichloroethane	11/6/2020	0.3	Y	y	v j		0.50	0.15	ug/L
MW-23-2	2031921-05	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-2	2031921-05	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-2	2031921-05	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-2	2031921-05	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-2	2031921-05	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-2	2031921-05	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-2	2031921-05	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-2	2031921-05	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-23-2	2031921-05	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-2	2031921-05	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-23-2	2031921-05	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-2	2031921-05	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-4-4Q20	2031921-06	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-4-4Q20	2031921-06	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
DUP-4-4Q20	2031921-06	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L

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DUP-4-4Q20	2031921-06	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-4-4Q20	2031921-06	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-4-4Q20	2031921-06	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-4-4Q20	2031921-06	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
DUP-4-4Q20	2031921-06	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-4-4Q20	2031921-06	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-4-4Q20	2031921-06	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-4-4Q20	2031921-06	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Trichloroethene	11/6/2020	2.4	Y	y	v		0.50	0.19	ug/L
DUP-4-4Q20	2031921-06	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-4-4Q20	2031921-06	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-4-4Q20	2031921-06	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-4-4Q20	2031921-06	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-4-4Q20	2031921-06	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	Tetrachloroethene	11/6/2020	0.73	Y	y	v		0.50	0.23	ug/L
DUP-4-4Q20	2031921-06	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
DUP-4-4Q20	2031921-06	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-4-4Q20	2031921-06	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-4-4Q20	2031921-06	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
DUP-4-4Q20	2031921-06	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
DUP-4-4Q20	2031921-06	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
DUP-4-4Q20	2031921-06	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L

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DUP-4-4Q20	2031921-06	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
DUP-4-4Q20	2031921-06	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
DUP-4-4Q20	2031921-06	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
DUP-4-4Q20	2031921-06	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
DUP-4-4Q20	2031921-06	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-4-4Q20	2031921-06	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
DUP-4-4Q20	2031921-06	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
DUP-4-4Q20	2031921-06	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
DUP-4-4Q20	2031921-06	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
DUP-4-4Q20	2031921-06	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
DUP-4-4Q20	2031921-06	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
DUP-4-4Q20	2031921-06	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
DUP-4-4Q20	2031921-06	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
DUP-4-4Q20	2031921-06	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
DUP-4-4Q20	2031921-06	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-4-4Q20	2031921-06	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-4-4Q20	2031921-06	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-4-4Q20	2031921-06	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-4-4Q20	2031921-06	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-4-4Q20	2031921-06	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-4-4Q20	2031921-06	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-4-4Q20	2031921-06	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-4-4Q20	2031921-06	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-4-4Q20	2031921-06	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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DUP-4-4Q20	2031921-06	Chloroform	11/6/2020	0.8	Y	y	v		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-4-4Q20	2031921-06	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-4-4Q20	2031921-06	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-4-4Q20	2031921-06	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-4-4Q20	2031921-06	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
DUP-4-4Q20	2031921-06	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-4-4Q20	2031921-06	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
DUP-4-4Q20	2031921-06	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-4-4Q20	2031921-06	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-4-4Q20	2031921-06	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-4-4Q20	2031921-06	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-4-4Q20	2031921-06	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-4-4Q20	2031921-06	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-4-4Q20	2031921-06	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-4-4Q20	2031921-06	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-4-4Q20	2031921-06	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-4-4Q20	2031921-06	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-4-4Q20	2031921-06	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L

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DUP-4-4Q20	2031921-06	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-4-4Q20	2031921-06	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-4-4Q20	2031921-06	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-4-4Q20	2031921-06	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-4-4Q20	2031921-06	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-4-4Q20	2031921-06	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-4-4Q20	2031921-06	1,1-Dichloroethane	11/6/2020	0.31	Y	y	v j		0.50	0.15	ug/L
MW-23-1	2031921-07	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-23-1	2031921-07	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-1	2031921-07	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-1	2031921-07	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-23-1	2031921-07	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-23-1	2031921-07	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-23-1	2031921-07	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-1	2031921-07	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-23-1	2031921-07	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-1	2031921-07	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-23-1	2031921-07	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-23-1	2031921-07	Trichloroethene	11/6/2020	0.33	Y	y	v j		0.50	0.19	ug/L
MW-23-1	2031921-07	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-1	2031921-07	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-1	2031921-07	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-23-1	2031921-07	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-23-1	2031921-07	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-1	2031921-07	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-23-1	2031921-07	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-23-1	2031921-07	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-23-1	2031921-07	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-23-1	2031921-07	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-23-1	2031921-07	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-1	2031921-07	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-23-1	2031921-07	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-23-1	2031921-07	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-23-1	2031921-07	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-23-1	2031921-07	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-23-1	2031921-07	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-23-1	2031921-07	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-23-1	2031921-07	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-23-1	2031921-07	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-23-1	2031921-07	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-23-1	2031921-07	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-1	2031921-07	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-23-1	2031921-07	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L

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MW-23-1	2031921-07	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-23-1	2031921-07	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-1	2031921-07	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-23-1	2031921-07	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-1	2031921-07	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-23-1	2031921-07	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-23-1	2031921-07	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-23-1	2031921-07	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-1	2031921-07	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-1	2031921-07	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	Chloroform	11/6/2020	0.32	Y	y	v j		0.50	0.14	ug/L
MW-23-1	2031921-07	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-1	2031921-07	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-23-1	2031921-07	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-23-1	2031921-07	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-1	2031921-07	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-1	2031921-07	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-1	2031921-07	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-23-1	2031921-07	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-23-1	2031921-07	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-23-1	2031921-07	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-1	2031921-07	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-23-1	2031921-07	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-23-1	2031921-07	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-1	2031921-07	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-23-1	2031921-07	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-23-1	2031921-07	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-1	2031921-07	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-23-1	2031921-07	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-23-1	2031921-07	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-23-1	2031921-07	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-23-1	2031921-07	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-23-1	2031921-07	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2031921-08	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2031921-08	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2031921-08	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-26-2	2031921-08	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2031921-08	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L

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MW-26-2	2031921-08	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-26-2	2031921-08	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-26-2	2031921-08	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-2	2031921-08	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-26-2	2031921-08	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2031921-08	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-26-2	2031921-08	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	Trichloroethene	11/6/2020	0.43	Y	y	v j		0.50	0.19	ug/L
MW-26-2	2031921-08	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2031921-08	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-26-2	2031921-08	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2031921-08	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2031921-08	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2031921-08	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2031921-08	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-26-2	2031921-08	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2031921-08	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-26-2	2031921-08	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-26-2	2031921-08	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-26-2	2031921-08	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-26-2	2031921-08	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-26-2	2031921-08	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2031921-08	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-26-2	2031921-08	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L

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MW-26-2	2031921-08	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-26-2	2031921-08	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-26-2	2031921-08	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-26-2	2031921-08	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-26-2	2031921-08	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-26-2	2031921-08	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-26-2	2031921-08	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-26-2	2031921-08	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-26-2	2031921-08	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-2	2031921-08	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-26-2	2031921-08	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-26-2	2031921-08	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-26-2	2031921-08	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-2	2031921-08	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-26-2	2031921-08	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-2	2031921-08	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-26-2	2031921-08	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-2	2031921-08	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-26-2	2031921-08	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-2	2031921-08	Chloroform	11/6/2020	2.7	Y	y	v		0.50	0.14	ug/L
MW-26-2	2031921-08	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2031921-08	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2031921-08	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2031921-08	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-26-2	2031921-08	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2031921-08	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2031921-08	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-26-2	2031921-08	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-26-2	2031921-08	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-2	2031921-08	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-2	2031921-08	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-2	2031921-08	Tetrachloroethene	11/6/2020	2.9	Y	y	v		0.50	0.23	ug/L
MW-26-2	2031921-08	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-2	2031921-08	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2031921-08	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-26-2	2031921-08	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-2	2031921-08	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2031921-08	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-26-2	2031921-08	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-2	2031921-08	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2031921-08	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2031921-08	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2031921-08	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2031921-08	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2031921-08	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-26-2	2031921-08	cis-1,2-Dichloroethene	11/6/2020	0.3	Y	y	v j		0.50	0.27	ug/L
MW-26-2	2031921-08	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-2	2031921-08	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2031921-08	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2031921-08	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-2	2031921-08	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2031921-08	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-5-103020	2031921-09	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-5-103020	2031921-09	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
EB-5-103020	2031921-09	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
EB-5-103020	2031921-09	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
EB-5-103020	2031921-09	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
EB-5-103020	2031921-09	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-5-103020	2031921-09	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-5-103020	2031921-09	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
EB-5-103020	2031921-09	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-5-103020	2031921-09	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-5-103020	2031921-09	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-5-103020	2031921-09	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-5-103020	2031921-09	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-5-103020	2031921-09	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L

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EB-5-103020	2031921-09	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-5-103020	2031921-09	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-5-103020	2031921-09	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
EB-5-103020	2031921-09	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
EB-5-103020	2031921-09	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-5-103020	2031921-09	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
EB-5-103020	2031921-09	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
EB-5-103020	2031921-09	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
EB-5-103020	2031921-09	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
EB-5-103020	2031921-09	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
EB-5-103020	2031921-09	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-5-103020	2031921-09	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
EB-5-103020	2031921-09	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
EB-5-103020	2031921-09	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
EB-5-103020	2031921-09	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
EB-5-103020	2031921-09	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
EB-5-103020	2031921-09	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-5-103020	2031921-09	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
EB-5-103020	2031921-09	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
EB-5-103020	2031921-09	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
EB-5-103020	2031921-09	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-5-103020	2031921-09	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-5-103020	2031921-09	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
EB-5-103020	2031921-09	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-5-103020	2031921-09	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L

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EB-5-103020	2031921-09	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-5-103020	2031921-09	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-5-103020	2031921-09	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
EB-5-103020	2031921-09	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-5-103020	2031921-09	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-5-103020	2031921-09	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-5-103020	2031921-09	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-5-103020	2031921-09	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-5-103020	2031921-09	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-5-103020	2031921-09	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-5-103020	2031921-09	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-5-103020	2031921-09	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-5-103020	2031921-09	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-5-103020	2031921-09	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-5-103020	2031921-09	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-5-103020	2031921-09	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
EB-5-103020	2031921-09	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-5-103020	2031921-09	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-5-103020	2031921-09	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-5-103020	2031921-09	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L

SDG: 2031921

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-5-103020	2031921-09	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	Methylene chloride	11/6/2020	2.5	Y	y	v		0.50	0.21	ug/L
EB-5-103020	2031921-09	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-5-103020	2031921-09	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-5-103020	2031921-09	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-5-103020	2031921-09	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-5-103020	2031921-09	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-5-103020	2031921-09	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-5-103020	2031921-09	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-5-103020	2031921-09	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-5-103020	2031921-09	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-5-103020	2031921-09	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-5-103020	2031921-09	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-1	2031921-10	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-26-1	2031921-10	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-26-1	2031921-10	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2031921-10	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-26-1	2031921-10	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L

SDG: 2031921

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-26-1	2031921-10	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-26-1	2031921-10	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-1	2031921-10	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-26-1	2031921-10	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2031921-10	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-26-1	2031921-10	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2031921-10	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2031921-10	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2031921-10	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2031921-10	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2031921-10	Tetrachloroethene	11/6/2020	0.24	Y	y	v j		0.50	0.23	ug/L
MW-26-1	2031921-10	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-26-1	2031921-10	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-26-1	2031921-10	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-26-1	2031921-10	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-26-1	2031921-10	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-26-1	2031921-10	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-26-1	2031921-10	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-26-1	2031921-10	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2031921-10	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-26-1	2031921-10	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L

SDG: 2031921

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-26-1	2031921-10	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-26-1	2031921-10	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-26-1	2031921-10	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-26-1	2031921-10	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-26-1	2031921-10	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-26-1	2031921-10	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-26-1	2031921-10	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-26-1	2031921-10	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-26-1	2031921-10	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-1	2031921-10	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-26-1	2031921-10	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-26-1	2031921-10	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-26-1	2031921-10	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2031921-10	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-1	2031921-10	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-26-1	2031921-10	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-1	2031921-10	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-26-1	2031921-10	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-1	2031921-10	Chloroform	11/6/2020	0.21	Y	y	v j		0.50	0.14	ug/L
MW-26-1	2031921-10	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2031921-10	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2031921-10	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L

SDG: 2031921

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-26-1	2031921-10	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2031921-10	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2031921-10	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-26-1	2031921-10	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-26-1	2031921-10	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-1	2031921-10	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-1	2031921-10	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2031921-10	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-1	2031921-10	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-1	2031921-10	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-1	2031921-10	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-26-1	2031921-10	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2031921-10	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2031921-10	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-1	2031921-10	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-26-1	2031921-10	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2031921-10	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2031921-10	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2031921-10	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-1	2031921-10	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2031921-10	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

SDG: 2031921

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-26-1	2031921-10	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-1	2031921-10	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-1	2031921-10	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2031921-10	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2031921-10	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032069

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-6-110220	2032069-01	Water	11/02/20
MW-4-5	2032069-02	Water	11/02/20
MW-4-4	2032069-03	Water	11/02/20
MW-4-3	2032069-04	Water	11/02/20
MW-4-2	2032069-05	Water	11/02/20
MW-4-1	2032069-06	Water	11/02/20
MW-12-5	2032069-07	Water	11/02/20
MW-12-4	2032069-08	Water	11/02/20
MW-12-3	2032069-09	Water	11/02/20
MW-12-2	2032069-10	Water	11/02/20
EB-6-110220	2032069-11	Water	11/02/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/05/20 (05NOV02)	Bromomethane	32.2	TB-6-110220 MW-4-5 MW-4-4	UJ (all non-detects)	P
11/05/20 (05NOV03)	Methyl iodide	54.9	TB-6-110220 MW-4-5 MW-4-4	UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
11/05/20 (05NOV31)	Bromomethane	34.0	MW-4-3 MW-4-2 MW-4-1 MW-12-5 MW-12-4 MW-12-3 MW-12-2 EB-6-110220	UJ (all non-detects)	P
11/05/20 (05NOV32)	Methyl iodide Pentachloroethane	53.1 47.8	MW-4-3 MW-4-2 MW-4-1 MW-12-5 MW-12-4 MW-12-3 MW-12-2 EB-6-110220	UJ (all non-detects) UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-6-110220 was identified as a trip blank. No contaminants were found.

Sample EB-6-110220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-6-110220	Methylene chloride	2.5 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level III validation.

XIV. System Performance

Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in eleven samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Volatiles - Data Qualification Summary - SDG 2032069**

Sample	Compound	Flag	A or P	Reason
TB-6-110220 MW-4-5 MW-4-4	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)
MW-4-3 MW-4-2 MW-4-1 MW-12-5 MW-12-4 MW-12-3 MW-12-2 EB-6-110220	Bromomethane Methyl iodide Pentachloroethane	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

**NASA JPL, 4Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2032069**

No Sample Data Qualified in this SDG

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	RSD = 20%. γ^2 ICV = 30%
IV.	Continuing calibration	M	CV = 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	M	TB = 1. EB = 1
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LC9
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TB-6-110220	2032069-01	Water	11/02/20
2	MW-4-5	2032069-02	Water	11/02/20
3	MW-4-4	2032069-03	Water	11/02/20
4	MW-4-3	2032069-04	Water	11/02/20
5	MW-4-2	2032069-05	Water	11/02/20
6	MW-4-1	2032069-06	Water	11/02/20
7	MW-12-5	2032069-07	Water	11/02/20
8	MW-12-4	2032069-08	Water	11/02/20
9	MW-12-3	2032069-09	Water	11/02/20
10	MW-12-2	2032069-10	Water	11/02/20
11	EB-6-110220	2032069-11	Water	11/02/20
12				
13				
14				

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target compounds detected in the field blanks?

Sample: 11 Field Blank / Trip Blank / Rinsate / Other EB (circle one)

Compound	Concentration Units <u>ug/L</u>
<u>Z</u>	<u>2.5</u>

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Chromium

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032069

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-4-5	2032069-02	Water	11/02/20
MW-4-4	2032069-03	Water	11/02/20
MW-4-3	2032069-04	Water	11/02/20
MW-4-2	2032069-05	Water	11/02/20
MW-4-1	2032069-06	Water	11/02/20
MW-12-5	2032069-07	Water	11/02/20
MW-12-4	2032069-08	Water	11/02/20
MW-12-3	2032069-09	Water	11/02/20
MW-12-2	2032069-10	Water	11/02/20
EB-6-110220	2032069-11	Water	11/02/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-6-110220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-6-110220	Chromium	0.55 ug/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

No field duplicates were identified in this SDG.

XII. Internal Standards (ICP-MS)

Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

**NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2032069**

No Sample Data Qualified in this SDG

**NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2032069**

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 28, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032069

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-4-5	2032069-02	Water	11/02/20
MW-4-4	2032069-03	Water	11/02/20
MW-4-3	2032069-04	Water	11/02/20
MW-4-2	2032069-05	Water	11/02/20
MW-4-1	2032069-06	Water	11/02/20
MW-12-5	2032069-07	Water	11/02/20
MW-12-4	2032069-08	Water	11/02/20
MW-12-3	2032069-09	Water	11/02/20
MW-12-2	2032069-10	Water	11/02/20
EB-6-110220	2032069-11	Water	11/02/20
MW-4-5MS	2032069-02MS	Water	11/02/20
MW-4-5MSD	2032069-02MSD	Water	11/02/20
MW-4-5DUP	2032069-02DUP	Water	11/02/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-4-1	Hexavalent chromium	10 days	1 day	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.000073 mg/L	All samples in SDG 2032069

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-4-5	Hexavalent chromium	0.000044 mg/L	0.000044U mg/L
MW-4-4	Hexavalent chromium	0.000029 mg/L	0.000029U mg/L
MW-4-3	Hexavalent chromium	0.00026 mg/L	0.00026U mg/L
MW-4-1	Hexavalent chromium	0.0001 mg/L	0.0001U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-12-2	Hexavalent chromium	0.00011 mg/L	0.00011U mg/L
EB-6-110220	Hexavalent chromium	0.00018 mg/L	0.00018U mg/L

V. Field Blanks

Sample EB-6-110220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-6-110220	Hexavalent chromium	0.00018 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in one sample.

Due to laboratory blank contamination, data were qualified as not detected in six samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2032069**

Sample	Analyte	Flag	A or P	Reason
MW-4-1	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2032069**

Sample	Analyte	Modified Final Concentration	A or P
MW-4-5	Hexavalent chromium	0.000044U mg/L	A
MW-4-4	Hexavalent chromium	0.000029U mg/L	A
MW-4-3	Hexavalent chromium	0.00026U mg/L	A
MW-4-1	Hexavalent chromium	0.0001U mg/L	A
MW-12-2	Hexavalent chromium	0.00011U mg/L	A
EB-6-110220	Hexavalent chromium	0.00018U mg/L	A

LDC #: 49887C6

VALIDATION COMPLETENESS WORKSHEET

Date: 12/24/20

SDG #: 2032069

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Laboratory Blanks	SW	
V.	Field blanks	SW	EB=10
VI.	Matrix Spike/Matrix Spike Duplicates	A	From SDG # 2031816 (MW-17-5MS/MSD/DUP) (11,12)
VII.	Duplicate sample analysis	A	From SDG # 2031921 (MW-23-4 MS/MSD/DUP) 13
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-4-5	2032069-02	Water	11/02/20
2	MW-4-4	2032069-03	Water	11/02/20
3	MW-4-3	2032069-04	Water	11/02/20
4	MW-4-2	2032069-05	Water	11/02/20
5	MW-4-1	2032069-06	Water	11/02/20
6	MW-12-5	2032069-07	Water	11/02/20
7	MW-12-4	2032069-08	Water	11/02/20
8	MW-12-3	2032069-09	Water	11/02/20
9	MW-12-2	2032069-10	Water	11/02/20
10	EB-6-110220	2032069-11	Water	11/02/20
11	MW-4-5 MS	↓ -02 MS	↓	↓
12	↓ MSD	↓ -02 MSD	↓	↓
13	↓ DUP	↓ -02 DUP	↓	↓
14				
15				

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: all

Analyte	Blank ID	Blank ID (mg/L)	Blank Action Limit										
				1	2	3	5	9	10				
Cr6+	PB	0.000073	0.000365	0.000044	0.000029	0.00026	0.0001	0.00011	0.00018				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

NASA JPL, 4Q2020 - LDC# 49887C

SDG: 2032069

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	Total Recoverable Chromium	11/6/2020	3	Y	n	u		3.0	0.50	ug/L
MW-4-4	2032069-03	Total Recoverable Chromium	11/9/2020	0.76	Y	y	v j		3.0	0.50	ug/L
MW-4-3	2032069-04	Total Recoverable Chromium	11/9/2020	2.1	Y	y	v j		3.0	0.50	ug/L
MW-4-2	2032069-05	Total Recoverable Chromium	11/9/2020	1.6	Y	y	v j		3.0	0.50	ug/L
MW-4-1	2032069-06	Total Recoverable Chromium	11/9/2020	3	Y	n	u		3.0	0.50	ug/L
MW-12-5	2032069-07	Total Recoverable Chromium	11/9/2020	1.7	Y	y	v j		3.0	0.50	ug/L
MW-12-4	2032069-08	Total Recoverable Chromium	11/9/2020	0.84	Y	y	v j		3.0	0.50	ug/L
MW-12-3	2032069-09	Total Recoverable Chromium	11/9/2020	1.2	Y	y	v j		3.0	0.50	ug/L
MW-12-2	2032069-10	Total Recoverable Chromium	11/9/2020	1.2	Y	y	v j		3.0	0.50	ug/L
EB-6-110220	2032069-11	Total Recoverable Chromium	11/9/2020	0.55	Y	y	v j		3.0	0.50	ug/L

Analytical Method EPA-218.6

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-4-4	2032069-03	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-4-3	2032069-04	Hexavalent Chromium	11/12/2020	#####	Y	y	v	U	0.0002	0.0000	mg/L
MW-4-2	2032069-05	Hexavalent Chromium	11/12/2020	#####	Y	y	v		0.0002	0.0000	mg/L
MW-4-1	2032069-06	Hexavalent Chromium	11/12/2020	0.0001	Y	y	v j	UJ	0.0002	0.0000	mg/L
MW-12-5	2032069-07	Hexavalent Chromium	11/12/2020	0.0015	Y	y	v		0.0002	0.0000	mg/L
MW-12-4	2032069-08	Hexavalent Chromium	11/12/2020	#####	Y	y	v		0.0002	0.0000	mg/L
MW-12-3	2032069-09	Hexavalent Chromium	11/12/2020	0.0004	Y	y	v		0.0002	0.0000	mg/L
MW-12-2	2032069-10	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
EB-6-110220	2032069-11	Hexavalent Chromium	11/12/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L

SDG: 2032069

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	Perchlorate	11/12/2020	4	Y	n	u		4.0	0.81	ug/L
MW-4-4	2032069-03	Perchlorate	11/13/2020	2.1	Y	y	v j		4.0	0.81	ug/L
MW-4-3	2032069-04	Perchlorate	11/13/2020	2.5	Y	y	v j		4.0	0.81	ug/L
MW-4-2	2032069-05	Perchlorate	11/13/2020	38	Y	y	v		20	4.0	ug/L
MW-4-1	2032069-06	Perchlorate	11/13/2020	4	Y	n	u		4.0	0.81	ug/L
MW-12-5	2032069-07	Perchlorate	11/13/2020	1.5	Y	y	v j		4.0	0.81	ug/L
MW-12-4	2032069-08	Perchlorate	11/13/2020	2.5	Y	y	v j		4.0	0.81	ug/L
MW-12-3	2032069-09	Perchlorate	11/13/2020	4	Y	y	v		4.0	0.81	ug/L
MW-12-2	2032069-10	Perchlorate	11/13/2020	1.7	Y	y	v j		4.0	0.81	ug/L
EB-6-110220	2032069-11	Perchlorate	11/13/2020	4	Y	n	u		4.0	0.81	ug/L

Analytical Method EPA-524.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-6-110220	2032069-01	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-6-110220	2032069-01	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
TB-6-110220	2032069-01	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
TB-6-110220	2032069-01	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-6-110220	2032069-01	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-6-110220	2032069-01	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-6-110220	2032069-01	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
TB-6-110220	2032069-01	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-6-110220	2032069-01	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
TB-6-110220	2032069-01	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-6-110220	2032069-01	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-6-110220	2032069-01	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-6-110220	2032069-01	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-6-110220	2032069-01	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
TB-6-110220	2032069-01	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-6-110220	2032069-01	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
TB-6-110220	2032069-01	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
TB-6-110220	2032069-01	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
TB-6-110220	2032069-01	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
TB-6-110220	2032069-01	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-6-110220	2032069-01	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-6-110220	2032069-01	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
TB-6-110220	2032069-01	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
TB-6-110220	2032069-01	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
TB-6-110220	2032069-01	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
TB-6-110220	2032069-01	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-6-110220	2032069-01	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-6-110220	2032069-01	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
TB-6-110220	2032069-01	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
TB-6-110220	2032069-01	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
TB-6-110220	2032069-01	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-6-110220	2032069-01	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-6-110220	2032069-01	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
TB-6-110220	2032069-01	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
TB-6-110220	2032069-01	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
TB-6-110220	2032069-01	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
TB-6-110220	2032069-01	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
TB-6-110220	2032069-01	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
TB-6-110220	2032069-01	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-6-110220	2032069-01	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
TB-6-110220	2032069-01	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-6-110220	2032069-01	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-6-110220	2032069-01	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-6-110220	2032069-01	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-6-110220	2032069-01	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-6-110220	2032069-01	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-6-110220	2032069-01	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-6-110220	2032069-01	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-6-110220	2032069-01	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-6-110220	2032069-01	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-6-110220	2032069-01	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
TB-6-110220	2032069-01	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-6-110220	2032069-01	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-6-110220	2032069-01	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-6-110220	2032069-01	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-6-110220	2032069-01	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-6-110220	2032069-01	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-6-110220	2032069-01	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-6-110220	2032069-01	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-6-110220	2032069-01	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-6-110220	2032069-01	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-6-110220	2032069-01	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-6-110220	2032069-01	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-6-110220	2032069-01	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-6-110220	2032069-01	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-6-110220	2032069-01	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-6-110220	2032069-01	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2032069-02	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2032069-02	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-4-5	2032069-02	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2032069-02	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-4-5	2032069-02	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-5	2032069-02	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2032069-02	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2032069-02	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2032069-02	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2032069-02	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-5	2032069-02	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2032069-02	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2032069-02	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-5	2032069-02	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-5	2032069-02	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2032069-02	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-5	2032069-02	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-5	2032069-02	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-4-5	2032069-02	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2032069-02	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-5	2032069-02	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-4-5	2032069-02	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-4-5	2032069-02	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-4-5	2032069-02	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-5	2032069-02	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-4-5	2032069-02	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-5	2032069-02	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-5	2032069-02	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-4-5	2032069-02	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-5	2032069-02	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-5	2032069-02	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-4-5	2032069-02	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-5	2032069-02	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-4-5	2032069-02	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-4-5	2032069-02	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2032069-02	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-5	2032069-02	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-5	2032069-02	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-4-5	2032069-02	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-4-5	2032069-02	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-5	2032069-02	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-5	2032069-02	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2032069-02	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2032069-02	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-5	2032069-02	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2032069-02	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-5	2032069-02	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-5	2032069-02	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-5	2032069-02	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-5	2032069-02	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-5	2032069-02	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2032069-02	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-4-5	2032069-02	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2032069-02	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-4-5	2032069-02	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-4-5	2032069-02	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-5	2032069-02	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2032069-02	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-4-5	2032069-02	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2032069-02	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-5	2032069-02	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-5	2032069-02	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-5	2032069-02	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2032069-02	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2032069-02	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-5	2032069-02	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2032069-02	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-5	2032069-02	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-5	2032069-02	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-5	2032069-02	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-5	2032069-02	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-4	2032069-03	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-4	2032069-03	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-4	2032069-03	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-4-4	2032069-03	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-4	2032069-03	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-4	2032069-03	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-4	2032069-03	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L
MW-4-4	2032069-03	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-4	2032069-03	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-4-4	2032069-03	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-4	2032069-03	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2032069-03	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L

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MW-4-4	2032069-03	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-4	2032069-03	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-4-4	2032069-03	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2032069-03	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-4-4	2032069-03	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-4-4	2032069-03	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-4-4	2032069-03	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2032069-03	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-4-4	2032069-03	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-4-4	2032069-03	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-4-4	2032069-03	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-4	2032069-03	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-4-4	2032069-03	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-4-4	2032069-03	Pentachloroethane	11/5/2020	2	Y	n	u		2.0	0.63	ug/L
MW-4-4	2032069-03	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-4	2032069-03	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-4-4	2032069-03	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-4	2032069-03	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-4-4	2032069-03	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2032069-03	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-4	2032069-03	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-4	2032069-03	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2032069-03	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2032069-03	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-4	2032069-03	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2032069-03	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-4	2032069-03	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2032069-03	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-4	2032069-03	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-4	2032069-03	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-4	2032069-03	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-4	2032069-03	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-4	2032069-03	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-4	2032069-03	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-4	2032069-03	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-4	2032069-03	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2032069-03	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-4	2032069-03	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2032069-03	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-4-4	2032069-03	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2032069-03	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2032069-03	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-4	2032069-03	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-4	2032069-03	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2032069-03	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2032069-03	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-4	2032069-03	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2032069-03	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2032069-03	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2032069-03	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-4	2032069-03	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2032069-03	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2032069-03	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-4	2032069-03	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-4	2032069-03	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-4	2032069-03	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2032069-03	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2032069-03	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2032069-03	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2032069-03	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2032069-03	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-4	2032069-03	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-4	2032069-03	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2032069-03	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-4	2032069-03	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2032069-03	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2032069-03	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	Diethyl ether	11/5/2020	2	Y	n	u		2.0	0.33	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-3	2032069-04	trans-1,4-Dichloro-2-butene	11/5/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-3	2032069-04	Carbon disulfide	11/5/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-4-3	2032069-04	t-Butyl alcohol	11/5/2020	2	Y	n	u		2.0	2.0	ug/L
MW-4-3	2032069-04	t-Amyl Methyl ether	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2032069-04	Allyl chloride	11/5/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-3	2032069-04	Acrylonitrile	11/5/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-3	2032069-04	Acetone	11/5/2020	10	Y	n	u		10	6.6	ug/L
MW-4-3	2032069-04	Vinyl chloride	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-3	2032069-04	1,1,2-Trichloro-1,2,2-trifluoroethane	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2032069-04	1,2,4-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2032069-04	1,1,2-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2032069-04	1,2,3-Trichloropropane	11/5/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-3	2032069-04	Trichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2032069-04	Trichlorofluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	Ethyl methacrylate	11/5/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-3	2032069-04	1,3,5-Trimethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	Pentachloroethane	11/5/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-4-3	2032069-04	Methyl acrylate	11/5/2020	0	Y	y	v				ug/L
MW-4-3	2032069-04	1,1,1-Trichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2032069-04	Nitrobenzene	11/5/2020	0	Y	y	v				ug/L
MW-4-3	2032069-04	1,1-Dichloropropanone	11/5/2020	0	Y	y	v				ug/L
MW-4-3	2032069-04	1-Chlorobutane	11/5/2020	0	Y	y	v				ug/L
MW-4-3	2032069-04	Chloroacetonitrile	11/5/2020	0	Y	y	v				ug/L
MW-4-3	2032069-04	p- & m-Xylenes	11/5/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-3	2032069-04	o-Xylene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-3	2032069-04	Propionitrile	11/5/2020	20	Y	n	u		20	6.2	ug/L
MW-4-3	2032069-04	Ethyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-3	2032069-04	Methyl methacrylate	11/5/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-3	2032069-04	Methyl isobutyl ketone	11/5/2020	5	Y	n	u		5.0	2.4	ug/L
MW-4-3	2032069-04	Methyl iodide	11/5/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-3	2032069-04	Methyl ethyl ketone	11/5/2020	5	Y	n	u		5.0	3.3	ug/L
MW-4-3	2032069-04	Methacrylonitrile	11/5/2020	10	Y	n	u		10	2.3	ug/L
MW-4-3	2032069-04	2-Hexanone	11/5/2020	10	Y	n	u		10	5.0	ug/L
MW-4-3	2032069-04	Hexachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-3	2032069-04	Tetrahydrofuran	11/5/2020	20	Y	n	u		20	5.2	ug/L
MW-4-3	2032069-04	Chlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	1,4-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	1,3-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-3	2032069-04	1,2-Dichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2032069-04	Dibromomethane	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-3	2032069-04	1,2-Dibromoethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-3	2032069-04	1,2-Dibromo-3-chloropropane	11/5/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-3	2032069-04	Dibromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-3	2032069-04	4-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-3	2032069-04	2-Chlorotoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	Chloromethane	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-3	2032069-04	Dichlorodifluoromethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	Chloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2032069-04	Benzene	11/5/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-3	2032069-04	Carbon tetrachloride	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-3	2032069-04	tert-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-3	2032069-04	sec-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2032069-04	n-Butylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	Bromobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	Bromodichloromethane	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-3	2032069-04	Bromoform	11/5/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-3	2032069-04	Bromomethane	11/5/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-3	2032069-04	1,2,4-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	2-Nitropropane	11/5/2020	0	Y	y	v				ug/L
MW-4-3	2032069-04	Chloroform	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	Methylene chloride	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2032069-04	Bromochloromethane	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-3	2032069-04	Toluene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2032069-04	1,2,3-Trichlorobenzene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2032069-04	1,1,1,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2032069-04	Tetrachloroethene	11/5/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-3	2032069-04	1,1,2,2-Tetrachloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2032069-04	n-Propylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-3	2032069-04	1,1-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	Methyl t-butyl ether	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	Styrene	11/5/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-3	2032069-04	p-Isopropyltoluene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	Isopropylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	trans-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2032069-04	Ethylbenzene	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-3	2032069-04	trans-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2032069-04	cis-1,3-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2032069-04	1,1-Dichloropropene	11/5/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2032069-04	2,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-3	2032069-04	1,3-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2032069-04	1,2-Dichloropropane	11/5/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2032069-04	Hexachlorobutadiene	11/5/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-3	2032069-04	Naphthalene	11/5/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-3	2032069-04	cis-1,2-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-3	2032069-04	1,2-Dichloroethane	11/5/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2032069-04	1,1-Dichloroethene	11/5/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-2	2032069-05	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-4-2	2032069-05	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-2	2032069-05	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-2	2032069-05	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-2	2032069-05	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-4-2	2032069-05	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-4-2	2032069-05	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-2	2032069-05	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2032069-05	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2032069-05	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-2	2032069-05	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-2	2032069-05	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2032069-05	Trichloroethene	11/6/2020	0.19	Y	y	v j		0.50	0.19	ug/L
MW-4-2	2032069-05	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units	
MW-4-2	2032069-05	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L	
MW-4-2	2032069-05	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	
MW-4-2	2032069-05	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L	
MW-4-2	2032069-05	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L	
MW-4-2	2032069-05	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L	
MW-4-2	2032069-05	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L	
MW-4-2	2032069-05	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L	
MW-4-2	2032069-05	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L	
MW-4-2	2032069-05	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L	
MW-4-2	2032069-05	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L	
MW-4-2	2032069-05	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L	
MW-4-2	2032069-05	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L	
MW-4-2	2032069-05	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L	
MW-4-2	2032069-05	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L	
MW-4-2	2032069-05	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L	
MW-4-2	2032069-05	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L	
MW-4-2	2032069-05	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L	
MW-4-2	2032069-05	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L	
MW-4-2	2032069-05	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L	
MW-4-2	2032069-05	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L	
MW-4-2	2032069-05	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L	
MW-4-2	2032069-05	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L	
MW-4-2	2032069-05	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L	
MW-4-2	2032069-05	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L	
MW-4-2	2032069-05	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L	

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-2	2032069-05	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-2	2032069-05	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2032069-05	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-2	2032069-05	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-2	2032069-05	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-2	2032069-05	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-2	2032069-05	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-2	2032069-05	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-2	2032069-05	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2032069-05	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-2	2032069-05	Chloroform	11/6/2020	0.4	Y	y	v j		0.50	0.14	ug/L
MW-4-2	2032069-05	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-2	2032069-05	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2032069-05	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-2	2032069-05	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-2	2032069-05	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2032069-05	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2032069-05	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-2	2032069-05	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-2	2032069-05	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-2	2032069-05	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-2	2032069-05	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2032069-05	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-2	2032069-05	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2032069-05	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units	
MW-4-2	2032069-05	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L	
MW-4-2	2032069-05	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	
MW-4-2	2032069-05	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L	
MW-4-2	2032069-05	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L	
MW-4-2	2032069-05	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L	
MW-4-2	2032069-05	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L	
MW-4-2	2032069-05	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L	
MW-4-2	2032069-05	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L	
MW-4-2	2032069-05	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L	
MW-4-2	2032069-05	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	
MW-4-2	2032069-05	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L	
MW-4-2	2032069-05	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L	
MW-4-2	2032069-05	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	
MW-4-2	2032069-05	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L	
MW-4-2	2032069-05	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L	
MW-4-2	2032069-05	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L	
MW-4-2	2032069-05	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	
MW-4-2	2032069-05	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L	
MW-4-2	2032069-05	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L	
MW-4-2	2032069-05	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	
MW-4-2	2032069-05	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L	
MW-4-2	2032069-05	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L	
MW-4-2	2032069-05	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L	
MW-4-1	2032069-06	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L	
MW-4-1	2032069-06	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L	

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-1	2032069-06	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2032069-06	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-1	2032069-06	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-1	2032069-06	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2032069-06	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-1	2032069-06	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-1	2032069-06	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2032069-06	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-1	2032069-06	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-1	2032069-06	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2032069-06	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-1	2032069-06	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-1	2032069-06	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-1	2032069-06	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-1	2032069-06	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-1	2032069-06	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-1	2032069-06	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2032069-06	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-1	2032069-06	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-1	2032069-06	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-1	2032069-06	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2032069-06	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-4-1	2032069-06	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-1	2032069-06	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2032069-06	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-4-1	2032069-06	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-4-1	2032069-06	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-1	2032069-06	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-4-1	2032069-06	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-1	2032069-06	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-1	2032069-06	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-1	2032069-06	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-4-1	2032069-06	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-4-1	2032069-06	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-1	2032069-06	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-1	2032069-06	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2032069-06	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-1	2032069-06	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-4-1	2032069-06	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-4-1	2032069-06	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-4-1	2032069-06	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-1	2032069-06	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-1	2032069-06	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-4-1	2032069-06	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-4-1	2032069-06	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-4-1	2032069-06	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-4-1	2032069-06	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-1	2032069-06	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2032069-06	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-4-1	2032069-06	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-4-1	2032069-06	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-4-1	2032069-06	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2032069-06	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2032069-06	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2032069-06	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-1	2032069-06	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-1	2032069-06	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-1	2032069-06	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2032069-06	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2032069-06	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2032069-06	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-1	2032069-06	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2032069-06	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-1	2032069-06	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-1	2032069-06	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2032069-06	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-1	2032069-06	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-1	2032069-06	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2032069-06	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2032069-06	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2032069-06	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2032069-06	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-5	2032069-07	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-12-5	2032069-07	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-5	2032069-07	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-12-5	2032069-07	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-12-5	2032069-07	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-12-5	2032069-07	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-12-5	2032069-07	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-12-5	2032069-07	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-12-5	2032069-07	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-12-5	2032069-07	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-12-5	2032069-07	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-12-5	2032069-07	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-12-5	2032069-07	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-12-5	2032069-07	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-12-5	2032069-07	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-5	2032069-07	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-12-5	2032069-07	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-12-5	2032069-07	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-12-5	2032069-07	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-12-5	2032069-07	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-12-5	2032069-07	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-5	2032069-07	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-5	2032069-07	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-5	2032069-07	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-5	2032069-07	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-5	2032069-07	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-5	2032069-07	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-5	2032069-07	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-5	2032069-07	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-12-5	2032069-07	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-5	2032069-07	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-12-5	2032069-07	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-12-5	2032069-07	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-12-5	2032069-07	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-12-5	2032069-07	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-12-5	2032069-07	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-5	2032069-07	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-5	2032069-07	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-5	2032069-07	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-5	2032069-07	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-5	2032069-07	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-5	2032069-07	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-12-5	2032069-07	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-5	2032069-07	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-12-5	2032069-07	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-5	2032069-07	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-5	2032069-07	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-5	2032069-07	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-5	2032069-07	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-12-5	2032069-07	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-12-5	2032069-07	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-5	2032069-07	Carbon tetrachloride	11/6/2020	0.35	Y	y	v j		0.50	0.17	ug/L
MW-12-5	2032069-07	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-5	2032069-07	Chloroform	11/6/2020	0.37	Y	y	v j		0.50	0.14	ug/L
MW-12-5	2032069-07	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-5	2032069-07	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-5	2032069-07	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-5	2032069-07	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-5	2032069-07	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-5	2032069-07	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-5	2032069-07	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-12-5	2032069-07	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-5	2032069-07	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-5	2032069-07	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-5	2032069-07	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-5	2032069-07	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-5	2032069-07	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-5	2032069-07	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-5	2032069-07	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-5	2032069-07	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-5	2032069-07	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-5	2032069-07	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-5	2032069-07	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-5	2032069-07	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-4	2032069-08	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-12-4	2032069-08	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-4	2032069-08	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L

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MW-12-4	2032069-08	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-12-4	2032069-08	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-12-4	2032069-08	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-12-4	2032069-08	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-4	2032069-08	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-12-4	2032069-08	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-12-4	2032069-08	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-12-4	2032069-08	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-12-4	2032069-08	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-4	2032069-08	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-12-4	2032069-08	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-4	2032069-08	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-12-4	2032069-08	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-12-4	2032069-08	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-4	2032069-08	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-4	2032069-08	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-12-4	2032069-08	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-12-4	2032069-08	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-12-4	2032069-08	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-12-4	2032069-08	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-4	2032069-08	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-12-4	2032069-08	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-12-4	2032069-08	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-4	2032069-08	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-12-4	2032069-08	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-12-4	2032069-08	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-12-4	2032069-08	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-12-4	2032069-08	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-12-4	2032069-08	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-12-4	2032069-08	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-12-4	2032069-08	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-4	2032069-08	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-4	2032069-08	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-4	2032069-08	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-4	2032069-08	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-4	2032069-08	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-4	2032069-08	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-4	2032069-08	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-4	2032069-08	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-4	2032069-08	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-12-4	2032069-08	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-4	2032069-08	Chloroform	11/6/2020	0.45	Y	y	v j		0.50	0.14	ug/L
MW-12-4	2032069-08	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-12-4	2032069-08	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	Carbon tetrachloride	11/6/2020	0.31	Y	y	v j		0.50	0.17	ug/L
MW-12-4	2032069-08	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-4	2032069-08	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-4	2032069-08	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-12-4	2032069-08	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-12-4	2032069-08	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-4	2032069-08	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-12-4	2032069-08	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-4	2032069-08	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-4	2032069-08	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-4	2032069-08	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-4	2032069-08	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-4	2032069-08	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-4	2032069-08	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-4	2032069-08	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-4	2032069-08	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-4	2032069-08	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-4	2032069-08	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-4	2032069-08	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L

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MW-12-4	2032069-08	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-4	2032069-08	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-4	2032069-08	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-4	2032069-08	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-4	2032069-08	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-4	2032069-08	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-4	2032069-08	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-4	2032069-08	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-3	2032069-09	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-12-3	2032069-09	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-3	2032069-09	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-3	2032069-09	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-3	2032069-09	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-12-3	2032069-09	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-3	2032069-09	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-3	2032069-09	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-3	2032069-09	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-3	2032069-09	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-3	2032069-09	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-3	2032069-09	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-12-3	2032069-09	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-3	2032069-09	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-3	2032069-09	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-12-3	2032069-09	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-12-3	2032069-09	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-12-3	2032069-09	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-12-3	2032069-09	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-12-3	2032069-09	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-12-3	2032069-09	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-3	2032069-09	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-12-3	2032069-09	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-12-3	2032069-09	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-12-3	2032069-09	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-12-3	2032069-09	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-12-3	2032069-09	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-12-3	2032069-09	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-12-3	2032069-09	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-12-3	2032069-09	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-12-3	2032069-09	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-12-3	2032069-09	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-12-3	2032069-09	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-12-3	2032069-09	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-12-3	2032069-09	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-12-3	2032069-09	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-12-3	2032069-09	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-3	2032069-09	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-12-3	2032069-09	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-3	2032069-09	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-3	2032069-09	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-3	2032069-09	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-3	2032069-09	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-3	2032069-09	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-12-3	2032069-09	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-3	2032069-09	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-12-3	2032069-09	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-3	2032069-09	Chloroform	11/6/2020	0.68	Y	y	v		0.50	0.14	ug/L
MW-12-3	2032069-09	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-3	2032069-09	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-3	2032069-09	Carbon tetrachloride	11/6/2020	0.82	Y	y	v		0.50	0.17	ug/L
MW-12-3	2032069-09	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-3	2032069-09	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-3	2032069-09	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-3	2032069-09	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-12-3	2032069-09	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-12-3	2032069-09	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-3	2032069-09	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-3	2032069-09	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-3	2032069-09	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-12-3	2032069-09	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-3	2032069-09	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-12-3	2032069-09	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-3	2032069-09	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-3	2032069-09	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-3	2032069-09	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-3	2032069-09	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-3	2032069-09	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-3	2032069-09	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-3	2032069-09	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-3	2032069-09	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-3	2032069-09	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-3	2032069-09	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-3	2032069-09	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-3	2032069-09	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-3	2032069-09	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-3	2032069-09	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-3	2032069-09	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-3	2032069-09	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-3	2032069-09	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-2	2032069-10	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L

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MW-12-2	2032069-10	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-12-2	2032069-10	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-12-2	2032069-10	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-12-2	2032069-10	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-2	2032069-10	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-2	2032069-10	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-12-2	2032069-10	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-2	2032069-10	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-2	2032069-10	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-2	2032069-10	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-2	2032069-10	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-2	2032069-10	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-12-2	2032069-10	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-12-2	2032069-10	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-12-2	2032069-10	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-2	2032069-10	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-12-2	2032069-10	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-12-2	2032069-10	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-12-2	2032069-10	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-12-2	2032069-10	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-12-2	2032069-10	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-2	2032069-10	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-12-2	2032069-10	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-12-2	2032069-10	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-12-2	2032069-10	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-12-2	2032069-10	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-12-2	2032069-10	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-12-2	2032069-10	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-12-2	2032069-10	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-12-2	2032069-10	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-12-2	2032069-10	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-2	2032069-10	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-12-2	2032069-10	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-12-2	2032069-10	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-12-2	2032069-10	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-12-2	2032069-10	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-2	2032069-10	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-12-2	2032069-10	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-12-2	2032069-10	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-12-2	2032069-10	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-2	2032069-10	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-12-2	2032069-10	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-2	2032069-10	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-2	2032069-10	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-2	2032069-10	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-12-2	2032069-10	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-2	2032069-10	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-12-2	2032069-10	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-12-2	2032069-10	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-2	2032069-10	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-2	2032069-10	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-12-2	2032069-10	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-12-2	2032069-10	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-12-2	2032069-10	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-2	2032069-10	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-12-2	2032069-10	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-12-2	2032069-10	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-2	2032069-10	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-12-2	2032069-10	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-12-2	2032069-10	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-12-2	2032069-10	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-2	2032069-10	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-12-2	2032069-10	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-12-2	2032069-10	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-12-2	2032069-10	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-12-2	2032069-10	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-6-110220	2032069-11	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
EB-6-110220	2032069-11	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
EB-6-110220	2032069-11	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-6-110220	2032069-11	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
EB-6-110220	2032069-11	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
EB-6-110220	2032069-11	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
EB-6-110220	2032069-11	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-6-110220	2032069-11	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
EB-6-110220	2032069-11	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-6-110220	2032069-11	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
EB-6-110220	2032069-11	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-6-110220	2032069-11	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-6-110220	2032069-11	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-6-110220	2032069-11	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-6-110220	2032069-11	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-6-110220	2032069-11	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-6-110220	2032069-11	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
EB-6-110220	2032069-11	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-6-110220	2032069-11	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
EB-6-110220	2032069-11	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
EB-6-110220	2032069-11	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
EB-6-110220	2032069-11	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
EB-6-110220	2032069-11	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
EB-6-110220	2032069-11	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-6-110220	2032069-11	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-6-110220	2032069-11	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
EB-6-110220	2032069-11	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
EB-6-110220	2032069-11	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
EB-6-110220	2032069-11	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
EB-6-110220	2032069-11	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
EB-6-110220	2032069-11	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-6-110220	2032069-11	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
EB-6-110220	2032069-11	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
EB-6-110220	2032069-11	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
EB-6-110220	2032069-11	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-6-110220	2032069-11	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-6-110220	2032069-11	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L

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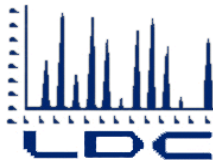
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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-6-110220	2032069-11	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
EB-6-110220	2032069-11	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-6-110220	2032069-11	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-6-110220	2032069-11	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
EB-6-110220	2032069-11	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-6-110220	2032069-11	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-6-110220	2032069-11	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-6-110220	2032069-11	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-6-110220	2032069-11	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-6-110220	2032069-11	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-6-110220	2032069-11	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-6-110220	2032069-11	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-6-110220	2032069-11	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-6-110220	2032069-11	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-6-110220	2032069-11	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-6-110220	2032069-11	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-6-110220	2032069-11	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-6-110220	2032069-11	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-6-110220	2032069-11	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-6-110220	2032069-11	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-6-110220	2032069-11	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-6-110220	2032069-11	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Methylene chloride	11/6/2020	2.5	Y	y	v		0.50	0.21	ug/L
EB-6-110220	2032069-11	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-6-110220	2032069-11	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-6-110220	2032069-11	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-6-110220	2032069-11	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-6-110220	2032069-11	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-6-110220	2032069-11	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-6-110220	2032069-11	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-6-110220	2032069-11	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-6-110220	2032069-11	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-6-110220	2032069-11	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-6-110220	2032069-11	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-6-110220	2032069-11	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-6-110220	2032069-11	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-6-110220	2032069-11	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Tidewater, Inc.
3761 Attucks Drive
Powell, OH 43065
ATTN: Mr. David Conner
David.Conner@tideh2o.net

January 5, 2021

SUBJECT: NASA JPL, 4Q2020, Data Validation

Dear Mr. Conner,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on December 10, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #49963:

SDG #

Fraction

2032280, 2032462
2032647

Volatiles, Chromium, Wet Chemistry

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review; January 2017
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
pgeng@lab-data.com
Project Manager/Senior Chemist

90/10 (client select) EDD

LDC #49963 (Tidewater- Powell, OH / NASA JPL, 4Q2020)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (524.2)		Cr (200.8)		Cl,SO ₄ NO ₃ -N (300.0)		NO ₂ -N (353.2)		O-PO ₄ -P (365.1)		Cr(VI) (218.6)		CLO ₄ (314.0)																				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																				
A	2032280	12/10/20	01/04/21	11	0	10	0	1	0	1	0	1	0	10	0	10	0																			
A	2032280	12/10/20	01/04/21	1	0	1	0	0	0	0	0	0	0	1	0	1	0																			
B	2032462	12/10/20	01/04/21	11	0	10	0	-	-	-	-	-	-	10	0	10	0																			
C	2032647	12/10/20	01/04/21	5	0	2	0	-	-	-	-	-	-	2	0	4	0																			
Total				28	0	23	0	1	0	1	0	1	0	23	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 30, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032280

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-7-110320	2032280-01	Water	11/03/20
MW-11-4	2032280-02	Water	11/03/20
MW-11-5	2032280-03	Water	11/03/20
MW-11-3	2032280-04	Water	11/03/20
MW-11-2	2032280-05	Water	11/03/20
MW-11-1	2032280-06	Water	11/03/20
MW-21-4**	2032280-07**	Water	11/03/20
MW-21-5	2032280-08	Water	11/03/20
MW-21-3	2032280-09	Water	11/03/20
MW-21-2	2032280-10	Water	11/03/20
DUP-5-4Q20	2032280-11	Water	11/03/20
EB-7-110320	2032280-12	Water	11/03/20
MW-21-4MS	2032280-07MS	Water	11/03/20
MW-21-4MSD	2032280-07MSD	Water	11/03/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/09/20	trans-1,4-Dichloro-2-butene	34.2	All samples in SDG 2032280	UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-7-110320 was identified as a trip blank. No contaminants were found.

Sample EB-7-110320 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-7-110320	Methylene chloride	2.2 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples MW-21-2 and DUP-5-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-21-2	DUP-5-4Q20	
Chloroform	0.30	0.18	50
Tetrachloroethene	1.0	0.49	68
Trichloroethene	0.20	0.19U	Not calculable

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in twelve samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020

Volatiles - Data Qualification Summary - SDG 2032280

Sample	Compound	Flag	A or P	Reason
TB-7-110320 MW-11-4 MW-11-5 MW-11-3 MW-11-2 MW-11-1 MW-21-4** MW-21-5 MW-21-3 MW-21-2 DUP-5-4Q20 EB-7-110320	trans-1,4-Dichloro-2-butene	UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020

Volatiles - Laboratory Blank Data Qualification Summary - SDG 2032280

No Sample Data Qualified in this SDG

LDC #: 49963A1a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/23/20

SDG #: 2032280

Level III/IV

Page: 1 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: *SJK*2nd Reviewer: *SJK***METHOD:** GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	ICAL $\leq 20\%$ CV $\leq 30\%$
IV.	Continuing calibration	SW	CV $\leq 30\%$
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	TB [*] = 1 EB = 7
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 10/11
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level III validation
XIII.	Target compound identification	A	Not reviewed for Level III validation
XIV.	System performance	A	Not reviewed for Level III validation
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	TB-7-110320	2032280-01	Water	11/03/20
2	MW-11-4	2032280-02	Water	11/03/20
3	MW-11-5	2032280-03	Water	11/03/20
4	MW-11-3	2032280-04	Water	11/03/20
5	MW-11-2	2032280-05	Water	11/03/20
6	MW-11-1	2032280-06	Water	11/03/20
7	MW-21-4**	2032280-07**	Water	11/03/20
8	MW-21-5	2032280-08	Water	11/03/20
9	MW-21-3	2032280-09	Water	11/03/20
10	MW-21-2	2032280-10	Water	11/03/20
11	DUP-5-4Q20	2032280-11	Water	11/03/20
12	EB-7-110320	2032280-12	Water	11/03/20
13	MW-21-4MS	2032280-07MS	Water	11/03/20

LDC #: 49963A1a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 2032280

Level III/IV

Laboratory: BC Laboratories, Inc.

Date: 12/23/20

Page: 2 of 7

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Volatiles (EPA Method 524.2)

	Client ID	Lab ID	Matrix	Date
14	MW-21-4MSD	2032280-07MSD	Water	11/03/20
15				
16				
17				

Notes:

	Bo 9 2002 - Bulk 4								

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	/			
Was cooler temperature criteria met?	/			
II. GC/MS Instrument performance check				
Was a tune check performed prior to establishing and/or re-establishing an initial calibration?	/			
Were the BFB performance results reviewed and found to be within the specified criteria?	/			
III. Initial calibration				
Did the laboratory perform at least 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) < 20%?	/			
IIIa. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	/			
Were all percent differences (%D) < 30%?	/			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at the beginning of each analysis batch?	/			
Were all percent differences (%D) of continuing calibration < 30%?	/	/		
V. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	/			
Was a laboratory blank analyzed with each analysis batch?	/			
Was there contamination in the laboratory blanks?		/		
VI. Field blanks				
Were field blanks identified in this SDG?	/			
Were target compounds detected in the field blanks?	/			
VII. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			/
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			/	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	/			
Were the LCS percent recoveries (%R) within 70-130%?	/			

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	/			
Were target compounds detected in the field duplicates?	/			
XI. Internal standards				
Were internal standard area counts within +/-30% of the area of the most recent continuing calibration standard and +/-50% of the average peak area in the initial calibration?	/			
Were retention times within +/-30 seconds of the associated calibration standard?	/			
XII. Compound quantitation/CRQLs				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	/			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) or regression equations used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			

LDC #: 49963A1a

VALIDATION FINDINGS WORKSHEET Field Blanks

Page: 1 of 1
Reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 1/3/20

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB

Associated Samples: ~~AT~~ except 7 (ND)

Compound	Blank ID	Sample Identification							
	<u>7</u>								
<u>E</u>	<u>2.2</u>								

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____

Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates**METHOD:** GC/MS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	10	11	
K	0.30	0.18	50
AA	1.0	0.49	68
S	0.20	0.19U	NC

V:\Josephine\FIELD DUPLICATES\49963A1a tidewater nasa jpl.wpd

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

 A_x = Area of Compound C_x = Concentration of compound,

S= Standard deviation of the RRFs,

 A_{is} = Area of associated internal standard C_{is} = Concentration of internal standard

X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (RRF 10 std)	Recalculated RRF (RRF 10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL MS V5	10/12/20	Chloroform (PFB)	0.7901	0.7901	0.7626	0.7626	3.961	3.961
			Trichloroethene (CBZ)	0.3651	0.3651	0.3618	0.3618	6.270	6.270
			1,1,2,2-TCA (DFB)	0.5023	0.5023	0.5083	0.5083	5.759	5.759

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound,

Cx = Concentration of compound,

Ais = Area of associated internal standard

Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated %D
1	09NOV02 MS V5	11/09/20	Chloroform (PFB)	0.7626	0.7319	0.7319	4.0	4.0
			Trichloroethene (CBZ)	0.3618	0.3520	0.3520	2.7	2.7
			1,1,2,2-TCA (DFB)	0.5083	0.5310	0.5310	4.5	4.5

LDC #: 49963 A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 7

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	10.0	9.36	93.6	93.6	0
Toluene-d8	↓	9.87	98.7	98.7	↓
Bromofluorobenzene	↓	10.24	102	102	↓

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 49963 A1A

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
 Reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = | MSC - MSDC | * 2 / (MSC + MSDC)

MSC = Matrix spike percent recovery

MSDC = Matrix spike duplicate percent recovery

MS/MSD sample: 13/14

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc	Reported	Recalc	Reported	Recalc
1,1-Dichloroethene	25.0	25.0	0	23.97	23.89	95.9	95.9	95.6	95.6	0.334	0.33
Trichloroethene	↓	↓	0.600	22.94	23.60	89.4	89.4	92.0	92.0	2.84	2.81
Benzene	↓	↓	9	23.43	23.28	93.7	93.7	93.1	93.1	0.642	0.64
Toluene	↓	↓	↓	24.01	24.22	96.0	96.0	98.9	98.9	0.871	0.87
Chlorobenzene	↓	↓	↓	23.38	23.41	93.5	93.5	93.6	93.6	0.128	0.13

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 44963A1a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$

Where: SSC = Spiked sample concentration
SA = Spike added

RPD = $|LCS - LCSD| * 2 / (LCS + LCSD)$

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS ID: B092002-BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	25.0	NA	24.73	NA	98.9	98.9				
Trichloroethene	↓	↓	22.53	↓	90.1	90.1				
Benzene	↓	↓	23.35	↓	93.4	93.4				
Toluene	↓	↓	23.07	↓	92.1	92.1				
Chlorobenzene	↓	↓	23.21	↓	92.8	92.8				

Comments: _____

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS VOA (EPA Method 524.2)

The concentration of the sample was calculated for the compound identified below using the following calculation:

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_{is} = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- RRF = Relative response factor of the calibration standard.
- V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).
- Df = Dilution factor.
- %S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 7, TCE

$$\text{Conc.} = \frac{(5292)(10.07)}{(242292)(0.7618)}$$

$$= 0.604 \text{ ug/L}$$

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Qualification
	<u>7</u>	<u>TCE</u>	<u>0.60</u>	<u>0.60</u>	<u>—</u>

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: January 4, 2021

Parameters: Chromium

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032280

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-11-4	2032280-02	Water	11/03/20
MW-11-5	2032280-03	Water	11/03/20
MW-11-3	2032280-04	Water	11/03/20
MW-11-2	2032280-05	Water	11/03/20
MW-11-1	2032280-06	Water	11/03/20
MW-21-4**	2032280-07**	Water	11/03/20
MW-21-5	2032280-08	Water	11/03/20
MW-21-3	2032280-09	Water	11/03/20
MW-21-2	2032280-10	Water	11/03/20
DUP-5-4Q20	2032280-11	Water	11/03/20
EB-7-110320	2032280-12	Water	11/03/20
MW-21-4MS	2032280-07MS	Water	11/03/20
MW-21-4MSD	2032280-07MSD	Water	11/03/20
MW-21-4DUP	2032280-07DUP	Water	11/03/20
EB-7-110320MS	2032280-12MS	Water	11/03/20
EB-7-110320MSD	2032280-12MSD	Water	11/03/20
EB-7-110320DUP	2032280-12DUP	Water	11/03/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-7-110320 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-21-2 and DUP-5-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	MW-21-2	DUP-5-4Q20	
Chromium	0.53	0.50U	6

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2032280

No Sample Data Qualified in this SDG

NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2032280

No Sample Data Qualified in this SDG

LDC #: 49963A4a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/31/20

SDG #: 2032280

Level III/IV

Page: 1 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: *ATV*2nd Reviewer: *ATV***METHOD:** Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	ND	EB=11
VII.	Matrix Spike/Matrix Spike Duplicates	A	(12,13), (15,16)
VIII.	Duplicate sample analysis	A	14,17
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(9,10)
XII.	Internal Standard (ICP-MS)	A	reviewed for level IV only
XIII.	Sample Result Verification	A	Not reviewed for Level III validation
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	MW-11-4	2032280-02	Water	11/03/20
2	MW-11-5	2032280-03	Water	11/03/20
3	MW-11-3	2032280-04	Water	11/03/20
4	MW-11-2	2032280-05	Water	11/03/20
5	MW-11-1	2032280-06	Water	11/03/20
6	MW-21-4**	2032280-07**	Water	11/03/20
7	MW-21-5	2032280-08	Water	11/03/20
8	MW-21-3	2032280-09	Water	11/03/20
9	MW-21-2	2032280-10	Water	11/03/20
10	DUP-5-4Q20	2032280-11	Water	11/03/20
11	EB-7-110320	2032280-12	Water	11/03/20
12	MW-21-4MS	2032280-07MS	Water	11/03/20
13	MW-21-4MSD	2032280-07MSD	Water	11/03/20
14	MW-21-4DUP	2032280-07DUP	Water	11/03/20

LDC #: 49963A4a **VALIDATION COMPLETENESS WORKSHEET**
SDG #: 2032280 Level III/IV
Laboratory: BC Laboratories, Inc.

Date: 12/31/20
Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Chromium (EPA Method 200.8)

15	EB-7-110320MS	2032280-12MS	Water	11/03/20
16	EB-7-110320MSD	2032280-12MSD	Water	11/03/20
17	EB-7-110320DUP	2032280-12DUP	Water	11/03/20
18				
19				
20				

Notes: _____

Method:Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%			✓	not reported
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?			✓	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?			✓	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of +/- RL (+/-2X RL for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	✓			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.		✓		

LDC#: 49963A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: ATL

METHOD: Metals (EPA Method 6010/6020/7000/200.7/200.8)

Analyte	Concentration (ug/L)		RPD	
	9	10		
Chromium	0.53	0.50 U	6	

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\49963A4a.wpd

VALIDATION FINDINGS WORKSHEET

Initial and Continuing Calibration Calculation Verification

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Low Level calibration)						
	ICP/MS (Low Level calibration)						
	ICP (Initial calibration)						
ICV	ICP/MS (Initial calibration)	Cr	50.866	50.000	102	102	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV	ICP/MS (Continuing calibration)	Cr	39.938	40.000	99.8	99.8	Y
	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
	Mass Axis	102.905	102.979	± 0.1 AMU	NA	Y
	%RSD	114.9	62792.8	≤ 5% RSD	1.4	Y

Comments:

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation,
 Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	mg/L Found / S / I (units)	mg/L True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
	ICP interference check						
LCS	Laboratory control sample	Cr	42.576	40.000	106	106	Y
12	Matrix spike	Cr	(SSR-SR) 37.999	40.000	95.0	95.0	Y
12/13	Duplicate	Cr	40.204	39.445	1.91	1.91	Y
6	Post digestion spike	Cr	36.997	40.000	92.5	92.6	Y
6	ICP serial dilution	Cr	0.810	1.446	N.C	N.C	Y

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: January 4, 2021

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032280

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-11-4	2032280-02	Water	11/03/20
MW-11-5	2032280-03	Water	11/03/20
MW-11-3	2032280-04	Water	11/03/20
MW-11-2	2032280-05	Water	11/03/20
MW-11-1	2032280-06	Water	11/03/20
MW-21-4**	2032280-07**	Water	11/03/20
MW-21-5	2032280-08	Water	11/03/20
MW-21-3	2032280-09	Water	11/03/20
MW-21-2	2032280-10	Water	11/03/20
DUP-5-4Q20	2032280-11	Water	11/03/20
EB-7-110320	2032280-12	Water	11/03/20
MW-11-1MS	2032280-06MS	Water	11/03/20
MW-11-1MSD	2032280-06MSD	Water	11/03/20
MW-11-1DUP	2032280-06DUP	Water	11/03/20
MW-21-4MS	2032280-07MS	Water	11/03/20
MW-21-4MSD	2032280-07MSD	Water	11/03/20
MW-21-4DUP	2032280-07DUP	Water	11/03/20
DUP-5-4Q20MS	2032280-11MS	Water	11/03/20
DUP-5-4Q20MSD	2032280-11MSD	Water	11/03/20
DUP-5-4Q20DUP	2032280-11DUP	Water	11/03/20

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0

Hexavalent Chromium by EPA Method 218.6

Nitrite as Nitrogen by EPA Method 353.2

Orthophosphate as Phosphorus by EPA Method 365.1

Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-11-3	Hexavalent chromium	2.35 days	1 day	J (all detects)	P
MW-11-2	Hexavalent chromium	2.34 days	1 day	J (all detects)	P
EB-7-110320	Hexavalent chromium	2.17 days	1 day	J (all detects)	P
DUP-5-4Q20	Hexavalent chromium	2.24 days	1 day	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.000098 mg/L	All samples in SDG 2032280
PB (prep blank)	Nitrite as N	0.021850 mg/L	MW-11-1
ICB/CCB	Nitrite as N Chloride Sulfate	0.021622 mg/L 0.15 mg/L 0.142 mg/L	MW-11-1

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-11-4	Hexavalent chromium	0.00013 mg/L	0.00013U mg/L
MW-11-5	Hexavalent chromium	0.00035 mg/L	0.00035U mg/L
MW-11-3	Hexavalent chromium	0.000052 mg/L	0.000052U mg/L
MW-11-2	Hexavalent chromium	0.000056 mg/L	0.000056U mg/L
MW-11-1	Hexavalent chromium Nitrite as N	0.00021 mg/L 0.022 mg/L	0.00021U mg/L 0.022U mg/L
MW-21-2	Hexavalent chromium	0.00024 mg/L	0.00024U mg/L
DUP-5-4Q20	Hexavalent chromium	0.00024 mg/L	0.00024U mg/L
EB-7-110320	Hexavalent chromium	0.00015 mg/L	0.00015U mg/L

V. Field Blanks

Sample EB-7-110320 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-7-110320	Hexavalent chromium	0.00015 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples MW-21-2 and DUP-5-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-21-2	DUP-5-4Q20	
Hexavalent chromium	0.00024 mg/L	0.00024 mg/L	0
Perchlorate	1.7 ug/L	1.6 ug/L	6

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in four samples.

Due to laboratory blank contamination, data were qualified as not detected in eight samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2032280**

Sample	Analyte	Flag	A or P	Reason
MW-11-3 MW-11-2 EB-7-110320 DUP-5-4Q20	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2032280**

Sample	Analyte	Modified Final Concentration	A or P
MW-11-4	Hexavalent chromium	0.00013U mg/L	A
MW-11-5	Hexavalent chromium	0.00035U mg/L	A
MW-11-3	Hexavalent chromium	0.000052U mg/L	A
MW-11-2	Hexavalent chromium	0.000056U mg/L	A
MW-11-1	Hexavalent chromium Nitrite as N	0.00021U mg/L 0.022U mg/L	A
MW-21-2	Hexavalent chromium	0.00024U mg/L	A
DUP-5-4Q20	Hexavalent chromium	0.00024U mg/L	A
EB-7-110320	Hexavalent chromium	0.00015U mg/L	A

LDC #: 49963A6

VALIDATION COMPLETENESS WORKSHEET

Date: 12/31/20

SDG #: 2032280

Level III/IV

Page: 1 of 2

Laboratory: BC Laboratories, Inc.

Reviewer: *ATC*2nd Reviewer: *J*

METHOD: (Analyte) Chloride, Nitrate as N, Sulfate (EPA Method 300.0), Hexavalent Chromium (EPA Method 218.6), Nitrite as N (EPA Method 353.2), ortho-Phosphate as P (EPA Method 365.1), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Laboratory Blanks	SW	
V.	Field blanks	SW	EB=12
VI.	Matrix Spike/Matrix Spike Duplicates	A	(13,14), (16,17), (19,20)
VII.	Duplicate sample analysis	A	15, 18, 21
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(10,11)
X.	Sample result verification	A	Not reviewed for Level III validation
XI.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

**Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	TB-7-110320	2032280-01	Water	11/03/20
2	MW-11-4	2032280-02	Water	11/03/20
3	MW-11-5	2032280-03	Water	11/03/20
4	MW-11-3	2032280-04	Water	11/03/20
5	MW-11-2	2032280-05	Water	11/03/20
6	MW-11-1	2032280-06	Water	11/03/20
7	MW-21-4**	2032280-07**	Water	11/03/20
8	MW-21-5	2032280-08	Water	11/03/20
9	MW-21-3	2032280-09	Water	11/03/20
10	MW-21-2	2032280-10	Water	11/03/20
11	DUP-5-4Q20	2032280-11	Water	11/03/20
12	EB-7-110320	2032280-12	Water	11/03/20
13	MW-11-1MS	2032280-06MS	Water	11/03/20
14	MW-11-1MSD	2032280-06MSD	Water	11/03/20
15	MW-11-1DUP	2032280-06DUP	Water	11/03/20
16	MW-21-4MS	2032280-07MS	Water	11/03/20

LDC #: 49963A6
SDG #: 2032280
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 12/31/20
Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: (Analyte) Chloride, Nitrate as N, Sulfate (EPA Method 300.0), Hexavalent Chromium (EPA Method 218.6), Nitrite as N (EPA Method 353.2), ortho-Phosphate as P (EPA Method 365.1), Perchlorate (EPA Method 314.0)

17	MW-21-4MSD	2032280-07MSD	Water	11/03/20
18	MW-21-4DUP	2032280-07DUP	Water	11/03/20
19	DUP-5-4Q20MS	2032280-11MS	Water	11/03/20
20	DUP-5-4Q20MSD	2032280-11MSD	Water	11/03/20
21	DUP-5-4Q20DUP	2032280-11DUP	Water	11/03/20
22				
23				
24				

Notes: _____

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995 ?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\leq \text{CRDL}$ ($\leq 2\text{X CRDL}$ for soil) was used for samples that were $\leq 5\text{X}$ the CRDL, including when only one of the duplicate sample values were $< 5\text{X}$ the CRDL.	✓			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Parameter
2-12	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
6	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
QC	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
16-21	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
16,17,18	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
13,14,15	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄

Comments: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: All

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		2	3	4	5	6	10	11	12		
Cr6+		0.000098	0.00049	0.00013	0.00035	0.000052	0.000056	0.00021	0.00024	0.00024	0.00015		

Conc. units: mg/L

Associated Samples: 6

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		6									
NO2-N	0.021850		0.10925	0.022									
NO2-N		0.021622	0.10811	see above									
Cl		0.15	0.75										
SO4		0.142	0.71										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 49963A6
SDG #: 2032280

VALIDATION FINDINGS WORKSHEET

Field Blanks

Page: 1 of 1
Reviewer: ATL

METHOD: Inorganics

Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target analytes detected in the field blanks?

Sample: 12 Field Blank / Trip Blank / Rinsate / Other EB (circle one)

Analyte	Concentration Units (mg/L)
Cr6+	0.00015

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Analyte	Concentration Units ()

VALIDATION FINDINGS WORKSHEET
Field Duplicates**Inorganics:** Method See Cover

Analyte	Concentration (mg/L)		RPD	
	10	11		
Hexavalent Chromium	0.00024	0.00024	0	
Perchlorate (ug/L)	1.7	1.6	6	

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\49963A6.wpd

LDC #: 49963AG

**Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification**

Page: 1 of 1
Reviewer: ATL

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of ClO₄⁻ was recalculated. Calibration date: 11/16/20

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where,

Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated	Reported	Acceptable (Y/N)
					r or r ²	r or r ²	
Initial calibration	ClO ₄ ⁻	s1	2	0.0023	0.9989	0.9951	Y
		s2	4	0.0038			
		s3	7	0.0075			
		s4	10	0.0108			
		s5	20	0.022			
CCV ₁ Calibration verification	ClO ₄ ⁻	FOUND 10.084	TRUE 10.000		101	96.6	Y
CCV ₂ Calibration verification	Cr6+	26.190	25.000		105	105	Y
CCV ₃ Calibration verification	Cr6+	26.083	25.000		104	104	Y

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Inorganics, Method see cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample	ClO4	8.251 mg/L	10.000 mg/L	82.5	85.7	Y
16	Matrix spike sample	Cr6+	(SSR-SR) 0.020368 mg/L	0.020202 mg/L	101	101	Y
16/17	Duplicate sample	Cr6+	0.021613 mg/L	0.021925 mg/L	1.43	1.43	Y

Comments: _____

NASA JPL, 4Q2020 - LDC# 49963A

SDG: 2032280

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	Total Recoverable Chromium	11/11/2020	3	Y	n	u		3.0	0.50	ug/L
MW-11-5	2032280-03	Total Recoverable Chromium	11/11/2020	1.4	Y	y	v j		3.0	0.50	ug/L
MW-11-3	2032280-04	Total Recoverable Chromium	11/11/2020	0.61	Y	y	v j		3.0	0.50	ug/L
MW-11-2	2032280-05	Total Recoverable Chromium	11/11/2020	3	Y	n	u		3.0	0.50	ug/L
MW-11-1	2032280-06	Total Recoverable Chromium	11/11/2020	3	Y	n	u		3.0	0.50	ug/L
MW-21-4	2032280-07	Total Recoverable Chromium	11/11/2020	1.4	Y	y	v j		3.0	0.50	ug/L
MW-21-5	2032280-08	Total Recoverable Chromium	11/11/2020	1	Y	y	v j		3.0	0.50	ug/L
MW-21-3	2032280-09	Total Recoverable Chromium	11/11/2020	3	Y	n	u		3.0	0.50	ug/L
MW-21-2	2032280-10	Total Recoverable Chromium	11/11/2020	0.53	Y	y	v j		3.0	0.50	ug/L
DUP-5-4Q20	2032280-11	Total Recoverable Chromium	11/11/2020	3	Y	n	u		3.0	0.50	ug/L
EB-7-110320	2032280-12	Total Recoverable Chromium	11/11/2020	3	Y	n	u		3.0	0.50	ug/L

Analytical Method EPA-218.6

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	Hexavalent Chromium	11/5/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-11-5	2032280-03	Hexavalent Chromium	11/5/2020	#####	Y	y	v	U	0.0002	0.0000	mg/L
MW-11-3	2032280-04	Hexavalent Chromium	11/5/2020	#####	Y	y	v j	UJ	0.0002	0.0000	mg/L
MW-11-2	2032280-05	Hexavalent Chromium	11/5/2020	#####	Y	y	v j	UJ	0.0002	0.0000	mg/L
MW-11-1	2032280-06	Hexavalent Chromium	11/5/2020	#####	Y	y	v	U	0.0002	0.0000	mg/L
MW-21-4	2032280-07	Hexavalent Chromium	11/5/2020	0.0016	Y	y	v		0.0002	0.0000	mg/L
MW-21-5	2032280-08	Hexavalent Chromium	11/5/2020	0.0014	Y	y	v		0.0002	0.0000	mg/L
MW-21-3	2032280-09	Hexavalent Chromium	11/5/2020	#####	Y	y	v		0.0002	0.0000	mg/L
MW-21-2	2032280-10	Hexavalent Chromium	11/5/2020	#####	Y	y	v	U	0.0002	0.0000	mg/L
DUP-5-4Q20	2032280-11	Hexavalent Chromium	11/5/2020	#####	Y	y	v	UJ	0.0002	0.0000	mg/L

SDG: 2032280

Analytical Method EPA-218.6											
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-110320	2032280-12	Hexavalent Chromium	11/5/2020	#####	Y	y	v j	UJ	0.0002	0.0000	mg/L

Analytical Method EPA-300.0											
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	Nitrate as N	11/4/2020	1.2	Y	y	v	U	0.10	0.024	mg/L
MW-11-1	2032280-06	Chloride	11/4/2020	26	Y	y	v		0.50	0.13	mg/L
MW-11-1	2032280-06	Sulfate	11/4/2020	53	Y	y	v		1.0	0.14	mg/L

Analytical Method EPA-314.0											
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-5	2032280-03	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-3	2032280-04	Perchlorate	11/17/2020	0.87	Y	y	v j		4.0	0.81	ug/L
MW-11-2	2032280-05	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-1	2032280-06	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-21-4	2032280-07	Perchlorate	11/16/2020	2.8	Y	y	v j		4.0	0.81	ug/L
MW-21-5	2032280-08	Perchlorate	11/17/2020	2.4	Y	y	v j		4.0	0.81	ug/L
MW-21-3	2032280-09	Perchlorate	11/17/2020	2.8	Y	y	v j		4.0	0.81	ug/L
MW-21-2	2032280-10	Perchlorate	11/17/2020	1.7	Y	y	v j		4.0	0.81	ug/L
DUP-5-4Q20	2032280-11	Perchlorate	11/17/2020	1.6	Y	y	v j		4.0	0.81	ug/L
EB-7-110320	2032280-12	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L

Analytical Method EPA-353.2											
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	Nitrite as N	11/4/2020	0.022	Y	y	v j		0.050	0.010	mg/L

Analytical Method EPA-365.1											
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units

SDG: 2032280

Analytical Method		EPA-365.1									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	ortho-Phosphate as P	11/4/2020	0.05	Y	n	u		0.050	0.017	mg/L

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-7-110320	2032280-01	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-110320	2032280-01	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
TB-7-110320	2032280-01	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
TB-7-110320	2032280-01	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
TB-7-110320	2032280-01	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
TB-7-110320	2032280-01	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
TB-7-110320	2032280-01	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-110320	2032280-01	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
TB-7-110320	2032280-01	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
TB-7-110320	2032280-01	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-7-110320	2032280-01	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-110320	2032280-01	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-7-110320	2032280-01	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
TB-7-110320	2032280-01	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-110320	2032280-01	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
TB-7-110320	2032280-01	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
TB-7-110320	2032280-01	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-7-110320	2032280-01	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L

SDG: 2032280

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-7-110320	2032280-01	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
TB-7-110320	2032280-01	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
TB-7-110320	2032280-01	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
TB-7-110320	2032280-01	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
TB-7-110320	2032280-01	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
TB-7-110320	2032280-01	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
TB-7-110320	2032280-01	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-7-110320	2032280-01	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
TB-7-110320	2032280-01	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
TB-7-110320	2032280-01	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
TB-7-110320	2032280-01	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
TB-7-110320	2032280-01	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-110320	2032280-01	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
TB-7-110320	2032280-01	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
TB-7-110320	2032280-01	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
TB-7-110320	2032280-01	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-110320	2032280-01	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-7-110320	2032280-01	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-110320	2032280-01	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-7-110320	2032280-01	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-7-110320	2032280-01	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L

SDG: 2032280

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-7-110320	2032280-01	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-7-110320	2032280-01	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-7-110320	2032280-01	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-7-110320	2032280-01	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-7-110320	2032280-01	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-110320	2032280-01	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-7-110320	2032280-01	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-7-110320	2032280-01	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-7-110320	2032280-01	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-7-110320	2032280-01	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-7-110320	2032280-01	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-110320	2032280-01	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-7-110320	2032280-01	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-110320	2032280-01	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-7-110320	2032280-01	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-7-110320	2032280-01	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-7-110320	2032280-01	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-110320	2032280-01	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-110320	2032280-01	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-110320	2032280-01	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-110320	2032280-01	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-110320	2032280-01	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-7-110320	2032280-01	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-110320	2032280-01	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-7-110320	2032280-01	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-7-110320	2032280-01	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-110320	2032280-01	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2032280-02	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-4	2032280-02	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-4	2032280-02	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-11-4	2032280-02	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-11-4	2032280-02	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-4	2032280-02	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-4	2032280-02	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-4	2032280-02	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-4	2032280-02	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-4	2032280-02	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-4	2032280-02	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-4	2032280-02	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2032280-02	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-4	2032280-02	Trichloroethene	11/9/2020	0.59	Y	y	v		0.50	0.19	ug/L
MW-11-4	2032280-02	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-11-4	2032280-02	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-11-4	2032280-02	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2032280-02	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-11-4	2032280-02	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-11-4	2032280-02	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-11-4	2032280-02	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-11-4	2032280-02	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-11-4	2032280-02	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-11-4	2032280-02	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2032280-02	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-4	2032280-02	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-11-4	2032280-02	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-4	2032280-02	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-11-4	2032280-02	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-11-4	2032280-02	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-11-4	2032280-02	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-11-4	2032280-02	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-11-4	2032280-02	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-4	2032280-02	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2032280-02	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-4	2032280-02	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-4	2032280-02	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-4	2032280-02	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-4	2032280-02	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-4	2032280-02	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-4	2032280-02	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-4	2032280-02	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2032280-02	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-4	2032280-02	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2032280-02	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-4	2032280-02	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-4	2032280-02	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-4	2032280-02	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-4	2032280-02	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2032280-02	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-4	2032280-02	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-4	2032280-02	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-4	2032280-02	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2032280-02	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2032280-02	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-4	2032280-02	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2032280-02	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2032280-02	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2032280-02	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2032280-02	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-4	2032280-02	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2032280-02	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2032280-02	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2032280-02	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-11-5	2032280-03	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2032280-03	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-11-5	2032280-03	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2032280-03	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-5	2032280-03	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-5	2032280-03	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-11-5	2032280-03	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-5	2032280-03	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-11-5	2032280-03	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2032280-03	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2032280-03	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2032280-03	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-5	2032280-03	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-11-5	2032280-03	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-5	2032280-03	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-5	2032280-03	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-11-5	2032280-03	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-5	2032280-03	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-11-5	2032280-03	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-11-5	2032280-03	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-11-5	2032280-03	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2032280-03	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-5	2032280-03	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-11-5	2032280-03	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-11-5	2032280-03	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-5	2032280-03	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-11-5	2032280-03	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-11-5	2032280-03	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-11-5	2032280-03	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-11-5	2032280-03	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-11-5	2032280-03	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-5	2032280-03	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-5	2032280-03	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2032280-03	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-5	2032280-03	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2032280-03	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-5	2032280-03	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-5	2032280-03	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-5	2032280-03	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-5	2032280-03	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-5	2032280-03	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-5	2032280-03	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-5	2032280-03	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-5	2032280-03	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-5	2032280-03	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-11-5	2032280-03	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-5	2032280-03	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-5	2032280-03	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-5	2032280-03	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2032280-03	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-5	2032280-03	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-5	2032280-03	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-5	2032280-03	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2032280-03	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-5	2032280-03	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-5	2032280-03	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-5	2032280-03	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-5	2032280-03	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-5	2032280-03	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2032280-03	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-5	2032280-03	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2032280-03	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2032280-03	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-5	2032280-03	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2032280-03	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2032280-03	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2032280-04	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-3	2032280-04	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-3	2032280-04	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-11-3	2032280-04	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-11-3	2032280-04	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2032280-04	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-3	2032280-04	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-3	2032280-04	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-11-3	2032280-04	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-11-3	2032280-04	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-3	2032280-04	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2032280-04	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2032280-04	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2032280-04	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2032280-04	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-3	2032280-04	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2032280-04	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2032280-04	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-11-3	2032280-04	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2032280-04	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2032280-04	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-11-3	2032280-04	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-11-3	2032280-04	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-11-3	2032280-04	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-11-3	2032280-04	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-11-3	2032280-04	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-11-3	2032280-04	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-3	2032280-04	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-3	2032280-04	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-11-3	2032280-04	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-3	2032280-04	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-11-3	2032280-04	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-3	2032280-04	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-11-3	2032280-04	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-11-3	2032280-04	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-11-3	2032280-04	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-3	2032280-04	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-11-3	2032280-04	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-3	2032280-04	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2032280-04	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-3	2032280-04	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-3	2032280-04	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-3	2032280-04	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-3	2032280-04	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-3	2032280-04	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-3	2032280-04	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2032280-04	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-3	2032280-04	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2032280-04	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-3	2032280-04	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2032280-04	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-3	2032280-04	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-3	2032280-04	Toluene	11/9/2020	0.25	Y	y	v j		0.50	0.17	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-3	2032280-04	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-3	2032280-04	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-3	2032280-04	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-3	2032280-04	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-3	2032280-04	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2032280-04	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	Styrene	11/9/2020	0.61	Y	y	v		0.50	0.12	ug/L
MW-11-3	2032280-04	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-3	2032280-04	Methyl t-butyl ether	11/9/2020	0.31	Y	y	v j		0.50	0.14	ug/L
MW-11-3	2032280-04	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2032280-04	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-3	2032280-04	Ethylbenzene	11/9/2020	0.28	Y	y	v j		0.50	0.15	ug/L
MW-11-3	2032280-04	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-3	2032280-04	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2032280-04	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2032280-04	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-3	2032280-04	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2032280-04	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2032280-04	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2032280-04	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-3	2032280-04	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2032280-04	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2032280-05	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-2	2032280-05	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-11-2	2032280-05	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-2	2032280-05	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-2	2032280-05	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2032280-05	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-11-2	2032280-05	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-11-2	2032280-05	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-11-2	2032280-05	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-2	2032280-05	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2032280-05	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2032280-05	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2032280-05	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-2	2032280-05	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-11-2	2032280-05	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2032280-05	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2032280-05	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-2	2032280-05	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-2	2032280-05	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-11-2	2032280-05	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-11-2	2032280-05	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-11-2	2032280-05	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-11-2	2032280-05	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2032280-05	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-2	2032280-05	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-11-2	2032280-05	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-11-2	2032280-05	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-2	2032280-05	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-11-2	2032280-05	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-11-2	2032280-05	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-11-2	2032280-05	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-11-2	2032280-05	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2032280-05	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-11-2	2032280-05	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-2	2032280-05	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-2	2032280-05	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-11-2	2032280-05	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-2	2032280-05	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-2	2032280-05	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-2	2032280-05	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-2	2032280-05	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-2	2032280-05	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-2	2032280-05	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-2	2032280-05	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-2	2032280-05	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-2	2032280-05	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-2	2032280-05	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2032280-05	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-2	2032280-05	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-2	2032280-05	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-2	2032280-05	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-2	2032280-05	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-2	2032280-05	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-2	2032280-05	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2032280-05	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-2	2032280-05	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-2	2032280-05	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2032280-05	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-2	2032280-05	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-2	2032280-05	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2032280-05	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-2	2032280-05	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2032280-05	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2032280-05	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2032280-05	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-2	2032280-05	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2032280-05	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2032280-05	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2032280-06	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2032280-06	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2032280-06	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-1	2032280-06	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-1	2032280-06	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-11-1	2032280-06	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-1	2032280-06	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-1	2032280-06	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2032280-06	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2032280-06	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2032280-06	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2032280-06	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-1	2032280-06	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2032280-06	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-1	2032280-06	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-1	2032280-06	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-1	2032280-06	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-11-1	2032280-06	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-11-1	2032280-06	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-1	2032280-06	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-11-1	2032280-06	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-11-1	2032280-06	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-11-1	2032280-06	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-11-1	2032280-06	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-11-1	2032280-06	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-11-1	2032280-06	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-11-1	2032280-06	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-1	2032280-06	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-1	2032280-06	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-1	2032280-06	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-11-1	2032280-06	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-11-1	2032280-06	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-11-1	2032280-06	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-1	2032280-06	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-1	2032280-06	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-1	2032280-06	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-1	2032280-06	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-1	2032280-06	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-1	2032280-06	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2032280-06	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2032280-06	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-1	2032280-06	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-1	2032280-06	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-1	2032280-06	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2032280-06	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-1	2032280-06	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-1	2032280-06	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2032280-06	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-1	2032280-06	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2032280-06	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-1	2032280-06	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2032280-06	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-1	2032280-06	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2032280-06	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2032280-06	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2032280-06	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2032280-06	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2032280-06	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2032280-06	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-11-1	2032280-06	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-11-1	2032280-06	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-11-1	2032280-06	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-11-1	2032280-06	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-1	2032280-06	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2032280-07	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-21-4	2032280-07	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-4	2032280-07	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2032280-07	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-21-4	2032280-07	Trichloroethene	11/9/2020	0.6	Y	y	v		0.50	0.19	ug/L
MW-21-4	2032280-07	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2032280-07	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2032280-07	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-4	2032280-07	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2032280-07	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-21-4	2032280-07	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-4	2032280-07	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	Tetrachloroethene	11/9/2020	1.2	Y	y	v		0.50	0.23	ug/L
MW-21-4	2032280-07	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2032280-07	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-4	2032280-07	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-4	2032280-07	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2032280-07	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-4	2032280-07	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-4	2032280-07	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-21-4	2032280-07	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-21-4	2032280-07	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-21-4	2032280-07	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-21-4	2032280-07	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-21-4	2032280-07	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2032280-07	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-4	2032280-07	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-21-4	2032280-07	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-4	2032280-07	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-21-4	2032280-07	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-21-4	2032280-07	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-21-4	2032280-07	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-21-4	2032280-07	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-21-4	2032280-07	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-21-4	2032280-07	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-21-4	2032280-07	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-4	2032280-07	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-4	2032280-07	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-4	2032280-07	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-4	2032280-07	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-21-4	2032280-07	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-4	2032280-07	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-4	2032280-07	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-4	2032280-07	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-4	2032280-07	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-4	2032280-07	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-4	2032280-07	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-4	2032280-07	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-4	2032280-07	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	Chloroform	11/9/2020	3.5	Y	y	v		0.50	0.14	ug/L
MW-21-4	2032280-07	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2032280-07	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-4	2032280-07	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-4	2032280-07	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-4	2032280-07	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-4	2032280-07	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-4	2032280-07	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-4	2032280-07	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2032280-07	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2032280-07	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2032280-07	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-4	2032280-07	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2032280-07	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-4	2032280-07	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2032280-07	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-4	2032280-07	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-4	2032280-07	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2032280-07	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2032280-07	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2032280-07	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-5	2032280-08	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-5	2032280-08	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2032280-08	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-5	2032280-08	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-5	2032280-08	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-5	2032280-08	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2032280-08	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-21-5	2032280-08	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-5	2032280-08	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2032280-08	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2032280-08	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2032280-08	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-21-5	2032280-08	Tetrachloroethene	11/9/2020	0.64	Y	y	v		0.50	0.23	ug/L
MW-21-5	2032280-08	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2032280-08	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-5	2032280-08	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-5	2032280-08	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-5	2032280-08	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-5	2032280-08	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-21-5	2032280-08	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-21-5	2032280-08	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-21-5	2032280-08	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-21-5	2032280-08	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-21-5	2032280-08	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2032280-08	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-5	2032280-08	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-21-5	2032280-08	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-21-5	2032280-08	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-21-5	2032280-08	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-5	2032280-08	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-21-5	2032280-08	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-21-5	2032280-08	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-21-5	2032280-08	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-21-5	2032280-08	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-21-5	2032280-08	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-5	2032280-08	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-5	2032280-08	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-5	2032280-08	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-5	2032280-08	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-21-5	2032280-08	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-21-5	2032280-08	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-5	2032280-08	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-5	2032280-08	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-5	2032280-08	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	Chloroform	11/9/2020	4.1	Y	y	v		0.50	0.14	ug/L
MW-21-5	2032280-08	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-5	2032280-08	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2032280-08	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-5	2032280-08	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-5	2032280-08	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-5	2032280-08	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-5	2032280-08	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-5	2032280-08	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-5	2032280-08	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2032280-08	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-5	2032280-08	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-5	2032280-08	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-5	2032280-08	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2032280-08	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2032280-08	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2032280-08	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2032280-08	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2032280-08	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2032280-08	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-5	2032280-08	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-5	2032280-08	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2032280-08	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-5	2032280-08	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-5	2032280-08	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L

SDG: 2032280

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-3	2032280-09	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-21-3	2032280-09	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-3	2032280-09	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-3	2032280-09	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2032280-09	Trichloroethene	11/9/2020	2	Y	y	v		0.50	0.19	ug/L
MW-21-3	2032280-09	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2032280-09	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2032280-09	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2032280-09	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	Tetrachloroethene	11/9/2020	2.1	Y	y	v		0.50	0.23	ug/L
MW-21-3	2032280-09	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2032280-09	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-3	2032280-09	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-3	2032280-09	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-3	2032280-09	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-21-3	2032280-09	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2032280-09	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-3	2032280-09	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L

SDG: 2032280

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-3	2032280-09	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-3	2032280-09	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-21-3	2032280-09	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-3	2032280-09	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-21-3	2032280-09	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-3	2032280-09	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-21-3	2032280-09	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-21-3	2032280-09	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-21-3	2032280-09	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-21-3	2032280-09	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2032280-09	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-21-3	2032280-09	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-3	2032280-09	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-21-3	2032280-09	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-21-3	2032280-09	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-21-3	2032280-09	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-3	2032280-09	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-3	2032280-09	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-3	2032280-09	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-21-3	2032280-09	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-21-3	2032280-09	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-21-3	2032280-09	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2032280-09	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-21-3	2032280-09	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-3	2032280-09	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-3	2032280-09	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-3	2032280-09	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-3	2032280-09	Chloroform	11/9/2020	0.65	Y	y	v		0.50	0.14	ug/L
MW-21-3	2032280-09	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-3	2032280-09	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-3	2032280-09	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-3	2032280-09	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-21-3	2032280-09	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-3	2032280-09	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-3	2032280-09	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-3	2032280-09	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-3	2032280-09	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2032280-09	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-3	2032280-09	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-3	2032280-09	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2032280-09	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2032280-09	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-3	2032280-09	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-3	2032280-09	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-3	2032280-09	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2032280-09	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2032280-09	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-3	2032280-09	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2032280-09	1,1-Dichloroethane	11/9/2020	0.19	Y	y	v j		0.50	0.15	ug/L
MW-21-3	2032280-09	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2032280-09	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2032280-10	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2032280-10	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2032280-10	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
MW-21-2	2032280-10	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-2	2032280-10	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2032280-10	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-2	2032280-10	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	Trichloroethene	11/9/2020	0.2	Y	y	v j		0.50	0.19	ug/L
MW-21-2	2032280-10	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2032280-10	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-2	2032280-10	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-2	2032280-10	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2032280-10	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	Tetrachloroethene	11/9/2020	1	Y	y	v		0.50	0.23	ug/L
MW-21-2	2032280-10	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2032280-10	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-2	2032280-10	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-2	2032280-10	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-2	2032280-10	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
MW-21-2	2032280-10	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-2	2032280-10	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
MW-21-2	2032280-10	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
MW-21-2	2032280-10	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
MW-21-2	2032280-10	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
MW-21-2	2032280-10	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
MW-21-2	2032280-10	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2032280-10	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
MW-21-2	2032280-10	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-2	2032280-10	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
MW-21-2	2032280-10	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
MW-21-2	2032280-10	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2032280-10	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-2	2032280-10	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2032280-10	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
MW-21-2	2032280-10	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
MW-21-2	2032280-10	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
MW-21-2	2032280-10	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
MW-21-2	2032280-10	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-2	2032280-10	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-2	2032280-10	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-2	2032280-10	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-2	2032280-10	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-21-2	2032280-10	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-21-2	2032280-10	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
MW-21-2	2032280-10	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
MW-21-2	2032280-10	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2032280-10	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-2	2032280-10	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-2	2032280-10	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-2	2032280-10	Chloroform	11/9/2020	0.3	Y	y	v j		0.50	0.14	ug/L
MW-21-2	2032280-10	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-2	2032280-10	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-2	2032280-10	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-2	2032280-10	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-2	2032280-10	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2032280-10	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-2	2032280-10	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-2	2032280-10	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-2	2032280-10	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2032280-10	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2032280-10	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-2	2032280-10	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-2	2032280-10	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2032280-10	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2032280-10	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2032280-10	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2032280-10	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2032280-10	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-2	2032280-10	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2032280-10	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-5-4Q20	2032280-11	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-5-4Q20	2032280-11	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-5-4Q20	2032280-11	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-5-4Q20	2032280-11	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-5-4Q20	2032280-11	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-5-4Q20	2032280-11	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-5-4Q20	2032280-11	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-5-4Q20	2032280-11	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
DUP-5-4Q20	2032280-11	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	Tetrachloroethene	11/9/2020	0.49	Y	y	v j		0.50	0.23	ug/L
DUP-5-4Q20	2032280-11	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-5-4Q20	2032280-11	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-5-4Q20	2032280-11	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-5-4Q20	2032280-11	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-5-4Q20	2032280-11	Methylene chloride	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-5-4Q20	2032280-11	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-5-4Q20	2032280-11	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-5-4Q20	2032280-11	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-5-4Q20	2032280-11	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
DUP-5-4Q20	2032280-11	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-5-4Q20	2032280-11	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-5-4Q20	2032280-11	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-5-4Q20	2032280-11	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-5-4Q20	2032280-11	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
DUP-5-4Q20	2032280-11	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
DUP-5-4Q20	2032280-11	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
DUP-5-4Q20	2032280-11	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
DUP-5-4Q20	2032280-11	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
DUP-5-4Q20	2032280-11	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
DUP-5-4Q20	2032280-11	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
DUP-5-4Q20	2032280-11	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
DUP-5-4Q20	2032280-11	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-5-4Q20	2032280-11	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-5-4Q20	2032280-11	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
DUP-5-4Q20	2032280-11	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
DUP-5-4Q20	2032280-11	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
DUP-5-4Q20	2032280-11	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
DUP-5-4Q20	2032280-11	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
DUP-5-4Q20	2032280-11	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
DUP-5-4Q20	2032280-11	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
DUP-5-4Q20	2032280-11	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
DUP-5-4Q20	2032280-11	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-5-4Q20	2032280-11	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-5-4Q20	2032280-11	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
DUP-5-4Q20	2032280-11	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L
DUP-5-4Q20	2032280-11	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-5-4Q20	2032280-11	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-5-4Q20	2032280-11	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-5-4Q20	2032280-11	Chloroform	11/9/2020	0.18	Y	y	v j		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-5-4Q20	2032280-11	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-5-4Q20	2032280-11	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-5-4Q20	2032280-11	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-5-4Q20	2032280-11	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-5-4Q20	2032280-11	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-5-4Q20	2032280-11	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-5-4Q20	2032280-11	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-5-4Q20	2032280-11	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-5-4Q20	2032280-11	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-5-4Q20	2032280-11	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-5-4Q20	2032280-11	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-5-4Q20	2032280-11	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-5-4Q20	2032280-11	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-5-4Q20	2032280-11	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-5-4Q20	2032280-11	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-5-4Q20	2032280-11	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-5-4Q20	2032280-11	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-5-4Q20	2032280-11	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-110320	2032280-12	trans-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-110320	2032280-12	Ethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	Hexachlorobutadiene	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-7-110320	2032280-12	p-Isopropyltoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	cis-1,3-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	1,1-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	Methylene chloride	11/9/2020	2.2	Y	y	v		0.50	0.21	ug/L
EB-7-110320	2032280-12	Methyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	Isopropylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	1,1-Dichloropropene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-110320	2032280-12	2,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-7-110320	2032280-12	1,3-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-110320	2032280-12	1,2-Dichloropropane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	trans-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-110320	2032280-12	cis-1,2-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-7-110320	2032280-12	1,2-Dichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-110320	2032280-12	Dichlorodifluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	Naphthalene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-7-110320	2032280-12	Vinyl chloride	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-7-110320	2032280-12	1,1-Dichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-7-110320	2032280-12	Trichloroethene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-110320	2032280-12	t-Butyl alcohol	11/9/2020	2	Y	n	u		2.0	2.0	ug/L
EB-7-110320	2032280-12	t-Amyl Methyl ether	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-110320	2032280-12	Allyl chloride	11/9/2020	5	Y	n	u		5.0	0.47	ug/L
EB-7-110320	2032280-12	Acrylonitrile	11/9/2020	5	Y	n	u		5.0	1.5	ug/L
EB-7-110320	2032280-12	Acetone	11/9/2020	10	Y	n	u		10	6.6	ug/L
EB-7-110320	2032280-12	Bromoform	11/9/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-7-110320	2032280-12	1,3,5-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	1,4-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	1,1,2-Trichloro-1,2,2-trifluoroethane	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-110320	2032280-12	1,2,4-Trimethylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-110320	2032280-12	Trichlorofluoromethane	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	n-Propylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-7-110320	2032280-12	1,1,2-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-110320	2032280-12	1,1,1-Trichloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-110320	2032280-12	1,2,4-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	1,2,3-Trichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-110320	2032280-12	Toluene	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-110320	2032280-12	Tetrachloroethene	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L

SDG: 2032280

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-110320	2032280-12	1,1,2,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-110320	2032280-12	1,1,1,2-Tetrachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-110320	2032280-12	Styrene	11/9/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-7-110320	2032280-12	1,2,3-Trichloropropane	11/9/2020	1	Y	n	u		1.0	0.78	ug/L
EB-7-110320	2032280-12	2-Hexanone	11/9/2020	10	Y	n	u		10	5.0	ug/L
EB-7-110320	2032280-12	n-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	Ethyl t-butyl ether	11/9/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-7-110320	2032280-12	Methyl iodide	11/9/2020	2	Y	n	u		2.0	1.1	ug/L
EB-7-110320	2032280-12	2-Nitropropane	11/9/2020	0	Y	y	v				ug/L
EB-7-110320	2032280-12	1-Chlorobutane	11/9/2020	0	Y	y	v				ug/L
EB-7-110320	2032280-12	Hexachloroethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-7-110320	2032280-12	Methyl ethyl ketone	11/9/2020	5	Y	n	u		5.0	3.3	ug/L
EB-7-110320	2032280-12	Nitrobenzene	11/9/2020	0	Y	y	v				ug/L
EB-7-110320	2032280-12	Methyl isobutyl ketone	11/9/2020	5	Y	n	u		5.0	2.4	ug/L
EB-7-110320	2032280-12	Methyl acrylate	11/9/2020	0	Y	y	v				ug/L
EB-7-110320	2032280-12	trans-1,4-Dichloro-2-butene	11/9/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
EB-7-110320	2032280-12	Propionitrile	11/9/2020	20	Y	n	u		20	6.2	ug/L
EB-7-110320	2032280-12	Methacrylonitrile	11/9/2020	10	Y	n	u		10	2.3	ug/L
EB-7-110320	2032280-12	Carbon disulfide	11/9/2020	0.5	Y	n	u		0.50	0.48	ug/L
EB-7-110320	2032280-12	Ethyl methacrylate	11/9/2020	4	Y	n	u		4.0	1.3	ug/L
EB-7-110320	2032280-12	o-Xylene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-110320	2032280-12	Methyl methacrylate	11/9/2020	5	Y	n	u		5.0	1.2	ug/L
EB-7-110320	2032280-12	Pentachloroethane	11/9/2020	2	Y	n	u		2.0	0.63	ug/L
EB-7-110320	2032280-12	Diethyl ether	11/9/2020	2	Y	n	u		2.0	0.33	ug/L
EB-7-110320	2032280-12	p- & m-Xylenes	11/9/2020	0.5	Y	n	u		0.50	0.34	ug/L

SDG: 2032280

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-110320	2032280-12	1,1-Dichloropropanone	11/9/2020	0	Y	y	v				ug/L
EB-7-110320	2032280-12	Chlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	1,2-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-110320	2032280-12	Dibromomethane	11/9/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-7-110320	2032280-12	1,2-Dibromoethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-7-110320	2032280-12	1,2-Dibromo-3-chloropropane	11/9/2020	1	Y	n	u		1.0	0.89	ug/L
EB-7-110320	2032280-12	Dibromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-7-110320	2032280-12	4-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-7-110320	2032280-12	2-Chlorotoluene	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-110320	2032280-12	Chloromethane	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-7-110320	2032280-12	Chloroacetonitrile	11/9/2020	0	Y	y	v				ug/L
EB-7-110320	2032280-12	Chloroethane	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-110320	2032280-12	1,3-Dichlorobenzene	11/9/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-7-110320	2032280-12	Carbon tetrachloride	11/9/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-110320	2032280-12	tert-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-7-110320	2032280-12	sec-Butylbenzene	11/9/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-110320	2032280-12	Bromomethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-7-110320	2032280-12	Bromodichloromethane	11/9/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-7-110320	2032280-12	Bromochloromethane	11/9/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-7-110320	2032280-12	Bromobenzene	11/9/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-110320	2032280-12	Benzene	11/9/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-7-110320	2032280-12	Tetrahydrofuran	11/9/2020	20	Y	n	u		20	5.2	ug/L
EB-7-110320	2032280-12	Chloroform	11/9/2020	0.5	Y	n	u		0.50	0.14	ug/L

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 30, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032462

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-8-110420	2032462-01	Water	11/04/20
MW-3-5	2032462-02	Water	11/04/20
MW-3-4	2032462-03	Water	11/04/20
MW-3-3	2032462-04	Water	11/04/20
MW-3-2	2032462-05	Water	11/04/20
EB-8-110420	2032462-06	Water	11/04/20
MW-3-1	2032462-07	Water	11/04/20
MW-1	2032462-08	Water	11/04/20
DUP-6-4Q20	2032462-09	Water	11/04/20
MW-9	2032462-10	Water	11/04/20
DUP-7-4Q20	2032462-11	Water	11/04/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/06/20 (06NOV02)	Bromomethane	51.1	TB-8-110420 MW-3-5 MW-3-4	UJ (all non-detects)	P
11/06/20 (06NOV03)	Methyl iodide	39.8	TB-8-110420 MW-3-5 MW-3-4	UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
11/06/20 (06NOV32)	Methyl iodide Pentachloroethane	41.6 56.9	MW-3-3 MW-3-2 EB-8-110420 MW-3-1 MW-1 DUP-6-4Q20 MW-9 DUP-7-4Q20	UJ (all non-detects) UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-8-110420 was identified as a trip blank. No contaminants were found.

Sample EB-8-110420 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-8-110420	Methylene chloride	2.0 ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples MW-1 and DUP-6-4Q20 and samples MW-9 and DUP-7-4Q20 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level III validation.

XIV. System Performance

Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in eleven samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020

Volatiles - Data Qualification Summary - SDG 2032462

Sample	Compound	Flag	A or P	Reason
TB-8-110420 MW-3-5 MW-3-4	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)
MW-3-3 MW-3-2 EB-8-110420 MW-3-1 MW-1 DUP-6-4Q20 MW-9 DUP-7-4Q20	Methyl iodide Pentachloroethane	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020

Volatiles - Laboratory Blank Data Qualification Summary - SDG 2032462

No Sample Data Qualified in this SDG

LDC #: 49963B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/27/20

SDG #: 2032462

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	ICAL \leq 20% \checkmark ICV \leq 30%
IV.	Continuing calibration	SW	CCV \leq 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	TB = *1 EB = 6
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 8/9, 10/11
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	TB-8-110420	2032462-01	Water	11/04/20
2	MW-3-5	2032462-02	Water	11/04/20
3	MW-3-4	2032462-03	Water	11/04/20
4	MW-3-3	2032462-04	Water	11/04/20
5	MW-3-2	2032462-05	Water	11/04/20
6	EB-8-110420	2032462-06	Water	11/04/20
7	MW-3-1	2032462-07	Water	11/04/20
8	MW-1	2032462-08	Water	11/04/20
9	DUP-6-4Q20	2032462-09	Water	11/04/20
10	MW-9	2032462-10	Water	11/04/20
11	DUP-7-4Q20	2032462-11	Water	11/04/20
12				
13				
14	Bo91847-Buka			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene	A2.
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane	B2.
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane	C2.
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene	D2.
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11	E2.
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12	F2.
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113	G2.
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114	H2.
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane	I2.
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide	J2.
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane	K2.
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane	L2.
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane	M2.
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane	N2.
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane	O2.
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane	P2.
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane	Q2.
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane	R2.
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane	S2.
T. Chlorodibromomethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane	T2.
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal	U2.
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene	V2.
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol	W2.
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene	X2.
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol	Y2.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.	Z2.

LDC #: 49963 B1a

VALIDATION FINDINGS WORKSHEET Field Blanks

Page: 1 of 1
Reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 11/04/20

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: All except 1, 6 (N2)

Compound	Blank ID	Sample Identification							
	<u>6</u>								
<u>E</u>	<u>2.0</u>								

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: January 4, 2021

Parameters: Chromium

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032462

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-3-5	2032462-02	Water	11/04/20
MW-3-4	2032462-03	Water	11/04/20
MW-3-3	2032462-04	Water	11/04/20
MW-3-2	2032462-05	Water	11/04/20
EB-8-110420	2032462-06	Water	11/04/20
MW-3-1	2032462-07	Water	11/04/20
MW-1	2032462-08	Water	11/04/20
DUP-6-4Q20	2032462-09	Water	11/04/20
MW-9	2032462-10	Water	11/04/20
DUP-7-4Q20	2032462-11	Water	11/04/20
MW-3-4MS	2032462-03MS	Water	11/04/20
MW-3-4MSD	2032462-03MSD	Water	11/04/20
MW-3-4DUP	2032462-03DUP	Water	11/04/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB-8-110420 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution was not performed for this SDG.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-1 and DUP-6-4Q20 and samples MW-9 and DUP-7-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	MW-9	DUP-7-4Q20	
Chromium	240	230	4

XII. Internal Standards (ICP-MS)

Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2032462

No Sample Data Qualified in this SDG

NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2032462

No Sample Data Qualified in this SDG

LDC #: 49963B4a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/31/20

SDG #: 2032462

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: *ATJ*2nd Reviewer: *[Signature]***METHOD:** Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	ND	EB=5
VII.	Matrix Spike/Matrix Spike Duplicates	A	(11,12)
VIII.	Duplicate sample analysis	A	13
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	ICS
XI.	Field Duplicates	SW	(7,8), (9,10)
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-3-5	2032462-02	Water	11/04/20
2	MW-3-4	2032462-03	Water	11/04/20
3	MW-3-3	2032462-04	Water	11/04/20
4	MW-3-2	2032462-05	Water	11/04/20
5	EB-8-110420	2032462-06	Water	11/04/20
6	MW-3-1	2032462-07	Water	11/04/20
7	MW-1	2032462-08	Water	11/04/20
8	DUP-6-4Q20	2032462-09	Water	11/04/20
9	MW-9	2032462-10	Water	11/04/20
10	DUP-7-4Q20	2032462-11	Water	11/04/20
11	MW-3-4MS	2032462-03MS	Water	11/04/20
12	MW-3-4MSD	2032462-03MSD	Water	11/04/20
13	MW-3-4DUP	2032462-03DUP	Water	11/04/20
14				
15				

LDC#: 49963B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: ATL

METHOD: Metals (EPA Method 6010/6020/7000/200.7/200.8)

Analyte	Concentration (ug/L)		RPD	
	9	10		
Chromium	240	230	4	

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\49963B4a.wpd

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: January 4, 2021

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032462

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-3-5	2032462-02	Water	11/04/20
MW-3-4	2032462-03	Water	11/04/20
MW-3-3	2032462-04	Water	11/04/20
MW-3-2	2032462-05	Water	11/04/20
EB-8-110420	2032462-06	Water	11/04/20
MW-3-1	2032462-07	Water	11/04/20
MW-1	2032462-08	Water	11/04/20
DUP-6-4Q20	2032462-09	Water	11/04/20
MW-9	2032462-10	Water	11/04/20
DUP-7-4Q20	2032462-11	Water	11/04/20
MW-3-1MS	2032462-07MS	Water	11/04/20
MW-3-1MSD	2032462-07MSD	Water	11/04/20
MW-3-1DUP	2032462-07DUP	Water	11/04/20
DUP-7-4Q20MS	2032462-11MS	Water	11/04/20
DUP-7-4Q20MSD	2032462-11MSD	Water	11/04/20
DUP-7-4Q20DUP	2032462-11DUP	Water	11/04/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-9 DUP-7-4Q20	Hexavalent chromium	13 days	1 day	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.000098 mg/L	All samples in SDG 2032462

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB-8-110420	Hexavalent chromium	0.000054 mg/L	0.000054U mg/L
MW-3-1	Hexavalent chromium	0.00010 mg/L	0.00010U mg/L
MW-1	Hexavalent chromium	0.000029 mg/L	0.000029U mg/L
DUP-6-4Q20	Hexavalent chromium	0.000059 mg/L	0.000059U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-9	Hexavalent chromium	0.00048 mg/L	0.00048U mg/L
DUP-7-4Q20	Hexavalent chromium	0.00048 mg/L	0.00048U mg/L

V. Field Blanks

Sample EB-8-110420 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-8-110420	Hexavalent chromium	0.000054 mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples MW-1 and DUP-6-4Q20 and samples MW-9 and DUP-7-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-1	DUP-6-4Q20	
Hexavalent chromium	0.000029	0.000059	68

Analyte	Concentration (mg/L)		RPD
	MW-9	DUP-7-4Q20	
Hexavalent chromium	0.00048	0.00048	0

X. Sample Result Verification

Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in two samples.

Due to laboratory blank contamination, data were qualified as not detected in six samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2032462**

Sample	Analyte	Flag	A or P	Reason
MW-9 DUP-7-4Q20	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2032462**

Sample	Analyte	Modified Final Concentration	A or P
EB-8-110420	Hexavalent chromium	0.000054U mg/L	A
MW-3-1	Hexavalent chromium	0.00010U mg/L	A
MW-1	Hexavalent chromium	0.000029U mg/L	A
DUP-6-4Q20	Hexavalent chromium	0.000059U mg/L	A
MW-9	Hexavalent chromium	0.00048U mg/L	A
DUP-7-4Q20	Hexavalent chromium	0.00048U mg/L	A

LDC #: 49963B6

VALIDATION COMPLETENESS WORKSHEET


Date: 12/31/20

SDG #: 2032462

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: 2nd Reviewer: **METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)**

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Laboratory Blanks	SW	
V.	Field blanks	SW	EB=S
VI.	Matrix Spike/Matrix Spike Duplicates	A	From SDG # 2032280 (MW-21-4MS/MSD), (11,12), (14,15)
VII.	Duplicate sample analysis	A	↓ (↓ DUP), 13,16
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(7,8), (9,10)
X.	Sample result verification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-3-5	2032462-02	Water	11/04/20
2	MW-3-4	2032462-03	Water	11/04/20
3	MW-3-3	2032462-04	Water	11/04/20
4	MW-3-2	2032462-05	Water	11/04/20
5	EB-8-110420	2032462-06	Water	11/04/20
6	MW-3-1	2032462-07	Water	11/04/20
7	MW-1	2032462-08	Water	11/04/20
8	DUP-6-4Q20	2032462-09	Water	11/04/20
9	MW-9	2032462-10	Water	11/04/20
10	DUP-7-4Q20	2032462-11	Water	11/04/20
11	MW-3-1MS	2032462-07MS	Water	11/04/20
12	MW-3-1MSD	2032462-07MSD	Water	11/04/20
13	MW-3-1DUP	2032462-07DUP	Water	11/04/20
14	DUP-7-4Q20MS	2032462-11MS	Water	11/04/20
15	DUP-7-4Q20MSD	2032462-11MSD	Water	11/04/20
16	DUP-7-4Q20DUP	2032462-11DUP	Water	11/04/20
17				

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: All

Analyte	Blank ID	Blank ID	Blank Action Limit											
				5	6	7	8	9	10					
	PB	ICB/CCB (mg/L)												
Cr6+		0.000098	0.00049	0.000054	0.00010	0.000029	0.000059	0.00048	0.00048					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics: Method See Cover

Analyte	Concentration (mg/L)		RPD	
	7	8		
Hexavalent Chromium	0.000029	0.000059	68	

Analyte	Concentration (mg/L)		RPD	
	9	10		
Hexavalent Chromium	0.00048	0.00048	0	

NASA JPL, 4Q2020 - LDC# 49963B

SDG: 2032462

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	Total Recoverable Chromium	11/11/2020	20	Y	y	v		3.0	0.50	ug/L
MW-3-4	2032462-03	Total Recoverable Chromium	11/12/2020	21	Y	y	v		3.0	0.50	ug/L
MW-3-3	2032462-04	Total Recoverable Chromium	11/12/2020	1.1	Y	y	v j		3.0	0.50	ug/L
MW-3-2	2032462-05	Total Recoverable Chromium	11/12/2020	3	Y	n	u		3.0	0.50	ug/L
EB-8-110420	2032462-06	Total Recoverable Chromium	11/12/2020	3	Y	n	u		3.0	0.50	ug/L
MW-3-1	2032462-07	Total Recoverable Chromium	11/12/2020	3	Y	n	u		3.0	0.50	ug/L
MW-1	2032462-08	Total Recoverable Chromium	11/12/2020	3	Y	n	u		3.0	0.50	ug/L
DUP-6-4Q20	2032462-09	Total Recoverable Chromium	11/12/2020	3	Y	n	u		3.0	0.50	ug/L
MW-9	2032462-10	Total Recoverable Chromium	11/12/2020	240	Y	y	v		3.0	0.50	ug/L
DUP-7-4Q20	2032462-11	Total Recoverable Chromium	11/12/2020	230	Y	y	v		3.0	0.50	ug/L

Analytical Method EPA-218.6

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	Hexavalent Chromium	11/17/2020	#####	Y	y	v		0.0002	0.0000	mg/L
MW-3-4	2032462-03	Hexavalent Chromium	11/17/2020	#####	Y	y	v		0.0002	0.0000	mg/L
MW-3-3	2032462-04	Hexavalent Chromium	11/17/2020	#####	Y	y	v		0.0002	0.0000	mg/L
MW-3-2	2032462-05	Hexavalent Chromium	11/17/2020	#####	Y	y	v		0.0002	0.0000	mg/L
EB-8-110420	2032462-06	Hexavalent Chromium	11/17/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-3-1	2032462-07	Hexavalent Chromium	11/17/2020	0.0001	Y	y	v j	U	0.0002	0.0000	mg/L
MW-1	2032462-08	Hexavalent Chromium	11/17/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
DUP-6-4Q20	2032462-09	Hexavalent Chromium	11/17/2020	#####	Y	y	v j	U	0.0002	0.0000	mg/L
MW-9	2032462-10	Hexavalent Chromium	11/17/2020	#####	Y	y	v	UJ	0.0002	0.0000	mg/L
DUP-7-4Q20	2032462-11	Hexavalent Chromium	11/17/2020	#####	Y	y	v	UJ	0.0002	0.0000	mg/L

SDG: 2032462

Analytical Method		EPA-314.0									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	Perchlorate	11/17/2020	5	Y	y	v		4.0	0.81	ug/L
MW-3-4	2032462-03	Perchlorate	11/17/2020	5.1	Y	y	v		4.0	0.81	ug/L
MW-3-3	2032462-04	Perchlorate	11/17/2020	1.4	Y	y	v j		4.0	0.81	ug/L
MW-3-2	2032462-05	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
EB-8-110420	2032462-06	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-3-1	2032462-07	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-1	2032462-08	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
DUP-6-4Q20	2032462-09	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-9	2032462-10	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
DUP-7-4Q20	2032462-11	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-8-110420	2032462-01	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-8-110420	2032462-01	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-8-110420	2032462-01	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-8-110420	2032462-01	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-8-110420	2032462-01	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-8-110420	2032462-01	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-8-110420	2032462-01	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-8-110420	2032462-01	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-8-110420	2032462-01	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-8-110420	2032462-01	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-8-110420	2032462-01	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-8-110420	2032462-01	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-8-110420	2032462-01	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-8-110420	2032462-01	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-8-110420	2032462-01	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-8-110420	2032462-01	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-8-110420	2032462-01	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-8-110420	2032462-01	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-8-110420	2032462-01	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
TB-8-110420	2032462-01	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-8-110420	2032462-01	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
TB-8-110420	2032462-01	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
TB-8-110420	2032462-01	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
TB-8-110420	2032462-01	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
TB-8-110420	2032462-01	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
TB-8-110420	2032462-01	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
TB-8-110420	2032462-01	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
TB-8-110420	2032462-01	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-8-110420	2032462-01	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-8-110420	2032462-01	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-8-110420	2032462-01	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
TB-8-110420	2032462-01	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
TB-8-110420	2032462-01	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
TB-8-110420	2032462-01	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
TB-8-110420	2032462-01	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
TB-8-110420	2032462-01	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
TB-8-110420	2032462-01	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-8-110420	2032462-01	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
TB-8-110420	2032462-01	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
TB-8-110420	2032462-01	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-8-110420	2032462-01	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-8-110420	2032462-01	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
TB-8-110420	2032462-01	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
TB-8-110420	2032462-01	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
TB-8-110420	2032462-01	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
TB-8-110420	2032462-01	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-8-110420	2032462-01	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-8-110420	2032462-01	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
TB-8-110420	2032462-01	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-8-110420	2032462-01	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-8-110420	2032462-01	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-8-110420	2032462-01	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-8-110420	2032462-01	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-8-110420	2032462-01	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-8-110420	2032462-01	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-8-110420	2032462-01	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-8-110420	2032462-01	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
TB-8-110420	2032462-01	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-8-110420	2032462-01	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-8-110420	2032462-01	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-8-110420	2032462-01	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-8-110420	2032462-01	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-8-110420	2032462-01	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-8-110420	2032462-01	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-8-110420	2032462-01	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-8-110420	2032462-01	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-8-110420	2032462-01	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-8-110420	2032462-01	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-8-110420	2032462-01	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
TB-8-110420	2032462-01	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-8-110420	2032462-01	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-8-110420	2032462-01	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-8-110420	2032462-01	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2032462-02	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2032462-02	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2032462-02	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-5	2032462-02	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2032462-02	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2032462-02	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2032462-02	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2032462-02	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2032462-02	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-5	2032462-02	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-5	2032462-02	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-3-5	2032462-02	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2032462-02	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2032462-02	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-5	2032462-02	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2032462-02	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2032462-02	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2032462-02	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-5	2032462-02	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-5	2032462-02	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2032462-02	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-5	2032462-02	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-3-5	2032462-02	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-3-5	2032462-02	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-3-5	2032462-02	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-3-5	2032462-02	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-3-5	2032462-02	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-3-5	2032462-02	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-3-5	2032462-02	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2032462-02	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-5	2032462-02	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-3-5	2032462-02	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-3-5	2032462-02	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-5	2032462-02	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-5	2032462-02	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-5	2032462-02	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-5	2032462-02	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-5	2032462-02	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-3-5	2032462-02	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-5	2032462-02	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-5	2032462-02	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-3-5	2032462-02	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-3-5	2032462-02	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-3-5	2032462-02	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2032462-02	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-5	2032462-02	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-5	2032462-02	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-3-5	2032462-02	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-5	2032462-02	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-3-5	2032462-02	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2032462-02	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-5	2032462-02	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-5	2032462-02	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-5	2032462-02	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-3-5	2032462-02	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-3-5	2032462-02	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-5	2032462-02	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-5	2032462-02	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2032462-02	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-5	2032462-02	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-5	2032462-02	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2032462-02	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2032462-02	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2032462-02	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2032462-02	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-5	2032462-02	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-5	2032462-02	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-5	2032462-02	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-5	2032462-02	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-5	2032462-02	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-4	2032462-03	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2032462-03	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-4	2032462-03	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-4	2032462-03	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2032462-03	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-3-4	2032462-03	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2032462-03	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-3-4	2032462-03	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-4	2032462-03	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-3-4	2032462-03	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-4	2032462-03	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-4	2032462-03	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-3-4	2032462-03	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-4	2032462-03	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2032462-03	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-4	2032462-03	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2032462-03	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-4	2032462-03	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-3-4	2032462-03	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-3-4	2032462-03	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2032462-03	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-4	2032462-03	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-4	2032462-03	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-4	2032462-03	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-3-4	2032462-03	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-3-4	2032462-03	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-4	2032462-03	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-3-4	2032462-03	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-3-4	2032462-03	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-3-4	2032462-03	Pentachloroethane	11/6/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-4	2032462-03	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-3-4	2032462-03	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-3-4	2032462-03	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-3-4	2032462-03	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2032462-03	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-4	2032462-03	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-4	2032462-03	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-3-4	2032462-03	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2032462-03	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2032462-03	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-4	2032462-03	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2032462-03	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-4	2032462-03	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-4	2032462-03	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-3-4	2032462-03	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-4	2032462-03	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-4	2032462-03	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2032462-03	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2032462-03	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-4	2032462-03	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2032462-03	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-4	2032462-03	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-4	2032462-03	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-4	2032462-03	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-3-4	2032462-03	Bromomethane	11/6/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-3-4	2032462-03	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2032462-03	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-4	2032462-03	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-4	2032462-03	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-4	2032462-03	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-4	2032462-03	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2032462-03	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-4	2032462-03	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2032462-03	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-4	2032462-03	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-4	2032462-03	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2032462-03	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-3	2032462-04	1,1-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-3	2032462-04	1,2-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2032462-04	cis-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-3	2032462-04	trans-1,2-Dichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2032462-04	1,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	1,3-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2032462-04	2,2-Dichloropropane	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-3	2032462-04	1,1-Dichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	cis-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	1,2-Dibromoethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-3	2032462-04	trans-1,3-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2032462-04	Ethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	1,1-Dichloropropene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2032462-04	Dichlorodifluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	1,4-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	1,3-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-3	2032462-04	Hexachlorobutadiene	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-3	2032462-04	Dibromomethane	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-3	2032462-04	Styrene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-3	2032462-04	1,2-Dibromo-3-chloropropane	11/6/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-3	2032462-04	Dibromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-3	2032462-04	4-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-3	2032462-04	2-Chlorotoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	Chloromethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-3	2032462-04	Chloroform	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	Chloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-3	2032462-04	Chlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	1,2-Dichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2032462-04	Trichloroethene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2032462-04	Vinyl chloride	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-3	2032462-04	Acetone	11/6/2020	10	Y	n	u		10	6.6	ug/L
MW-3-3	2032462-04	Acrylonitrile	11/6/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-3	2032462-04	Allyl chloride	11/6/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-3	2032462-04	t-Amyl Methyl ether	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2032462-04	t-Butyl alcohol	11/6/2020	2	Y	n	u		2.0	2.0	ug/L
MW-3-3	2032462-04	Carbon disulfide	11/6/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-3-3	2032462-04	trans-1,4-Dichloro-2-butene	11/6/2020	5	Y	n	u		5.0	1.8	ug/L
MW-3-3	2032462-04	1,3,5-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	1,2,4-Trimethylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2032462-04	1,1,2-Trichloro-1,2,2-trifluoroethane	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2032462-04	Naphthalene	11/6/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-3	2032462-04	Trichlorofluoromethane	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	Isopropylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	1,1,2-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2032462-04	1,1,1-Trichloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2032462-04	1,2,4-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	Tetrachloroethene	11/6/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-3	2032462-04	Diethyl ether	11/6/2020	2	Y	n	u		2.0	0.33	ug/L
MW-3-3	2032462-04	1,1,2,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2032462-04	1,1,1,2-Tetrachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2032462-04	n-Propylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.12	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-3	2032462-04	Toluene	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2032462-04	Methyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	Methylene chloride	11/6/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2032462-04	p-Isopropyltoluene	11/6/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2032462-04	1,2,3-Trichloropropane	11/6/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-3	2032462-04	Chloroacetonitrile	11/6/2020	0	Y	y	v				ug/L
MW-3-3	2032462-04	1,2,3-Trichlorobenzene	11/6/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2032462-04	Ethyl methacrylate	11/6/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-3	2032462-04	2-Nitropropane	11/6/2020	0	Y	y	v				ug/L
MW-3-3	2032462-04	Nitrobenzene	11/6/2020	0	Y	y	v				ug/L
MW-3-3	2032462-04	Methyl acrylate	11/6/2020	0	Y	y	v				ug/L
MW-3-3	2032462-04	1-Chlorobutane	11/6/2020	0	Y	y	v				ug/L
MW-3-3	2032462-04	o-Xylene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2032462-04	p- & m-Xylenes	11/6/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-3	2032462-04	Tetrahydrofuran	11/6/2020	20	Y	n	u		20	5.2	ug/L
MW-3-3	2032462-04	Propionitrile	11/6/2020	20	Y	n	u		20	6.2	ug/L
MW-3-3	2032462-04	Pentachloroethane	11/6/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-3-3	2032462-04	Methyl methacrylate	11/6/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-3	2032462-04	Methyl isobutyl ketone	11/6/2020	5	Y	n	u		5.0	2.4	ug/L
MW-3-3	2032462-04	Methyl iodide	11/6/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-3	2032462-04	Carbon tetrachloride	11/6/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2032462-04	1,1-Dichloropropanone	11/6/2020	0	Y	y	v				ug/L
MW-3-3	2032462-04	Ethyl t-butyl ether	11/6/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-3	2032462-04	Methyl ethyl ketone	11/6/2020	5	Y	n	u		5.0	3.3	ug/L
MW-3-3	2032462-04	tert-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.18	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-3	2032462-04	sec-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2032462-04	n-Butylbenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	Bromomethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-3	2032462-04	Hexachloroethane	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-3	2032462-04	Bromoform	11/6/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-3-3	2032462-04	Methacrylonitrile	11/6/2020	10	Y	n	u		10	2.3	ug/L
MW-3-3	2032462-04	2-Hexanone	11/6/2020	10	Y	n	u		10	5.0	ug/L
MW-3-3	2032462-04	Benzene	11/6/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-3	2032462-04	Bromobenzene	11/6/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2032462-04	Bromochloromethane	11/6/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-3	2032462-04	Bromodichloromethane	11/6/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2032462-05	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2032462-05	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-2	2032462-05	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2032462-05	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2032462-05	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L
MW-3-2	2032462-05	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2032462-05	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2032462-05	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-3-2	2032462-05	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2032462-05	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-2	2032462-05	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-2	2032462-05	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-2	2032462-05	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-2	2032462-05	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L
MW-3-2	2032462-05	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2032462-05	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-2	2032462-05	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-2	2032462-05	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
MW-3-2	2032462-05	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
MW-3-2	2032462-05	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
MW-3-2	2032462-05	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
MW-3-2	2032462-05	Methylene chloride	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2032462-05	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
MW-3-2	2032462-05	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2032462-05	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
MW-3-2	2032462-05	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2032462-05	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-2	2032462-05	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
MW-3-2	2032462-05	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
MW-3-2	2032462-05	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-3-2	2032462-05	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-2	2032462-05	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L
MW-3-2	2032462-05	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-2	2032462-05	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-2	2032462-05	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
MW-3-2	2032462-05	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
MW-3-2	2032462-05	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
MW-3-2	2032462-05	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2032462-05	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-2	2032462-05	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-2	2032462-05	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
MW-3-2	2032462-05	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-2	2032462-05	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2032462-05	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2032462-05	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-2	2032462-05	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2032462-05	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-2	2032462-05	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2032462-05	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2032462-05	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-3-2	2032462-05	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-2	2032462-05	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-2	2032462-05	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-2	2032462-05	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-2	2032462-05	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-2	2032462-05	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2032462-05	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2032462-05	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-2	2032462-05	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2032462-05	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2032462-05	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-2	2032462-05	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-2	2032462-05	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2032462-05	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-2	2032462-05	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2032462-05	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-2	2032462-05	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2032462-05	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-2	2032462-05	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-2	2032462-05	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-2	2032462-05	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-2	2032462-05	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2032462-05	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-8-110420	2032462-06	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-8-110420	2032462-06	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-8-110420	2032462-06	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-8-110420	2032462-06	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-8-110420	2032462-06	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-8-110420	2032462-06	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-8-110420	2032462-06	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-8-110420	2032462-06	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-8-110420	2032462-06	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-8-110420	2032462-06	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-8-110420	2032462-06	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-8-110420	2032462-06	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-8-110420	2032462-06	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-8-110420	2032462-06	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-8-110420	2032462-06	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-8-110420	2032462-06	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-8-110420	2032462-06	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-8-110420	2032462-06	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-8-110420	2032462-06	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-8-110420	2032462-06	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-8-110420	2032462-06	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-8-110420	2032462-06	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-8-110420	2032462-06	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-8-110420	2032462-06	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-8-110420	2032462-06	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
EB-8-110420	2032462-06	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-8-110420	2032462-06	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-8-110420	2032462-06	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
EB-8-110420	2032462-06	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-8-110420	2032462-06	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
EB-8-110420	2032462-06	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
EB-8-110420	2032462-06	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
EB-8-110420	2032462-06	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-8-110420	2032462-06	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L
EB-8-110420	2032462-06	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
EB-8-110420	2032462-06	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
EB-8-110420	2032462-06	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
EB-8-110420	2032462-06	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L
EB-8-110420	2032462-06	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-8-110420	2032462-06	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-8-110420	2032462-06	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
EB-8-110420	2032462-06	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-8-110420	2032462-06	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L
EB-8-110420	2032462-06	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L
EB-8-110420	2032462-06	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
EB-8-110420	2032462-06	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
EB-8-110420	2032462-06	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
EB-8-110420	2032462-06	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-8-110420	2032462-06	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-8-110420	2032462-06	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
EB-8-110420	2032462-06	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
EB-8-110420	2032462-06	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
EB-8-110420	2032462-06	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L
EB-8-110420	2032462-06	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
EB-8-110420	2032462-06	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
EB-8-110420	2032462-06	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-8-110420	2032462-06	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-8-110420	2032462-06	Methylene chloride	11/7/2020	2	Y	y	v		0.50	0.21	ug/L
EB-8-110420	2032462-06	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-8-110420	2032462-06	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-8-110420	2032462-06	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-8-110420	2032462-06	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-8-110420	2032462-06	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-8-110420	2032462-06	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-8-110420	2032462-06	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
EB-8-110420	2032462-06	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-8-110420	2032462-06	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-8-110420	2032462-06	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-8-110420	2032462-06	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-8-110420	2032462-06	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-8-110420	2032462-06	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-8-110420	2032462-06	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
EB-8-110420	2032462-06	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2032462-07	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2032462-07	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-1	2032462-07	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
MW-3-1	2032462-07	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-1	2032462-07	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	Methylene chloride	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2032462-07	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-1	2032462-07	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-1	2032462-07	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-1	2032462-07	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2032462-07	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-1	2032462-07	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-1	2032462-07	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2032462-07	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-1	2032462-07	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2032462-07	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-1	2032462-07	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-1	2032462-07	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-3-1	2032462-07	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
MW-3-1	2032462-07	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
MW-3-1	2032462-07	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-1	2032462-07	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2032462-07	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
MW-3-1	2032462-07	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
MW-3-1	2032462-07	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
MW-3-1	2032462-07	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L
MW-3-1	2032462-07	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-1	2032462-07	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
MW-3-1	2032462-07	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-1	2032462-07	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
MW-3-1	2032462-07	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-1	2032462-07	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
MW-3-1	2032462-07	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-1	2032462-07	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-1	2032462-07	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
MW-3-1	2032462-07	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
MW-3-1	2032462-07	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-3-1	2032462-07	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L
MW-3-1	2032462-07	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2032462-07	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
MW-3-1	2032462-07	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2032462-07	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-1	2032462-07	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-1	2032462-07	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-1	2032462-07	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-1	2032462-07	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-1	2032462-07	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-1	2032462-07	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-1	2032462-07	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-1	2032462-07	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L
MW-3-1	2032462-07	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-1	2032462-07	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-1	2032462-07	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-1	2032462-07	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2032462-07	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-3-1	2032462-07	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-1	2032462-07	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2032462-07	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2032462-07	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2032462-07	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-1	2032462-07	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-1	2032462-07	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-1	2032462-07	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2032462-07	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-1	2032462-07	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2032462-07	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2032462-07	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2032462-08	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2032462-08	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
MW-1	2032462-08	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-1	2032462-08	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
MW-1	2032462-08	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2032462-08	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
MW-1	2032462-08	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2032462-08	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2032462-08	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2032462-08	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-1	2032462-08	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2032462-08	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-1	2032462-08	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-1	2032462-08	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	Methylene chloride	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2032462-08	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
MW-1	2032462-08	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2032462-08	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-1	2032462-08	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L
MW-1	2032462-08	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
MW-1	2032462-08	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
MW-1	2032462-08	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-1	2032462-08	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
MW-1	2032462-08	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
MW-1	2032462-08	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
MW-1	2032462-08	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2032462-08	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-1	2032462-08	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
MW-1	2032462-08	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
MW-1	2032462-08	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
MW-1	2032462-08	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2032462-08	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-1	2032462-08	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L
MW-1	2032462-08	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
MW-1	2032462-08	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
MW-1	2032462-08	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-1	2032462-08	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-1	2032462-08	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L
MW-1	2032462-08	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
MW-1	2032462-08	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
MW-1	2032462-08	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-1	2032462-08	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L
MW-1	2032462-08	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-1	2032462-08	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-1	2032462-08	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-1	2032462-08	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-1	2032462-08	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-1	2032462-08	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-1	2032462-08	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2032462-08	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-1	2032462-08	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-1	2032462-08	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2032462-08	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-1	2032462-08	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2032462-08	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-1	2032462-08	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-1	2032462-08	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
MW-1	2032462-08	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2032462-08	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-1	2032462-08	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2032462-08	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-1	2032462-08	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2032462-08	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2032462-08	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-1	2032462-08	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2032462-08	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2032462-08	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-1	2032462-08	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-6-4Q20	2032462-09	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-6-4Q20	2032462-09	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-6-4Q20	2032462-09	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-4Q20	2032462-09	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-6-4Q20	2032462-09	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-4Q20	2032462-09	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-6-4Q20	2032462-09	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L
DUP-6-4Q20	2032462-09	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
DUP-6-4Q20	2032462-09	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-6-4Q20	2032462-09	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	Methylene chloride	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-4Q20	2032462-09	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-6-4Q20	2032462-09	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-4Q20	2032462-09	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-4Q20	2032462-09	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
DUP-6-4Q20	2032462-09	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
DUP-6-4Q20	2032462-09	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-4Q20	2032462-09	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-6-4Q20	2032462-09	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L
DUP-6-4Q20	2032462-09	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
DUP-6-4Q20	2032462-09	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
DUP-6-4Q20	2032462-09	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-4Q20	2032462-09	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
DUP-6-4Q20	2032462-09	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
DUP-6-4Q20	2032462-09	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
DUP-6-4Q20	2032462-09	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
DUP-6-4Q20	2032462-09	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
DUP-6-4Q20	2032462-09	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
DUP-6-4Q20	2032462-09	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
DUP-6-4Q20	2032462-09	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-6-4Q20	2032462-09	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L
DUP-6-4Q20	2032462-09	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
DUP-6-4Q20	2032462-09	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
DUP-6-4Q20	2032462-09	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-6-4Q20	2032462-09	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-6-4Q20	2032462-09	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
DUP-6-4Q20	2032462-09	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-4Q20	2032462-09	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
DUP-6-4Q20	2032462-09	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L
DUP-6-4Q20	2032462-09	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-4Q20	2032462-09	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-4Q20	2032462-09	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-6-4Q20	2032462-09	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-6-4Q20	2032462-09	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-6-4Q20	2032462-09	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-4Q20	2032462-09	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-6-4Q20	2032462-09	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-6-4Q20	2032462-09	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
DUP-6-4Q20	2032462-09	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-6-4Q20	2032462-09	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-6-4Q20	2032462-09	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-4Q20	2032462-09	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-6-4Q20	2032462-09	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-4Q20	2032462-09	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-4Q20	2032462-09	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-4Q20	2032462-09	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-4Q20	2032462-09	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-4Q20	2032462-09	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-4Q20	2032462-09	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-4Q20	2032462-09	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-4Q20	2032462-09	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-6-4Q20	2032462-09	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-6-4Q20	2032462-09	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-4Q20	2032462-09	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-4Q20	2032462-09	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-6-4Q20	2032462-09	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-4Q20	2032462-09	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-4Q20	2032462-09	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-6-4Q20	2032462-09	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-6-4Q20	2032462-09	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-4Q20	2032462-09	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-6-4Q20	2032462-09	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-6-4Q20	2032462-09	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-6-4Q20	2032462-09	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-6-4Q20	2032462-09	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-9	2032462-10	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-9	2032462-10	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2032462-10	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
MW-9	2032462-10	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
MW-9	2032462-10	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
MW-9	2032462-10	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-9	2032462-10	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2032462-10	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
MW-9	2032462-10	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2032462-10	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2032462-10	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2032462-10	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2032462-10	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-9	2032462-10	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
MW-9	2032462-10	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
MW-9	2032462-10	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
MW-9	2032462-10	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2032462-10	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L
MW-9	2032462-10	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
MW-9	2032462-10	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
MW-9	2032462-10	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
MW-9	2032462-10	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-9	2032462-10	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
MW-9	2032462-10	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
MW-9	2032462-10	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
MW-9	2032462-10	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-9	2032462-10	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
MW-9	2032462-10	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L
MW-9	2032462-10	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-9	2032462-10	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L
MW-9	2032462-10	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
MW-9	2032462-10	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
MW-9	2032462-10	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-9	2032462-10	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-9	2032462-10	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-9	2032462-10	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-9	2032462-10	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-9	2032462-10	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
MW-9	2032462-10	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-9	2032462-10	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-9	2032462-10	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-9	2032462-10	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-9	2032462-10	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2032462-10	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-9	2032462-10	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-9	2032462-10	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-9	2032462-10	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-9	2032462-10	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-9	2032462-10	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-9	2032462-10	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-9	2032462-10	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-9	2032462-10	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L
MW-9	2032462-10	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-9	2032462-10	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-9	2032462-10	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-9	2032462-10	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	Methylene chloride	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2032462-10	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-9	2032462-10	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-9	2032462-10	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2032462-10	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-9	2032462-10	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2032462-10	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-9	2032462-10	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-9	2032462-10	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2032462-10	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2032462-10	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-9	2032462-10	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-7-4Q20	2032462-11	1,3,5-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Carbon disulfide	11/7/2020	0.5	Y	n	u		0.50	0.48	ug/L
DUP-7-4Q20	2032462-11	t-Butyl alcohol	11/7/2020	2	Y	n	u		2.0	2.0	ug/L
DUP-7-4Q20	2032462-11	t-Amyl Methyl ether	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-7-4Q20	2032462-11	Allyl chloride	11/7/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-7-4Q20	2032462-11	Acrylonitrile	11/7/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-7-4Q20	2032462-11	Acetone	11/7/2020	10	Y	n	u		10	6.6	ug/L
DUP-7-4Q20	2032462-11	Vinyl chloride	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-7-4Q20	2032462-11	trans-1,4-Dichloro-2-butene	11/7/2020	5	Y	n	u		5.0	1.8	ug/L
DUP-7-4Q20	2032462-11	1,2,4-Trimethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	1,1,2-Trichloro-1,2,2-trifluoroethane	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-7-4Q20	2032462-11	1,2,3-Trichloropropane	11/7/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-7-4Q20	2032462-11	Trichlorofluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Trichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-7-4Q20	2032462-11	1,1,2-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-7-4Q20	2032462-11	1,1,1-Trichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-7-4Q20	2032462-11	1,2,4-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-7-4Q20	2032462-11	1,2,3-Trichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-7-4Q20	2032462-11	Tetrachloroethene	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-7-4Q20	2032462-11	Toluene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	Pentachloroethane	11/7/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
DUP-7-4Q20	2032462-11	1,3-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-7-4Q20	2032462-11	2-Nitropropane	11/7/2020	0	Y	y	v				ug/L
DUP-7-4Q20	2032462-11	1,1,2,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	Methyl acrylate	11/7/2020	0	Y	y	v				ug/L
DUP-7-4Q20	2032462-11	1,1-Dichloropropanone	11/7/2020	0	Y	y	v				ug/L
DUP-7-4Q20	2032462-11	1-Chlorobutane	11/7/2020	0	Y	y	v				ug/L
DUP-7-4Q20	2032462-11	Chloroacetonitrile	11/7/2020	0	Y	y	v				ug/L
DUP-7-4Q20	2032462-11	o-Xylene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-7-4Q20	2032462-11	p- & m-Xylenes	11/7/2020	0.5	Y	n	u		0.50	0.34	ug/L
DUP-7-4Q20	2032462-11	Nitrobenzene	11/7/2020	0	Y	y	v				ug/L
DUP-7-4Q20	2032462-11	Propionitrile	11/7/2020	20	Y	n	u		20	6.2	ug/L
DUP-7-4Q20	2032462-11	Diethyl ether	11/7/2020	2	Y	n	u		2.0	0.33	ug/L
DUP-7-4Q20	2032462-11	Methyl methacrylate	11/7/2020	5	Y	n	u		5.0	1.2	ug/L
DUP-7-4Q20	2032462-11	Methyl isobutyl ketone	11/7/2020	5	Y	n	u		5.0	2.4	ug/L
DUP-7-4Q20	2032462-11	Methyl iodide	11/7/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
DUP-7-4Q20	2032462-11	Methyl ethyl ketone	11/7/2020	5	Y	n	u		5.0	3.3	ug/L
DUP-7-4Q20	2032462-11	Methacrylonitrile	11/7/2020	10	Y	n	u		10	2.3	ug/L
DUP-7-4Q20	2032462-11	2-Hexanone	11/7/2020	10	Y	n	u		10	5.0	ug/L
DUP-7-4Q20	2032462-11	Hexachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-7-4Q20	2032462-11	Ethyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-7-4Q20	2032462-11	Ethyl methacrylate	11/7/2020	4	Y	n	u		4.0	1.3	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-7-4Q20	2032462-11	Tetrahydrofuran	11/7/2020	20	Y	n	u		20	5.2	ug/L
DUP-7-4Q20	2032462-11	Carbon tetrachloride	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	Dichlorodifluoromethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-7-4Q20	2032462-11	1,2-Dibromoethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-7-4Q20	2032462-11	1,2-Dibromo-3-chloropropane	11/7/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-7-4Q20	2032462-11	Dibromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-7-4Q20	2032462-11	4-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-7-4Q20	2032462-11	2-Chlorotoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Chloromethane	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-7-4Q20	2032462-11	Chloroform	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	1,2-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-7-4Q20	2032462-11	Chlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	1,4-Dichlorobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-7-4Q20	2032462-11	tert-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-7-4Q20	2032462-11	sec-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-7-4Q20	2032462-11	n-Butylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-7-4Q20	2032462-11	Bromomethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-7-4Q20	2032462-11	Bromoform	11/7/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-7-4Q20	2032462-11	Bromodichloromethane	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-7-4Q20	2032462-11	Bromochloromethane	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-7-4Q20	2032462-11	Bromobenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-7-4Q20	2032462-11	Benzene	11/7/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-7-4Q20	2032462-11	Chloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	cis-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Styrene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L

SDG: 2032462

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-7-4Q20	2032462-11	n-Propylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-7-4Q20	2032462-11	Naphthalene	11/7/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-7-4Q20	2032462-11	Methyl t-butyl ether	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Methylene chloride	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-7-4Q20	2032462-11	p-Isopropyltoluene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Isopropylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-7-4Q20	2032462-11	Hexachlorobutadiene	11/7/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-7-4Q20	2032462-11	Dibromomethane	11/7/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-7-4Q20	2032462-11	trans-1,3-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-7-4Q20	2032462-11	1,1,1,2-Tetrachloroethane	11/7/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-7-4Q20	2032462-11	1,1-Dichloropropene	11/7/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-7-4Q20	2032462-11	2,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-7-4Q20	2032462-11	1,3-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-7-4Q20	2032462-11	1,2-Dichloropropane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-7-4Q20	2032462-11	trans-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	cis-1,2-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-7-4Q20	2032462-11	1,1-Dichloroethene	11/7/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-7-4Q20	2032462-11	1,2-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-7-4Q20	2032462-11	1,1-Dichloroethane	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-7-4Q20	2032462-11	Ethylbenzene	11/7/2020	0.5	Y	n	u		0.50	0.15	ug/L

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: December 30, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032647

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-9-110520	2032647-01	Water	11/05/20
MW-15	2032647-02	Water	11/05/20
DUP-8-4Q20	2032647-03	Water	11/05/20
MW-10	2032647-04	Water	11/05/20
MW-8	2032647-05	Water	11/05/20
MW-15MS	2032647-02MS	Water	11/05/20
MW-15MSD	2032647-02MSD	Water	11/05/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 524.2

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/10/20	Methyl iodide	69.8	All samples in SDG 2032647	UJ (all non-detects)	P

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TB-9-110520 was identified as a trip blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples MW-15 and DUP-8-4Q20 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level III validation.

XIV. System Performance

Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, data were qualified as estimated in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NASA JPL, 4Q2020
Volatiles - Data Qualification Summary - SDG 2032647

Sample	Compound	Flag	A or P	Reason
TB-9-110520 MW-15 DUP-8-4Q20 MW-10 MW-8	Methyl iodide	UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 4Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2032647

No Sample Data Qualified in this SDG

LDC #: 49963C1a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/23/20

SDG #: 2032647

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	ICV ≤ 20% ✓ ICV ≤ 30%
IV.	Continuing calibration	SW	CW ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	A	TB = 1
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2/3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	TB-9-110520	2032647-01	Water	11/05/20
2	MW-15 <i>D</i>	2032647-02	Water	11/05/20
3	DUP-8-4Q20 <i>D</i>	2032647-03	Water	11/05/20
4	MW-10	2032647-04	Water	11/05/20
5	MW-8	2032647-05	Water	11/05/20
6	MW-15MS	2032647-02MS	Water	11/05/20
7	MW-15MSD	2032647-02MSD	Water	11/05/20
8				
9				

Notes:

-	BO 92186 - Bk 1			

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: NASA JPL, 4Q2020
LDC Report Date: January 4, 2021
Parameters: Chromium
Validation Level: Level III
Laboratory: BC Laboratories, Inc.
Sample Delivery Group (SDG): 2032647

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-15	2032647-02	Water	11/05/20
DUP-8-4Q20	2032647-03	Water	11/05/20
MW-15MS	2032647-02MS	Water	11/05/20
MW-15MSD	2032647-02MSD	Water	11/05/20
MW-15DUP	2032647-02DUP	Water	11/05/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Chromium by Environmental Protection Agency (EPA) Method 200.8

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

Interference check sample (ICS) analysis was not required by the method.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Serial Dilution

Serial dilution was not performed for this SDG.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-15 and DUP-8-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	MW-15	DUP-8-4Q20	
Chromium	7.2	21	200

XII. Internal Standards (ICP-MS)

Raw data were not reviewed for Level III validation.

XIII. Sample Result Verification

Raw data were not reviewed for Level III validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

**NASA JPL, 4Q2020
Chromium - Data Qualification Summary - SDG 2032647**

No Sample Data Qualified in this SDG

**NASA JPL, 4Q2020
Chromium - Laboratory Blank Data Qualification Summary - SDG 2032647**

No Sample Data Qualified in this SDG

LDC #: 49963C4a

VALIDATION COMPLETENESS WORKSHEET

Date: 12/31/20

SDG #: 2032647

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: *ATV*

2nd Reviewer:

METHOD: Chromium (EPA Method 200.8)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	N	not required
V.	Laboratory Blanks	A	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	(3,4)
VIII.	Duplicate sample analysis	A	5
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(1,2)
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-15	2032647-02	Water	11/05/20
2	DUP-8-4Q20	2032647-03	Water	11/05/20
3	MW-15MS	2032647-02MS	Water	11/05/20
4	MW-15MSD	2032647-02MSD	Water	11/05/20
5	MW-15DUP	2032647-02DUP	Water	11/05/20
6				
7				
8				
9				
10				
11				
12				
13				

Notes: _____

LDC#: 49963C4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: ATL

METHOD: Metals (EPA Method 6010/6020/7000/200.7/200.8)

Analyte	Concentration (ug/L)		RPD	
	1	2		
Chromium	7.2	21	200	

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\49963C4a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 4Q2020

LDC Report Date: January 4, 2021

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2032647

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-15	2032647-02	Water	11/05/20
DUP-8-4Q20	2032647-03	Water	11/05/20
MW-10	2032647-04	Water	11/05/20
MW-8	2032647-05	Water	11/05/20
MW-15MS	2032647-02MS	Water	11/05/20
MW-15MSD	2032647-02MSD	Water	11/05/20
MW-15DUP	2032647-02DUP	Water	11/05/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
MW-15 DUP-8-4Q20	Hexavalent chromium	8 days	1 day	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.000094 mg/L	All samples in SDG 2032647

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-15	Hexavalent chromium	0.00030 mg/L	0.00030U mg/L
DUP-8-4Q20	Hexavalent chromium	0.00033 mg/L	0.00033U mg/L

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples MW-15 and DUP-8-4Q20 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-15	DUP-8-4Q20	
Hexavalent chromium	0.00030	0.00033	10

X. Sample Result Verification

Raw data were not reviewed for Level III validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in two samples.

Due to laboratory blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**NASA JPL, 4Q2020
Wet Chemistry - Data Qualification Summary - SDG 2032647**

Sample	Analyte	Flag	A or P	Reason
MW-15 DUP-8-4Q20	Hexavalent chromium	J (all detects)	P	Technical holding times

**NASA JPL, 4Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2032647**

Sample	Analyte	Modified Final Concentration	A or P
MW-15	Hexavalent chromium	0.00030U mg/L	A
DUP-8-4Q20	Hexavalent chromium	0.00033U mg/L	A

LDC #: 49963C6

VALIDATION COMPLETENESS WORKSHEET

Date: 12/31/20

SDG #: 2032647

Level III

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: (Analyte) Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Laboratory Blanks	SW	
V.	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	A	From SDG # 2032462 (DUP-7-4Q20MS/MSD), (5,6)
VII.	Duplicate sample analysis	A	↓ (↓ DUP), 7
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(1,2)
X.	Sample result verification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-15	2032647-02	Water	11/05/20
2	DUP-8-4Q20	2032647-03	Water	11/05/20
3	MW-10	2032647-04	Water	11/05/20
4	MW-8	2032647-05	Water	11/05/20
5	MW-15MS	2032647-02MS	Water	11/05/20
6	MW-15MSD	2032647-02MSD	Water	11/05/20
7	MW-15DUP	2032647-02DUP	Water	11/05/20
8				
9				
10				
11				
12				
13				
14				
15				

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Parameter
1,2	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC <u>Cr6+</u> ClO ₄
1-4	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ <u>ClO₄</u>
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
QC	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
5,6,7	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC <u>Cr6+</u> ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄
	pH TDS Cl F NO ₃ NO ₂ SO ₄ O-PO ₄ Alk CN NH ₃ TKN TOC Cr6+ ClO ₄

Comments: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method See Cover

Conc. units: mg/L

Associated Samples: All

Analyte	Blank ID	Blank ID	Blank Action Limit													
	PB	ICB/CCB (mg/L)		1	2											
Cr6+		0.000094	0.00047	0.00030	0.00033											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics: Method See Cover

Analyte	Concentration (mg/L)		RPD	
	1	2		
Hexavalent Chromium	0.00030	0.00033	10	

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NASA JPL, 4Q2020 - LDC# 49963C

SDG: 2032647

Analytical Method		EPA-200.8									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-15	2032647-02	Total Recoverable Chromium	11/12/2020	7.2	Y	y	v		3.0	0.50	ug/L
DUP-8-4Q20	2032647-03	Total Recoverable Chromium	11/12/2020	21	Y	y	v		3.0	0.50	ug/L

Analytical Method		EPA-218.6									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-15	2032647-02	Hexavalent Chromium	11/13/2020	0.0003	Y	y	v	UJ	0.0002	0.0000	mg/L
DUP-8-4Q20	2032647-03	Hexavalent Chromium	11/13/2020	#####	Y	y	v	UJ	0.0002	0.0000	mg/L

Analytical Method		EPA-314.0									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-15	2032647-02	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
DUP-8-4Q20	2032647-03	Perchlorate	11/17/2020	4	Y	n	u		4.0	0.81	ug/L
MW-10	2032647-04	Perchlorate	11/17/2020	1.2	Y	y	v j		4.0	0.81	ug/L
MW-8	2032647-05	Perchlorate	11/17/2020	0.97	Y	y	v j		4.0	0.81	ug/L

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-9-110520	2032647-01	Trichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-9-110520	2032647-01	Vinyl chloride	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-9-110520	2032647-01	Carbon disulfide	11/10/2020	0.5	Y	n	u		0.50	0.48	ug/L
TB-9-110520	2032647-01	t-Butyl alcohol	11/10/2020	2	Y	n	u		2.0	2.0	ug/L
TB-9-110520	2032647-01	t-Amyl Methyl ether	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-9-110520	2032647-01	Allyl chloride	11/10/2020	5	Y	n	u		5.0	0.47	ug/L
TB-9-110520	2032647-01	Acrylonitrile	11/10/2020	5	Y	n	u		5.0	1.5	ug/L
TB-9-110520	2032647-01	Acetone	11/10/2020	10	Y	n	u		10	6.6	ug/L
TB-9-110520	2032647-01	trans-1,4-Dichloro-2-butene	11/10/2020	5	Y	n	u		5.0	1.8	ug/L

SDG: 2032647

Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-9-110520	2032647-01	1,3,5-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	1,2,4-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	1,1,2-Trichloro-1,2,2-trifluoroethane	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-9-110520	2032647-01	Ethyl methacrylate	11/10/2020	4	Y	n	u		4.0	1.3	ug/L
TB-9-110520	2032647-01	Trichlorofluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	Methyl isobutyl ketone	11/10/2020	5	Y	n	u		5.0	2.4	ug/L
TB-9-110520	2032647-01	1,1,2-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-9-110520	2032647-01	1,1,1-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-9-110520	2032647-01	1,2,4-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	1,2,3-Trichloropropane	11/10/2020	1	Y	n	u		1.0	0.78	ug/L
TB-9-110520	2032647-01	Tetrahydrofuran	11/10/2020	20	Y	n	u		20	5.2	ug/L
TB-9-110520	2032647-01	Benzene	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-9-110520	2032647-01	2-Nitropropane	11/10/2020	0	Y	y	v				ug/L
TB-9-110520	2032647-01	Nitrobenzene	11/10/2020	0	Y	y	v				ug/L
TB-9-110520	2032647-01	Methyl acrylate	11/10/2020	0	Y	y	v				ug/L
TB-9-110520	2032647-01	1,1-Dichloropropanone	11/10/2020	0	Y	y	v				ug/L
TB-9-110520	2032647-01	1-Chlorobutane	11/10/2020	0	Y	y	v				ug/L
TB-9-110520	2032647-01	Chloroacetonitrile	11/10/2020	0	Y	y	v				ug/L
TB-9-110520	2032647-01	Methyl ethyl ketone	11/10/2020	5	Y	n	u		5.0	3.3	ug/L
TB-9-110520	2032647-01	p- & m-Xylenes	11/10/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-9-110520	2032647-01	Hexachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-9-110520	2032647-01	Propionitrile	11/10/2020	20	Y	n	u		20	6.2	ug/L
TB-9-110520	2032647-01	Pentachloroethane	11/10/2020	2	Y	n	u		2.0	0.63	ug/L
TB-9-110520	2032647-01	Methyl methacrylate	11/10/2020	5	Y	n	u		5.0	1.2	ug/L
TB-9-110520	2032647-01	Diethyl ether	11/10/2020	2	Y	n	u		2.0	0.33	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-9-110520	2032647-01	Methyl iodide	11/10/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-9-110520	2032647-01	1,2,3-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-9-110520	2032647-01	Methacrylonitrile	11/10/2020	10	Y	n	u		10	2.3	ug/L
TB-9-110520	2032647-01	2-Hexanone	11/10/2020	10	Y	n	u		10	5.0	ug/L
TB-9-110520	2032647-01	o-Xylene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-9-110520	2032647-01	Chloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	Dichlorodifluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	1,4-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	1,3-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-9-110520	2032647-01	1,2-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-9-110520	2032647-01	Dibromomethane	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-9-110520	2032647-01	1,2-Dibromoethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-9-110520	2032647-01	1,2-Dibromo-3-chloropropane	11/10/2020	1	Y	n	u		1.0	0.89	ug/L
TB-9-110520	2032647-01	Dibromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-9-110520	2032647-01	4-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-9-110520	2032647-01	2-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	1,1-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	Chloroform	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	n-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	Chlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	Carbon tetrachloride	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	tert-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-9-110520	2032647-01	sec-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-9-110520	2032647-01	Toluene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	Bromomethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-9-110520	2032647-01	Ethyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-9-110520	2032647-01	Bromodichloromethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-9-110520	2032647-01	Bromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-9-110520	2032647-01	Bromobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	Chloromethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-9-110520	2032647-01	Styrene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-9-110520	2032647-01	Bromoform	11/10/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-9-110520	2032647-01	1,2-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	Tetrachloroethene	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-9-110520	2032647-01	1,1,1,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-9-110520	2032647-01	n-Propylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-9-110520	2032647-01	Naphthalene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-9-110520	2032647-01	Methyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	Methylene chloride	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-9-110520	2032647-01	p-Isopropyltoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	Isopropylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	Hexachlorobutadiene	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-9-110520	2032647-01	trans-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	trans-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-9-110520	2032647-01	cis-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-9-110520	2032647-01	1,1-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-9-110520	2032647-01	2,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-9-110520	2032647-01	1,3-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-9-110520	2032647-01	1,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-9-110520	2032647-01	cis-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
TB-9-110520	2032647-01	1,1,2,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-9-110520	2032647-01	1,1-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-9-110520	2032647-01	Ethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	Vinyl chloride	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-15	2032647-02	Acetone	11/10/2020	10	Y	n	u		10	6.6	ug/L
MW-15	2032647-02	Acrylonitrile	11/10/2020	5	Y	n	u		5.0	1.5	ug/L
MW-15	2032647-02	Allyl chloride	11/10/2020	5	Y	n	u		5.0	0.47	ug/L
MW-15	2032647-02	t-Amyl Methyl ether	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2032647-02	Carbon disulfide	11/10/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-15	2032647-02	Trichlorofluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	trans-1,4-Dichloro-2-butene	11/10/2020	5	Y	n	u		5.0	1.8	ug/L
MW-15	2032647-02	Diethyl ether	11/10/2020	2	Y	n	u		2.0	0.33	ug/L
MW-15	2032647-02	t-Butyl alcohol	11/10/2020	2	Y	n	u		2.0	2.0	ug/L
MW-15	2032647-02	1,3,5-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	1,2,4-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	1,2,3-Trichloropropane	11/10/2020	1	Y	n	u		1.0	0.78	ug/L
MW-15	2032647-02	Trichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2032647-02	1,1,2-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2032647-02	1,2,4-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	Ethyl methacrylate	11/10/2020	4	Y	n	u		4.0	1.3	ug/L
MW-15	2032647-02	o-Xylene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2032647-02	1,1,1-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2032647-02	1,1,2-Trichloro-1,2,2-trifluoroethane	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2032647-02	Propionitrile	11/10/2020	20	Y	n	u		20	6.2	ug/L
MW-15	2032647-02	1,2,3-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-15	2032647-02	Dichlorodifluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	2-Nitropropane	11/10/2020	0	Y	y	v				ug/L
MW-15	2032647-02	Nitrobenzene	11/10/2020	0	Y	y	v				ug/L
MW-15	2032647-02	Methyl acrylate	11/10/2020	0	Y	y	v				ug/L
MW-15	2032647-02	1,1-Dichloropropanone	11/10/2020	0	Y	y	v				ug/L
MW-15	2032647-02	1-Chlorobutane	11/10/2020	0	Y	y	v				ug/L
MW-15	2032647-02	Tetrahydrofuran	11/10/2020	20	Y	n	u		20	5.2	ug/L
MW-15	2032647-02	p- & m-Xylenes	11/10/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-15	2032647-02	Ethyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-15	2032647-02	Pentachloroethane	11/10/2020	2	Y	n	u		2.0	0.63	ug/L
MW-15	2032647-02	Methyl methacrylate	11/10/2020	5	Y	n	u		5.0	1.2	ug/L
MW-15	2032647-02	Methyl isobutyl ketone	11/10/2020	5	Y	n	u		5.0	2.4	ug/L
MW-15	2032647-02	Methyl iodide	11/10/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-15	2032647-02	Methyl ethyl ketone	11/10/2020	5	Y	n	u		5.0	3.3	ug/L
MW-15	2032647-02	Methacrylonitrile	11/10/2020	10	Y	n	u		10	2.3	ug/L
MW-15	2032647-02	2-Hexanone	11/10/2020	10	Y	n	u		10	5.0	ug/L
MW-15	2032647-02	Hexachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-15	2032647-02	Chloroacetonitrile	11/10/2020	0	Y	y	v				ug/L
MW-15	2032647-02	Chlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	1,3-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-15	2032647-02	1,2-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2032647-02	Dibromomethane	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-15	2032647-02	1,2-Dibromoethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-15	2032647-02	1,2-Dibromo-3-chloropropane	11/10/2020	1	Y	n	u		1.0	0.89	ug/L
MW-15	2032647-02	Dibromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-15	2032647-02	4-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-15	2032647-02	2-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	Chloromethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-15	2032647-02	1,4-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	Chloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	Bromoform	11/10/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-15	2032647-02	Carbon tetrachloride	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	tert-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-15	2032647-02	sec-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2032647-02	n-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	Bromomethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-15	2032647-02	Toluene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	Bromodichloromethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-15	2032647-02	1,2-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	Bromobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	Benzene	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-15	2032647-02	Chloroform	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	Styrene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-15	2032647-02	Bromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-15	2032647-02	1,1,2,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	1,1,1,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2032647-02	n-Propylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-15	2032647-02	Naphthalene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-15	2032647-02	Methyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	Methylene chloride	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-15	2032647-02	p-Isopropyltoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	Isopropylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2032647-02	Hexachlorobutadiene	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-15	2032647-02	Ethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	1,1-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-15	2032647-02	trans-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2032647-02	1,1-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	Tetrachloroethene	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-15	2032647-02	cis-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-15	2032647-02	trans-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2032647-02	1,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2032647-02	1,3-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2032647-02	2,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-15	2032647-02	1,1-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2032647-02	cis-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	1,4-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	Hexachlorobutadiene	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-8-4Q20	2032647-03	1,1-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	1,2-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	1,1-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-8-4Q20	2032647-03	cis-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-8-4Q20	2032647-03	trans-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	1,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	Dichlorodifluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	1,3-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-8-4Q20	2032647-03	2,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-8-4Q20	2032647-03	1,1-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-8-4Q20	2032647-03	cis-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	Methylene chloride	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-8-4Q20	2032647-03	Ethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	Isopropylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	p-Isopropyltoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	1,3-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-8-4Q20	2032647-03	Carbon tetrachloride	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	trans-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-8-4Q20	2032647-03	1,1,2,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	Methyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	Benzene	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-8-4Q20	2032647-03	Bromobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	Bromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-8-4Q20	2032647-03	Bromodichloromethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-8-4Q20	2032647-03	Bromoform	11/10/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-8-4Q20	2032647-03	Bromomethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-8-4Q20	2032647-03	n-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	Chloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	tert-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-8-4Q20	2032647-03	1,2-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-8-4Q20	2032647-03	Chlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	Chloroform	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	Chloromethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-8-4Q20	2032647-03	2-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	4-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-8-4Q20	2032647-03	Dibromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-8-4Q20	2032647-03	1,2-Dibromo-3-chloropropane	11/10/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-8-4Q20	2032647-03	1,2-Dibromoethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-8-4Q20	2032647-03	Dibromomethane	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-8-4Q20	2032647-03	sec-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-8-4Q20	2032647-03	Tetrahydrofuran	11/10/2020	20	Y	n	u		20	5.2	ug/L
DUP-8-4Q20	2032647-03	Ethyl methacrylate	11/10/2020	4	Y	n	u		4.0	1.3	ug/L
DUP-8-4Q20	2032647-03	Ethyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-8-4Q20	2032647-03	Hexachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-8-4Q20	2032647-03	2-Hexanone	11/10/2020	10	Y	n	u		10	5.0	ug/L
DUP-8-4Q20	2032647-03	Methacrylonitrile	11/10/2020	10	Y	n	u		10	2.3	ug/L
DUP-8-4Q20	2032647-03	Methyl ethyl ketone	11/10/2020	5	Y	n	u		5.0	3.3	ug/L
DUP-8-4Q20	2032647-03	Methyl iodide	11/10/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
DUP-8-4Q20	2032647-03	Methyl isobutyl ketone	11/10/2020	5	Y	n	u		5.0	2.4	ug/L
DUP-8-4Q20	2032647-03	Methyl methacrylate	11/10/2020	5	Y	n	u		5.0	1.2	ug/L
DUP-8-4Q20	2032647-03	Diethyl ether	11/10/2020	2	Y	n	u		2.0	0.33	ug/L
DUP-8-4Q20	2032647-03	Propionitrile	11/10/2020	20	Y	n	u		20	6.2	ug/L
DUP-8-4Q20	2032647-03	Nitrobenzene	11/10/2020	0	Y	y	v				ug/L
DUP-8-4Q20	2032647-03	p- & m-Xylenes	11/10/2020	0.5	Y	n	u		0.50	0.34	ug/L
DUP-8-4Q20	2032647-03	o-Xylene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-8-4Q20	2032647-03	Chloroacetonitrile	11/10/2020	0	Y	y	v				ug/L
DUP-8-4Q20	2032647-03	1-Chlorobutane	11/10/2020	0	Y	y	v				ug/L
DUP-8-4Q20	2032647-03	1,1-Dichloropropanone	11/10/2020	0	Y	y	v				ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-8-4Q20	2032647-03	Methyl acrylate	11/10/2020	0	Y	y	v				ug/L
DUP-8-4Q20	2032647-03	2-Nitropropane	11/10/2020	0	Y	y	v				ug/L
DUP-8-4Q20	2032647-03	Styrene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-8-4Q20	2032647-03	Naphthalene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-8-4Q20	2032647-03	Pentachloroethane	11/10/2020	2	Y	n	u		2.0	0.63	ug/L
DUP-8-4Q20	2032647-03	1,1,2-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-8-4Q20	2032647-03	1,1,1,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-8-4Q20	2032647-03	n-Propylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-8-4Q20	2032647-03	Toluene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	1,2,3-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-8-4Q20	2032647-03	trans-1,4-Dichloro-2-butene	11/10/2020	5	Y	n	u		5.0	1.8	ug/L
DUP-8-4Q20	2032647-03	1,1,1-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-8-4Q20	2032647-03	Tetrachloroethene	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-8-4Q20	2032647-03	Trichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-8-4Q20	2032647-03	Trichlorofluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	1,2,3-Trichloropropane	11/10/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-8-4Q20	2032647-03	t-Butyl alcohol	11/10/2020	2	Y	n	u		2.0	2.0	ug/L
DUP-8-4Q20	2032647-03	1,2,4-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-8-4Q20	2032647-03	1,3,5-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-8-4Q20	2032647-03	Vinyl chloride	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-8-4Q20	2032647-03	Acetone	11/10/2020	10	Y	n	u		10	6.6	ug/L
DUP-8-4Q20	2032647-03	Acrylonitrile	11/10/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-8-4Q20	2032647-03	Allyl chloride	11/10/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-8-4Q20	2032647-03	t-Amyl Methyl ether	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-8-4Q20	2032647-03	1,1,2-Trichloro-1,2,2-trifluoroethane	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-8-4Q20	2032647-03	1,2,4-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-8-4Q20	2032647-03	Carbon disulfide	11/10/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-10	2032647-04	1,2,4-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	1,3,5-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	Vinyl chloride	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-10	2032647-04	Acetone	11/10/2020	10	Y	n	u		10	6.6	ug/L
MW-10	2032647-04	Acrylonitrile	11/10/2020	5	Y	n	u		5.0	1.5	ug/L
MW-10	2032647-04	Allyl chloride	11/10/2020	5	Y	n	u		5.0	0.47	ug/L
MW-10	2032647-04	t-Butyl alcohol	11/10/2020	2	Y	n	u		2.0	2.0	ug/L
MW-10	2032647-04	t-Amyl Methyl ether	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2032647-04	1,1,2-Trichloro-1,2,2-trifluoroethane	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2032647-04	1,2,3-Trichloropropane	11/10/2020	1	Y	n	u		1.0	0.78	ug/L
MW-10	2032647-04	Trichlorofluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	Trichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2032647-04	1,1,2-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2032647-04	1,1,1-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2032647-04	1,2,4-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	1,2,3-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2032647-04	Tetrachloroethene	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-10	2032647-04	Pentachloroethane	11/10/2020	2	Y	n	u		2.0	0.63	ug/L
MW-10	2032647-04	1,1,2,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	Toluene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	Propionitrile	11/10/2020	20	Y	n	u		20	6.2	ug/L
MW-10	2032647-04	Carbon disulfide	11/10/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-10	2032647-04	1,1,1,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2032647-04	Nitrobenzene	11/10/2020	0	Y	y	v				ug/L
MW-10	2032647-04	Methyl acrylate	11/10/2020	0	Y	y	v				ug/L
MW-10	2032647-04	1,1-Dichloropropanone	11/10/2020	0	Y	y	v				ug/L
MW-10	2032647-04	1-Chlorobutane	11/10/2020	0	Y	y	v				ug/L
MW-10	2032647-04	Chloroacetonitrile	11/10/2020	0	Y	y	v				ug/L
MW-10	2032647-04	o-Xylene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2032647-04	Methyl isobutyl ketone	11/10/2020	5	Y	n	u		5.0	2.4	ug/L
MW-10	2032647-04	Tetrahydrofuran	11/10/2020	20	Y	n	u		20	5.2	ug/L
MW-10	2032647-04	trans-1,4-Dichloro-2-butene	11/10/2020	5	Y	n	u		5.0	1.8	ug/L
MW-10	2032647-04	Methyl methacrylate	11/10/2020	5	Y	n	u		5.0	1.2	ug/L
MW-10	2032647-04	2-Nitropropane	11/10/2020	0	Y	y	v				ug/L
MW-10	2032647-04	Methyl iodide	11/10/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-10	2032647-04	Methyl ethyl ketone	11/10/2020	5	Y	n	u		5.0	3.3	ug/L
MW-10	2032647-04	Methacrylonitrile	11/10/2020	10	Y	n	u		10	2.3	ug/L
MW-10	2032647-04	2-Hexanone	11/10/2020	10	Y	n	u		10	5.0	ug/L
MW-10	2032647-04	Hexachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-10	2032647-04	Ethyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-10	2032647-04	Ethyl methacrylate	11/10/2020	4	Y	n	u		4.0	1.3	ug/L
MW-10	2032647-04	p- & m-Xylenes	11/10/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-10	2032647-04	Carbon tetrachloride	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	Dibromomethane	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-10	2032647-04	1,2-Dibromoethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-10	2032647-04	1,2-Dibromo-3-chloropropane	11/10/2020	1	Y	n	u		1.0	0.89	ug/L
MW-10	2032647-04	Dibromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-10	2032647-04	4-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.093	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2032647-04	2-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	Chloromethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-10	2032647-04	Benzene	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-10	2032647-04	1,2-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2032647-04	Styrene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-10	2032647-04	Chloroform	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	tert-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-10	2032647-04	sec-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2032647-04	n-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	Bromomethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-10	2032647-04	Bromoform	11/10/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-10	2032647-04	Bromodichloromethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-10	2032647-04	Bromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-10	2032647-04	Bromobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	Diethyl ether	11/10/2020	2	Y	n	u		2.0	0.33	ug/L
MW-10	2032647-04	Chloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	Hexachlorobutadiene	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-10	2032647-04	n-Propylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-10	2032647-04	Chlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	1,3-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-10	2032647-04	Methyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	Methylene chloride	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2032647-04	Isopropylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	Naphthalene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-10	2032647-04	Ethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2032647-04	trans-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2032647-04	cis-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	1,1-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	1,4-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	p-Isopropyltoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2032647-04	Dichlorodifluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	1,1-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2032647-04	1,2-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	1,1-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-10	2032647-04	cis-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-10	2032647-04	trans-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2032647-04	1,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2032647-04	1,3-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2032647-04	2,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2032647-05	1,3,5-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Carbon disulfide	11/10/2020	0.5	Y	n	u		0.50	0.48	ug/L
MW-8	2032647-05	t-Butyl alcohol	11/10/2020	2	Y	n	u		2.0	2.0	ug/L
MW-8	2032647-05	t-Amyl Methyl ether	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2032647-05	Allyl chloride	11/10/2020	5	Y	n	u		5.0	0.47	ug/L
MW-8	2032647-05	Acrylonitrile	11/10/2020	5	Y	n	u		5.0	1.5	ug/L
MW-8	2032647-05	Acetone	11/10/2020	10	Y	n	u		10	6.6	ug/L
MW-8	2032647-05	Vinyl chloride	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2032647-05	trans-1,4-Dichloro-2-butene	11/10/2020	5	Y	n	u		5.0	1.8	ug/L
MW-8	2032647-05	1,2,4-Trimethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	1,1,2-Trichloro-1,2,2-trifluoroethane	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-8	2032647-05	1,2,3-Trichloropropane	11/10/2020	1	Y	n	u		1.0	0.78	ug/L
MW-8	2032647-05	Trichlorofluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Trichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2032647-05	1,1,2-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2032647-05	1,1,1-Trichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2032647-05	1,2,4-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2032647-05	1,2,3-Trichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2032647-05	Tetrachloroethene	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-8	2032647-05	Toluene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	Pentachloroethane	11/10/2020	2	Y	n	u		2.0	0.63	ug/L
MW-8	2032647-05	1,3-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-8	2032647-05	2-Nitropropane	11/10/2020	0	Y	y	v				ug/L
MW-8	2032647-05	1,1,2,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	Methyl acrylate	11/10/2020	0	Y	y	v				ug/L
MW-8	2032647-05	1,1-Dichloropropanone	11/10/2020	0	Y	y	v				ug/L
MW-8	2032647-05	1-Chlorobutane	11/10/2020	0	Y	y	v				ug/L
MW-8	2032647-05	Chloroacetonitrile	11/10/2020	0	Y	y	v				ug/L
MW-8	2032647-05	o-Xylene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2032647-05	p- & m-Xylenes	11/10/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-8	2032647-05	Nitrobenzene	11/10/2020	0	Y	y	v				ug/L
MW-8	2032647-05	Propionitrile	11/10/2020	20	Y	n	u		20	6.2	ug/L
MW-8	2032647-05	Diethyl ether	11/10/2020	2	Y	n	u		2.0	0.33	ug/L
MW-8	2032647-05	Methyl methacrylate	11/10/2020	5	Y	n	u		5.0	1.2	ug/L
MW-8	2032647-05	Methyl isobutyl ketone	11/10/2020	5	Y	n	u		5.0	2.4	ug/L
MW-8	2032647-05	Methyl iodide	11/10/2020	2	Y	n	u	UJ	2.0	1.1	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-8	2032647-05	Methyl ethyl ketone	11/10/2020	5	Y	n	u		5.0	3.3	ug/L
MW-8	2032647-05	Methacrylonitrile	11/10/2020	10	Y	n	u		10	2.3	ug/L
MW-8	2032647-05	2-Hexanone	11/10/2020	10	Y	n	u		10	5.0	ug/L
MW-8	2032647-05	Hexachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-8	2032647-05	Ethyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-8	2032647-05	Ethyl methacrylate	11/10/2020	4	Y	n	u		4.0	1.3	ug/L
MW-8	2032647-05	Tetrahydrofuran	11/10/2020	20	Y	n	u		20	5.2	ug/L
MW-8	2032647-05	Carbon tetrachloride	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	Dichlorodifluoromethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2032647-05	1,2-Dibromoethane	11/10/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-8	2032647-05	1,2-Dibromo-3-chloropropane	11/10/2020	1	Y	n	u		1.0	0.89	ug/L
MW-8	2032647-05	Dibromochloromethane	11/10/2020	1.3	Y	y	v		0.50	0.22	ug/L
MW-8	2032647-05	4-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-8	2032647-05	2-Chlorotoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Chloromethane	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-8	2032647-05	Chloroform	11/10/2020	2	Y	y	v		0.50	0.14	ug/L
MW-8	2032647-05	1,2-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2032647-05	Chlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	1,4-Dichlorobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2032647-05	tert-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2032647-05	sec-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2032647-05	n-Butylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2032647-05	Bromomethane	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-8	2032647-05	Bromoform	11/10/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-8	2032647-05	Bromodichloromethane	11/10/2020	2.8	Y	y	v		0.50	0.20	ug/L

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Analytical Method		EPA-524.2									
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-8	2032647-05	Bromochloromethane	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-8	2032647-05	Bromobenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2032647-05	Benzene	11/10/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-8	2032647-05	Chloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	cis-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Styrene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-8	2032647-05	n-Propylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-8	2032647-05	Naphthalene	11/10/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-8	2032647-05	Methyl t-butyl ether	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Methylene chloride	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2032647-05	p-Isopropyltoluene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Isopropylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2032647-05	Hexachlorobutadiene	11/10/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-8	2032647-05	Dibromomethane	11/10/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-8	2032647-05	trans-1,3-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2032647-05	1,1,1,2-Tetrachloroethane	11/10/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2032647-05	1,1-Dichloropropene	11/10/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2032647-05	2,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2032647-05	1,3-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2032647-05	1,2-Dichloropropane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2032647-05	trans-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	cis-1,2-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-8	2032647-05	1,1-Dichloroethene	11/10/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-8	2032647-05	1,2-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2032647-05	1,1-Dichloroethane	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-8	2032647-05	Ethylbenzene	11/10/2020	0.5	Y	n	u		0.50	0.15	ug/L
